



PERGAMON

Safety Science 35 (2000) 175–192

SAFETY SCIENCE

www.elsevier.com/locate/ssci

Conflict resolution in sustainable infrastructure management

J.S. Timmermans *, G.E.G. Beroggi

School of Technology, Policy, and Management, Delft University of Technology, PO Box 5015, Jaffalaan 5, 2600 GA, Delft, The Netherlands

Abstract

Planning of infrastructures typically involves many organizations with conflicting interests and diverging control over crucial issues, such as technological and social safety, economic potential, and environmental concerns. Traditional planning assumes that all conflicts must, and can, be resolved and that the resulting master plan represents a compromise solution being carried by all parties. In this paper we apply a new methodological approach which departs from this unrealistic assumption. Instead of aiming at resolving all conflicts, we try to manage all planning conflicts by searching for an optimal exchange of control which minimizes the remaining differences among the planning organizations. The focus is on analyzing dependencies among different actors involved in the planning process. We discuss the application of this approach to the urban center melioration project for Alphen on the Rhine, in The Netherlands. Fourteen actors, representing seven planning agencies, governmental departments, and business associations, participated in a workshop for the urban center amelioration project for Alphen on the Rhine (NL). The applied methodology allowed the participants to gain insights in their mutual dependencies. Moreover, post-workshop analysis allowed us to conclude that the current configuration of actors and issues provides little potential to reduce the tension caused by conflicting planning objectives. The most important recommendation to the urban center amelioration project for Alphen on the Rhine (NL) is to broaden their approach to include additional actors and planning issues. © 2000 Elsevier Science Ltd. All rights reserved.

Keywords: Infrastructure planning; Participatory management; Conflict resolution

1. Introduction

The increasing interaction of urban and rural infrastructure systems requires more intense coordination between planning organizations with quite diverse objectives.

* Corresponding author.

E-mail addresses: jost@sepa.tudelft.nl (J.S. Timmermans), beroggi@sepa.tudelft.nl (G.E.G. Beroggi).

Sustainability, safety, and economic planning have become indispensable focus points. Developing effective infrastructure plans means finding a compromise between safety, economic, and environmental aspects, and having different organizations agree on a course of action. The way that organizations develop plans, deal with uncertainties, and look at safety is strongly affected by the management culture of the different organizations (Turner, 1978). Much has been written on how cultural differences in organizations affect the course of action of safety management, accompanied by a call for more efficient coordination (Parker, 1992; Pidgeon et al., 1992). Hitherto, however, little attention has been paid to the value of compromise agreements and, subsequently, the consideration of the fact that compromises might not have to be resolved but, rather, control over crucial issues should change hands.

The concept of exchanging control over crucial issues is a well-known concept in social theory and market economics (Coleman, 1990). The application of this concept, however, has been restricted to explanatory studies of political systems (Pappi and Knoke, 1991). In this paper we apply the concept of exchanging control for participatory infrastructure management in an operational setting. The analytic concept has been implemented in a multimedia system as part of a group decision room, which allowed the actors to exchange information. Special attention was paid to the user interface to facilitate data input and visual interpretation of the results. Due to its operational characteristics, the system can be used to guide the multi-actor planning process in a real-time setting.

2. The motivation for participative planning and management at Alphen on the Rhine

Alphen on the Rhine in The Netherlands is mainly known for its zoo and recreational park Avifauna. It is located at the center of the Dutch Randstad, an urban belt that includes the cities Amsterdam, Haarlem, Den Haag, Rotterdam, and Utrecht. Inside this urban belt is the “Green Heart” which consists mainly of agriculture and recreational areas.

Alphen on the Rhine has recently started to make plans for a new multifunctional city center. The master plan includes 14,000 m² of retail outlets/catering facilities, 300 dwellings, 7000 m² of office space, a new 15,000 m² town hall, 1000 parking spaces, 600 cycle places, and a new theatre and cinema complex. The completion of this project is planned to take 10 years and it will be accomplished in several construction phases. In addition to the new infrastructure in the city center, new transportation and complementary infrastructure must also be considered. This refers to public transportation with new bus terminals, access roads, and maintenance systems to assure public and economic safety and the stability of the city center.

The Alphen on the Rhine city center project cannot be considered at the local level. Regional urban developments have a major impact on the whole Randstad and the Green Heart area, including Alphen on the Rhine. The rapidly progressing urbanization of the Randstad is increasing the urban pressure on the Green Heart. Major reasons for this development are the growing recreational activities generated

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات