

PlanBiSS - Planning bike sharing systems considering the demand, distribution and maintenance works

The project PlanBiSS involves the development of methods and strategies to facilitate an anticipatory planning of a bike-sharing system. For this purpose, an integrated approach will be used which encompasses an estimation of potential demand, the scheduling of locations and bicycle distribution including maintenance works. Changes in the planning region will be constantly regarded. The specific requirements of public institutions as well as of private companies will be taken into account.

Bike-sharing systems exist in various forms and with various models worldwide. They are operated by private companies, public institutions (communities, municipalities, etc.) or non-profit organisations. Taking the decision how to introduce bike-sharing is in most cases very time consuming and requires a lot of know-how. In operating these systems, issues like the ideal redistribution and the maintenance of bicycles need to be considered. At the moment, planning and operation of bike-sharing schemes are mainly separated. However, the setting of bike-sharing is continuously changing, e.g. in terms of city expansion, transport infrastructure construction, changes in the public transport systems and development of new factory areas. This is also influencing the bike-sharing system as it has to adopt these changes. A consolidation of the planning and operating processes of bike-sharing schemes is therefore necessary. Beside public bike-sharing programs there are also corporate bike-sharing schemes to meet the mobility needs of employees, especially for covering the "last mile". Industrial companies are often located at peripheral regions outside the cities and therefore not very well served by public means of transport.

The idea of the project is to develop suitable indicators, methods and strategies to support on the one hand planning experts in their daily tasks and on the other hand public institutions in decision making when they consider introducing bike-sharing.

In doing so, a holistic approach should be applied which includes estimation of potential demand, location planning, bicycle distribution logistics and maintenance works and which responds to changes in the settings of planning.

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Beside a completely new opportunity for planning, PlanBiSS allows to integrate already existing bike-sharing systems, to plan them, to organize them and to extend them. Further special requirements like bike-sharing as an addition to public transport or bike-sharing for employees of a company in the so called last-mile traffic, should be considered as well for public institutions and private companies. Currently, there are hardly any possibilities to implement such an integrated approach and there is obviously need for research. Introducing bike-sharing systems also contributes to providing better transport links for peripheral companies and industrial bases. There will be better access to the public transport network and the employees obtain an appealing alternative to passenger cars. By complementing public means of transport, the last-mile problem could be solved. After finishing the project, a set of methods and strategies will be available which guides potential bike-sharing planners and operators in both, the implementation stage and the operational concerns. Furthermore, the project partners will be able to support these potential bike-sharing operators.

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