



Cycling Quality Management and Evaluation in Europe

How can the quality and quantity of cycling be measured?

In many European regions, the role of cycling has increased significantly in recent years. More and more people use cycling for their everyday travel. How can efforts to promote cycling (input) and changes in travel behaviour (output) be measured so that, in local politics, the success of projects can be evaluated, and political arguments for the promotion of cycling can be backed by statistical data?

In recent years, a new concept of quality management has gained wide acceptance: Although it is possible to measure service quality in objective terms, the subjective impressions of users are decisive in determining satisfaction. Thus, evaluations are carried out among users in various service sectors, such as the transport sector. In this way, the perception users have of the existing cycling facilities can be determined. Moreover, in the systematic promotion of cycling, monitoring processes in which external experts quantify and evaluate developments in a certain area have gained importance.

Data collection methods for cycling

Traffic counts and counts of parked bicycles performed at regular intervals can provide information about changes in the level of cycling over the course of time and identify capacity bottlenecks.

Household travel-behaviour surveys, often conducted on an appointed date (via telephone interview, online, or by questionnaire), provide spatially differentiated mobility indices for the local population, for example, on transport choices. Surveys conducted along a certain route, on the other hand, offer information about transport along the route. Combined with questions regarding the quality of transport/cycle facilities, these surveys help identify the causes of low acceptance; they also help determine the most effective forms of PR.

Cover image: Measuring bike used by the Dutch Cyclists' Union, 'Fietsersbond', to assess the cycling-infrastructure quality.
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Expert surveys: Not only users, but also people working or volunteering in the cycling sector have crucial inside knowledge of local cycling conditions. Thus, individuals from the municipal transport planning office, the tourist office, the retailers' association or the local cycling organisation, for example, can be important contacts for evaluating the 'cycling climate' and the effectiveness of specific measures.



Survey conducted along a tourist route.
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Nationwide surveys in Germany

Assessing travel behaviour and cycle use

In Germany comprehensive transport studies have a long tradition. The nationwide studies Mobility in Germany (MiD) and Mobility in Cities (SrV), in particular, are very popular. Both surveys include large, statistically valid datasets providing information on travel behaviour and use of transportation modes among the German population. On certain appointed dates, respondents are asked to provide information on trip distances and choice of transportation mode. This generates, among other things, crucial knowledge about the development of cycling, which can be further evaluated and used in secondary analyses. One major difference between the two studies is that the data for MiD is collected nationwide, thus including the different types of cities and municipalities, while SrV is based on a number of individual studies that were conducted during the last survey in 2008 in a total of 74 German cities and municipalities. Thus, at the same time, this study provides detailed information on the use of various transport modes in these municipalities.

An important addition to these studies is the German Mobility Panel (MOP), a longitudinal survey conduct-

ed annually that collects data from selected households regarding travel behaviour and choice of transportation mode. Over the course of one week, participating household members are asked to keep a travel diary and record all the trips they make. As the same people are surveyed every year, this study design is particularly suitable for identifying trends that change travel behaviour over time. The recording of all trips over the course of one week provides a detailed picture of each individual's travel behaviour, thus allowing for more accurate results regarding, for example, the use of multiple transport modes.

In many cities, towns and municipalities, local traffic counts are carried out. Data on traffic volume is recorded at certain locations over a specific time period. Currently, an online tool is being developed that allows users to enter and analyse the results of traffic counts and compare them with results from other places.

Assessing cyclists' satisfaction with cycling conditions and policies

In Germany there are not only comprehensive surveys on travel behaviour and cycle use. Nationwide evaluations are also carried out to collect data on cyclists' satisfaction with the cycling conditions and on cycling policy. In the years 1988, 1991, 2003 and 2005, the German Cyclists' Federation (ADFC) used the survey known as Fahrradklimatest ('Cycling Climate Test') to assess the bike-friendliness of German cities and municipalities using a simple questionnaire design. The latest survey, in 2005, involved more than 26,000 cyclists nationwide. Respondents were asked to share their opinion on a total of 22 individual aspects regarding the quality of cycling infrastructure and services in their local area. The data was analysed taking into account the size of the individual cities, allowing ranking lists to be created in three different categories (cities with a population below 100,000, between 100,000 and 200,000, and above 200,000).

The study Fahrrad-Monitor Deutschland ('Bicycle Monitor Germany') is a representative online survey, last carried out in 2011, with questions on various aspects regarding the respondents' mode choices and cycle use, with an emphasis on questions aimed at assessing satisfaction with cycling policy and local conditions. The 2,000 participants were selected carefully to ensure that the survey covered a representative sample of the population in terms of age, sex, education and place of resi-

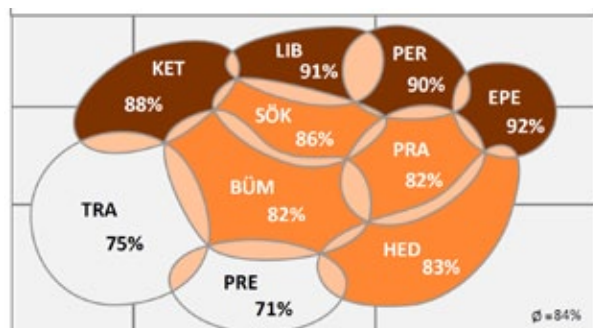
Further Reading

Frank Borgman/Fietsersbond (2003): The Cycle Balance. Benchmarking Local Cycling Conditions (media.fietsersbond.nl/Engels/Information%20about%20the%20Cycle%20Balance.pdf)

Webpage of research project 'Mobilität in Deutschland' (MiD) (www.mobilitaet-in-deutschland.de/engl 2008/)

Webpage of the research project 'Mobilität in Städten (SrV) (tu-dresden.de/die_tu_dresden/fakultaeten/vkw/ivs/srv) [German]

dence (size). A special characteristic of the study is that its results are calculated in terms of various 'milieus'. Such milieus of 'like-minded people' are constituted based on common value orientations, lifestyles, tastes, communication structures and residential environments.



Percentage of bicycle use by segmented lifestyle group.
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Monitoring at the municipal level in Copenhagen and the Netherlands

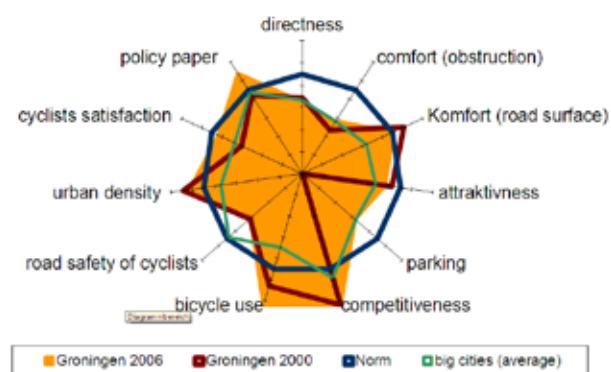
The Cycle Balance (Fietsbalans) in the Netherlands

In the Netherlands the system known as Cycle Balance (Fietsbalans) is used nationwide to assess the quality of cycling infrastructure and services. In the early 1990s, the ministry of transport decided to initiate a benchmarking project and commissioned the Dutch Cyclists' Union, "Fietzersbond", to carry out systematic data collection. The objective assessment of cycling-infrastructure quality and the comparison with other municipalities is carried out to encourage local policy-makers to raise the standards for cycling policy in their cities/towns and municipalities.

The Cycle Balance is based on an analysis of strengths and weaknesses, with which participating cities/towns can be compared. The Cycle Balance comprises the following 5 components:

- A written survey among the relevant employees working in the individual cities and municipalities is used to assess the role of cycling in municipal planning.
- With the help of a written survey among cyclists, their perspective is taken into account by evaluating how satisfied they are with the local cycling conditions.

- Information on specific locational conditions is filtered from datasets of nationwide studies in order to obtain accurate data on the percentage use of bicycles as a means of transport, as well as the volume of traffic and road safety in the individual municipalities.
- The quality of the cycle-route network is measured with the help of an innovative procedure: A specially designed measuring bike is used on a selected representative stretch of cycle route to record a number of factors relevant to cyclists (such as the quality of the road surface or the waiting time at intersections with traffic lights) (see cover image).
- In addition, since 2006, cities have been evaluated for the quality of their cycle-parking facilities.



Cycle Balance of the Dutch city of Groningen
© Fietzersbond

In the first project period, between 2000 and 2004, such Cycle Balances were drawn up for 125 cities and municipalities, including all Dutch cities with a population of more than 100,000. In this way, almost 50% of all cyclists in the Netherlands were accounted for in the analysis.

Copenhagen Bicycle Account

In the early 1990s, the city of Copenhagen decided to draw up a report known as its 'Bicycle Account' for publishing comprehensive statistics and information on cycling, as well as the behaviour and needs of cyclists. In 1994 the first survey was conducted, and since then, new reports have been published biannually. Most of the data is collected annually in order to accurately identify changes and developments. In addition, each report has a specific focus area. (e.g. in 2008 the focus area was 'cargo bikes'.) The results of each survey are

Webpage of research project 'Deutsches Mobilitätspanel' (MOP)
(mobilitaetspanel.ifv.uni-karlsruhe.de/en)

The current Bicycle Account of the City of Copenhagen
(kk.sites.itera.dk/apps/kk_publicationer/pdf/679_a4jBCZL3Xz.pdf)

Bypad – Manual for applying the BYPAD-method
(bypad.org/docs/BYPAD-Manual.pdf)

Results of the study 'Fahrradmonitor 2011'
(www.adfc.de/misc/filePush.php?mimeType=application/pdf&fullPath=http://www.adfc.de/files/2/38/Fahrrad-Monitor2011-Sinus-Report_final.pdf) [German]



Cover of the Copenhagen Bicycle Account.
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published in an illustrated brochure in order to make this information available to the public.

One part of the Bicycle Account is based on the results of a telephone survey. For the 2008 survey, a total of 1,025 telephone interviews were conducted with the help of external experts. The other part of the report includes a summary of other traffic data. This data is based on traffic surveys, such as statis-

tics from the modal-split survey and existing data material from other departments of the municipality, e.g. data on accident rates, collected by the police.

EU project BYPAD: A comprehensive structural and process-based approach

The so-called BYPAD Method was developed at the European level as part of an EU-funded project. The idea is to help cities and municipalities evaluate their cycling policy and improve it on the basis of a quality plan. In addition, it stimulates the exchange of experience among BYPAD cities. The BYPAD Method is based on a qualitative analysis of local cycling policy. Instead of focusing on statistical target values and key figures, this method addresses local development processes and their evaluation by the relevant stakeholders. Thus the BYPAD findings for various cities, unlike those of the quantitative Cycle Balances in the Netherlands, cannot be compared. The concept is centred around seven different aspects of cycling policy that are systematically evaluated: (1) requirements and needs of users, (2) political co-ordination, (3) strategy and planning of measures, (4) financial management, (5) personnel management, (6) projects and actions, and (7) evaluation and monitoring. The BYPAD Method includes the creation

of local evaluation groups that consist of local political representatives, as well as representatives from the responsible administrative departments and local user organisations. Questionnaires and discussions within the evaluation group form the basis for a quality plan drawn up for the future cycling policy. To date, the BYPAD project has been carried out by more than 120 cities and towns in 21 European countries.



The BYPAD Method as a cycle. © FGM ARMOR

Conclusion

Adequate monitoring and evaluation tools help establish detailed information about prevailing conditions as well as the progress that has been made in the promotion of cycling in a municipality or region. In particular against the backdrop of Germany's strained municipal budgets, the importance of methodologically sound and reliable data on the success of planning measures is increasing; such data enables limited resources to be used where they are most effective. It is absolutely essential to carry out a systematic evaluation of the measures taken hitherto in order to win policy-makers for the cause of cycling, to obtain external funding (for example at the European level) and to advertise achievements to the public. Moreover, sound statistical data of this kind underpins arguments for cycling-promotion measures to help convince the sceptics.



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More information can be found in
CyE A-1 Bicycle Use Trends in Germany

"Cycling Expertise" is available online:
www.nrvp.de/en/transfertestelle

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