PLANNING A WALKING AND CYCLING NETWORK IN PõLVA, ESTONIA

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1. BACKGROUND

In 2001, the Finnish Ministry of Transport and Communications launched a three-year project called Jaloin (On Foot) for promoting pedestrian and bicycle traffic in Finland. The project was largely national; however, it also included cooperation with various target groups, as well as events in municipalities. Among those a model action plan for sustainable traffic was applied in three municipalities and an urban district. The purpose of the research was to test environmentally sustainable and people-friendly traffic solutions and to apply the similar principles in other locations.

The technical services board of the Põlva town council participated in the traffic safety conference in Finland in autumn 2002. In the conference, the model action plan made in Kerava was presented [1]. As a result of their visit, the town and municipality of Põlva launched a walking and cycling project financed by the EU in the Põlva region. The project served as a model for planning pedestrian and bicycle networks according to the needs of different traffic modes and groups, as well as for categorising the network according to the priorities of its parts. The project benefited from Finnish expertise and experience in organising pedestrian and bicycle traffic. A group of three Finnish experts from Helsinki University of Technology and the Finnish Road Enterprise assisted Estonian specialists by offering Finnish expertise, evaluating the project, and making it possible for Estonians to observe traffic networks in Finland.

2. PROGRESS OF THE PROJECT

The project involved seminars, group work, and bicycle tours in the target area. The opening seminar was held in Põlva on 26 April 2004. Another meeting, in Kerava, Finland, took place on 25-26 August 2005. The meeting was organised by Kerava City Technology in cooperation with the assisting project experts from Helsinki University of Technology and the Finnish Road Enterprise. The programme included presenting cycling and walking networks in the towns of Kerava and Helsinki, as well as a meetings organised by the Finnish Ministry of Transport and Communications in various municipalities.

During the bicycle trip in Kerava, press representatives were invited to observe the project and interview the participants. The Estonians were mainly interested in the issues of separating pedestrian and bicycle paths, reducing motor traffic, bicycle parking, and pavement materials. Other important issues in Estonia are new traffic modes, such as roller-skating. It was pointed out in
Kerava that the maintenance of a pedestrian and bicycle traffic network after its construction is a challenging task.

As the EU project in Põlva is intended to serve as a model for other towns and municipalities in Estonia, a manual entitled ‘Planning bicycle and pedestrian traffic in Municipalities’ was published, based on Finland’s expertise and experience [2]. To the best of our knowledge, no similar manuals have been issued elsewhere in Europe.

The Finnish-Estonian cooperation was successful and highly beneficial. An important factor was the readiness of the officials of the Põlva town and municipality to promote pedestrian and bicycle traffic as valuable traffic modes, and the commitment of the municipal administrations to enhance these traffic modes by creating a region-wide network. Steps have already been taken to implement the plan. In many countries, the focus is still on motor traffic systems, while pedestrian and bicycle traffic is in danger of being neglected or isolated from other traffic planning or suffering from a lack of finance and decision-making, while major motor transport projects are prioritised. Finland has a long tradition of pedestrian and bicycle traffic planning; however, only a few region-wide pedestrian and bicycle traffic plans have been made. In Estonia the work has started from scratch.

3. THE PROJECT AS A PART OF REGIONAL DEVELOPMENT

Regional planning in Põlva puts a high value on the physical well-being of its inhabitants. Town residents are encouraged to exercise all year round. Skiers from the region won three gold medals at the 2006 Winter Olympics in Turin. Two significant landscape entities in the region have been protected for the purposes of tourism and recreation. The natural environment adds attraction to the pedestrian and bicycle network. The town of Põlva serves as the cultural and educational centre of the region. Organising traffic systems is closely related to the safety of school children and students (Figure 1).

Creating a pedestrian and bicycle network in the Põlva municipality mostly serves tourism and recreation. The developmental strategy plan of the municipality highlights the need for street lighting and a pleasant environment. The selection of road materials also depends on the natural environment in the region, as well as on the suitability of the materials and their maintenance.
The central goals of developing the regional traffic system are:
- guaranteeing the safety and functionality of the traffic system;
- separating pedestrian and bicycle traffic from motor traffic;
- reducing the number of main road and pedestrian/bicycle traffic intersections and increasing their safety.

No major roads are planned to be built in the Põlva municipality, so the pedestrian and bicycle traffic system is being developed within the existing road and street network. The pedestrian and bicycle traffic system will change the overall impression and environment of the town centre and increase its viability.

4. FACTORS INFLUENCING PEDESTRIAN AND BICYCLE TRAFFIC

The population of the target area is some 10,000 inhabitants [3,4]. The percentage of young people is above the average. Roads in the municipality are actively used by school children and free-time activists. It is believed that a viable pedestrian and bicycle traffic system will promote tourism and the economy of the region.

The undulating landscape of the region is a challenge when planning the network; at the same time, it offers variety to its users. The target area is relatively small. Daily trips do not exceed 2-5 kilometres and are made by walking or cycling. Schools and offices are concentrated in a small area. As everywhere else, the way people move depends on economic and

Figure 1: Young road users on a new school road in Põlva on the Europe-wide car-free day in 2005.
convenience factors. The traffic system also affects the choice of traffic modes. The relatively high price of bicycles and the lack of bicycle paths have limited cycling and the investments made in it.

Only scant statistical data on pedestrian and bicycle traffic in Põlva are available. In the early stages of the project, school children were interviewed about their traffic habits. The small size of the project area and its population have made pre-project planning and decision-making easier.

5. GOALS OF THE PEDESTRIAN AND BICYCLE NETWORK AND PRINCIPLES OF PLANNING

Walking and cycling are often workable alternatives to motor traffic. Walking, cycling, and roller-skating are a central part of active modern life. Promoting pedestrian and bicycle traffic is regarded as a global trend in sustainable development. By increasing pedestrian and bicycle traffic, a contribution is made to safer travel. The responsibility for guaranteeing traffic safety lies with the public authorities when planning their activities. The experience gained in Põlva and elsewhere shows that roads with reduced traffic are safer for both pedestrians and cyclists, although they are not always the most direct route to the destination (Figure 2).

Figure 2: The use of roads with reduced traffic as walking and cycling roads may be increasing in modern communities. Põlva in 2005.
The project served as a model for planning pedestrian and bicycle networks according to the needs of different traffic modes and groups, as well as for categorising the network according to the priority of its parts. The main goal was establishing a **user-friendly pedestrian and bicycling network**.

Parts of the network serve the needs of pedestrians, cyclists, and roller-skaters, as well as bicycle parking. The network is connected to the motor traffic and public transportation system. The main principles of planning the pedestrian and bicycle traffic system in the Põlva region are the following:

- forming a region-wide and continuous pedestrian and bicycle traffic system;
- providing connections to homes, schools, offices, and recreational services;
- separation of the network from motor traffic;
- safety of intersections with motor traffic;
- utilising streets with reduced traffic as parts of the pedestrian and bicycle traffic system;
- adding attraction by benefiting from the landscape;
- involving different user groups.

### 6. CATEGORISING THE PEDESTRIAN AND BICYCLING NETWORK ON THE BASIS OF THE ROAD USE

The network was divided into the following categories on the basis of road use:

- school roads,
- recreational roads,
- roller-skating roads,
- daily travelling roads.

The standards for safety, maintenance, cross-section, surface, environment, and services depend on the road use. Different roads may serve a variety of functions. More advanced systems and specially designed roads make it possible to take into account the particular needs of user groups.
7. CATEGORISING THE PEDESTRIAN AND BICYCLING NETWORK ON THE BASIS OF PRIORITY

Depending on its use, importance, and user rate, the network could be divided into 2-3 categories of priority, similar to the ones applied in motor traffic networks. The Põlva region was divided into main walking and cycling roads and secondary roads. The main roads were the multifunctional ones. Such categories help regulate the financing and timing of the network. The total length of the target network is 64 kilometres, with the main roads covering 16 kilometres.

8. CATEGORISING THE PEDESTRIAN AND BICYCLING NETWORK ON THE BASIS OF THE SEPARATION PRINCIPLE

From a technical point of view, the network can be divided into categories based on the connection of the pedestrian and bicycle traffic and motor traffic roads. The following separation models were applied in Põlva:
1. separate pedestrian and bicycle paths, 14 per cent;
2. bicycle paths on a pavement separated from the main road by a separation lane, 70 per cent;
3. bicycle paths on a pavement separated from the main road by a kerb or railing;
4. separation marked on the ground, 2 per cent;
5. roads with reduced traffic as pedestrian and bicycle traffic paths, 10 per cent.

Simultaneous planning of land use and traffic systems is a relatively new tradition in Põlva, which explains the problem with land reservation for pedestrian and bicycle traffic in many places. As the planning of land use progresses, creating a separate network will be easier. Within some of the most urgent projects, the quality of the traffic environment has suffered from pedestrian and bicycle traffic connections being placed too close to the main road, or from poor visibility.

9. INCORPORATING OTHER ELEMENTS OF THE WALKING AND CYCLING NETWORK

In planning the pedestrian and bicycle network in Põlva, the number of pedestrian/bicycle traffic and motor traffic intersections was minimised, so as to increase the number of interchanges and traffic lights. Altogether, eight intersections required more careful planning. Additionally, a need for bicycle parking was observed in eight locations.

10. PROJECT FINANCING

The pedestrian and bicycle network plan in the Põlva region is being implemented in stages. The project is financed from a variety of sources. The main financial supporters are the Põlva town and municipality. In places where the pavement and bicycle path are a part of the main road, funding is provided by the state. In various road projects, the walking and cycling network is seen as part of a larger framework of intersections and connections with the main road. Such traffic arrangements can be incorporated in larger road projects and financed by those projects. A pedestrian and bicycling network plan is a useful tool for monitoring such particular traffic arrangements.

A pedestrian and bicycle traffic system is a part of the technical development of the municipality in the target area and should be financed and implemented by the municipality. The technical support and structures are regularly renewed in municipalities. Such changes are especially relevant in present-day Estonia. At the same time, such changes make it possible to develop and renew pedestrian and bicycle traffic systems in cooperation with the street owner and the owners of the pipes and cables under the street. For occasional pedestrian and bicycle traffic projects, such as bridges and distant connections, special financial means should be provided from the municipal
budget. Such projects should also be part of the overall action plan and economic strategy of the state and municipality, so that pedestrians’ and cyclists’ needs can be considered. However, a special pedestrian and bicycle traffic plan is essential.

Pedestrian and bicycling network projects are eligible for European Union funding. A model target in such projects could be preserving and developing village life by enhancing the state of the pedestrian and bicycle traffic system. Funding can also be received in order to develop the natural or physical environment or promote tourism and the economy in the region. In such projects, the pedestrian and bicycle traffic system is often included in the overall development strategy. Various pedestrian and bicycle traffic systems are a part of major infrastructural projects financed by the EU.

References

[3] Põlvamaa County plan (Põlva maakonna planeering)