

великих рекреаційних систем на спеціалізовані по досить вузьким напрямками зони. Ділення це викликано неоднорідними потребами різних соціальних і психофізіологічних груп відпочиваючих, відмінностями рекреаційних занять і їх циклів. Таким чином, облік спеціалізації та універсальності рекреаційних територій необхідний вже на перших етапах проектування, для того щоб не виробляти в подальшому дорогих і не завжди ефективних реконструкцій.

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FORMATION OF TYPICAL SCHEMES FOR ORGANIZING THE CITY'S BICYCLE INFRASTRUCTURE

Many urban streets are not wide enough to provide separate cycle facilities or have frontage activity that makes such provision impractical. Design for such environments needs to think beyond standard highway design, defining a slow speed highway environment where cycles, pedestrians and motorised traffic can safely integrate. A good street design can help create a bespoke solution that suits the local surrounding buildings and activities. Involving the community in local street design is strongly recommended as it enables the scheme to reflect the needs and aspirations of people living or working in the area.

Designers should aim to create streets that control vehicle speeds by their physical geometry, visual appearance and provision for pedestrians, cyclists and frontage activity rather than relying on signs and vertical or horizontal traffic calming measures.

In urban areas the cycle network will comprise the highway network, modified where necessary, together with traffic free routes which offer more direct journeys, overcome barriers or offer attractive routes. Within this network more strategic main routes would be identified for prioritisation of

investment and promotion. The network should be:

- safe, convenient, continuous and attractive to encourage new cyclists
- useful for all manner of routine journeys for local people and existing cyclists

- memorable such that occasional users are persuaded to cycle more

All or some of the following stages may be required:

- identify main trip attractors (residential, employment, retail, education, transport, health, visitor attractions, proposed developments etc);
- assess demand (existing and potential cyclists);
- identify desire lines;
- review existing routes, cycle parking, constraints and options for improvements and other proposed transport schemes;
- engage with stakeholders (throughout process);
- develop a prioritised costed network development plan;
- marketing / public engagement strategy;
- monitor and review.

Development of a network should generally begin from the urban centre, working outwards. The network may be organised around a hierarchy of routes:

- main routes;
- secondary routes;
- access routes.



Figure 1 - Development of the bicycle infrastructure network

A fundamental aspect of the provision of cycling facilities is the reallocation of carriageway from motor vehicles to cycling. The provision of cycle tracks in urban areas at the expense of the footway is not encouraged (it tends to be unpopular with pedestrians and cyclists), particularly where there are high pedestrian flows, although there are some limited situations where this may be necessary. Reallocation of road space makes an important statement about the relative priority of different transport users, as it not only promotes cycling but can act as a restraint on motor traffic, which is an important aspect of transport and planning policy in congested urban areas.

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BIM-TECHNOLOGIES IN THE DESIGN OF BUILDINGS AND STRUCTURES

The development and design of new buildings and structures necessitates the implementation of large-scale design works. The requirements for the quality of the projects and the terms of their implementation remain increasingly strict as the complexity of the objects being designed increases. It is impossible to meet these requirements by increasing the number of designers, since the possibility of parallel design work is limited and the number of engineering and technical workers in Ukraine design organizations cannot be increased indefinitely. The problem can be solved on the basis of automation of design, widespread use of computer technology and introduction of BIM-technologies.