

meetings between the various conflicting parties and partnerships between the city authorities and key stakeholders.

Waste disposal and vandalism have been a problem in Zürich and Århus. In Zürich the solution has been a much more intensive programme of maintenance and cleaning in the heavily used lakeside parks where the problem is more intense. In Århus, solutions have included the employment of a gardener to travel around on a full-time basis to report problems and, if possible, to identify culprits who are then reported to the police. Theft of expensive plants has been a particular problem and is being solved by tagging plants with GPS chips in order to track their movement and arrest the culprits. Although vandalism is not a major issue in the Parisian parks, where it does occur, the solution has been to redesign the affected area in order to discourage or prevent it from happening again.

Dog fouling and other dog-related problems were reported in a number of cities. In Zürich, for example, efforts to regulate dog access to parks have failed. The alternative has been to discuss with representatives of all affected parties a set of measures that will have broad acceptance, emphasising the need to involve key interest groups in decision-making if regulation is to be effective. In Malmö, there are no special programmes to deal with the issue, but better information and facilities have helped to alleviate the problems it causes. In Wellington, a council policy document – the Dog Control Policy – sets out the responsibilities of dog owners and establishes the areas that dogs are allowed to use.

## Monitoring open space

In all the cities, monitoring was both a citywide and site-specific activity. The former focused on the effectiveness of the urban management systems and public opinion, and the latter on the success or otherwise of managing specific open spaces.

A number of the cities employed GIS systems as a continually updated record of the condition of their open space resources. In Århus, for example, management systems allow for the continuous electronic updating of plans, programmes and budgets. In Malmö, all areas managed by the Streets and Parks Department are logged into a GIS system containing data on the location, the characteristics of the area itself, and maintenance routines. This is used to inform maintenance plans and budgets.

Inspection regimes are used in Paris as an additional layer of monitoring conducted by a special body – the Inspectors – within the Department of Gardens and Green Spaces. In Minneapolis, parks are monitored daily by their resident park keepers for hazards and maintenance problems, whilst periodic inspections by crew leaders and the district foreman are intended to keep park keepers motivated. More complete and rigorous

inspections of all parks are conducted semi-annually by the Director of Park Operations and the Maintenance Supervisors.

The most sophisticated systems employ a range of measurement systems to carefully monitor and record the conditions of public open space. In Groningen, the Beheer Openbare Ruimte Groningen (BORC) system of management information for open spaces links management options directly to visualised target scenarios (Box 8.4). It also allows the condition of open spaces to be regularly recorded or the success of management policies and processes to be assessed on the basis of clearly specified and visualised quality thresholds. In Melbourne, Parks Victoria uses an asset management system to record the condition of their parks. The system is based on a comprehensive database covering the value, condition, life-expectancy and future maintenance requirements of each park, information which is then used to compare maintenance levels with industry standards and to calculate asset replacement costs.

The asset management system used in Wellington is also effective at evaluating the durability and physical condition of the city's parks, particularly their furniture, paving and planting. The system has therefore proved to be a useful tool to recognise trends such as consistent damage to particular types of equipment or consistent failures of particular aspects of maintenance.

A further important category of monitoring occurs through the various methods used to gauge citizens' opinion on open space quality and its management. Two basic approaches were found. The first were dedicated complaints management systems, with direct accountability to complainants, as well as inputs to internal management practices. User complaints in Curitiba are dealt with by a 24-hour helpline that manages complaints and queries related to a broad range of municipal services, not just open space. Complainants and municipal staff can follow progress of the complaint through the various levels of the administration. Similarly, complaints by the public in Hannover are managed through a citywide complaints management system that includes prescribed times for complaints to be answered. Complainants are routinely kept informed of progress.

The second are internal feedback systems, in which users' views were used primarily as a way of reorienting internal management processes. In Malmö, the Customer Services Division within the city's Streets and Parks Department deals with all complaints and comments from residents. This information feeds into a three-yearly performance evaluation of all private contractors. Good feedback triggers automatic extension clauses to come into play, thereby extending contracts for a further two years. In Melbourne, Parks Victoria relies on regular surveys of visitor opinions and telephone interviews to gauge the awareness of, and satisfaction with, the services provided. These surveys are also used to develop predictive models to assess the likely impact of changes in management strategies