



# Promoting Pedestrian and Bicycle Traffic in Finland

The JALOIN programme 2001–2004





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Abstract <p>The purpose of the JALOIN programme was to promote pedestrian and bicycle traffic in Finland in accordance with the transport policy guidelines of the Ministry of Transport and Communications. The goal was to put walking and cycling on a par with other modes of transport in planning and decision-making. A steering group with representatives of the most important cooperation partners headed the programme.</p> <p>The JALOIN programme included an extensive research programme. The objects of study were selected according to information needs. Their purpose was to serve as examples and to influence the implementation of the most important methods. The research results have been implemented and submitted to the parties concerned. The completed research projects and the most important results have been presented.</p> <p>Measures to promote sustainable transport were taken in three model municipalities of different sizes and in one commuting area (Salo). The goal was to reduce car dependence and to promote safe, healthy and environmentally friendly traffic behaviour. These measures could serve as an example to other municipalities.</p> <p>The most important conclusions of the JALOIN programme are presented at the end of the report.</p>			
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Miscellaneous Contact person at the Ministry: Mr Kari Korpela This report is a summary of the final report of the JALOIN programme in Finnish. More information is available at <a href="http://www.tieliikelaitos.fi/jaloin">www.tieliikelaitos.fi/jaloin</a> .			
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## **Vision**

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Finland will continue to be one of the international leaders in the transport and communications fields with regard to quality, efficiency and expertise.

## **Mission**

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The Ministry of Transport and Communications of Finland promotes national wellbeing and the efficient operation of society by guaranteeing citizens and industry access to safe and reasonably priced high-quality transport and communications connections. The Ministry also furthers the competitiveness of the transport and communications industries.

## **Values**

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Skills, integrity, cooperation.

## **Purview**

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The activities of the Finnish Ministry of Transport and Communications can be divided into three main areas: communications, transport and ownership policy. The Ministry's strategic guidelines and positions have a far-reaching influence over the whole of Finnish society as well as internationally.

## *Foreword*

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### *Promoting pedestrian and bicycle traffic in Finland*

The purpose of the JALOIN programme was to promote pedestrian and bicycle traffic in Finland in accordance with the transport policy guidelines of the Ministry of Transport and Communications. The goal was to put walking and cycling on a par with other modes of transport in planning and decision-making.

The programme was headed by a working group with representatives of the Ministry of Transport and Communications, the Ministry of the Environment, the Ministry of Social Affairs and Health, the Road Administration, the Association of Finnish Local and Regional Authorities, Liikenneturva (traffic safety organisation), the Network of Finnish Cycling Municipalities, and of some municipalities. An important result of the programme was that ministries, administrations, municipal sector authorities and different organisations seemingly in charge of disparate tasks found one another and a cause they want to promote together.

Methods for promoting the status of walking and cycling were identified – the most important being the development of the community structure. The best way to increase non-vehicular traffic is to implement mutually supportive efficient methods. At all stages communication of all kinds constitutes an essential part of the work.

The JALOIN programme included an extensive research programme. The objects of study were selected according to information needs, to serve as examples, and to influence the implementation of the most important methods. The research results have been implemented and offered to the parties concerned. The goal of model municipal practice in sustainable transport, new in Finland, is to promote non-vehicular traffic and to provide an operating model for other municipalities.

Helsinki 30 September 2004

On behalf of the JALOIN working group

Director of Passenger Transport Unit     Petri Jalasto

Ministry of Transport and Communications

# *Promoting pedestrian and bicycle traffic in Finland*

## *The JALOIN programme 2001-2004*

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# Model municipal and regional practice in sustainable transport

## Basis and goals

The goal of the model municipal and regional practice in sustainable transport is to reduce car dependence and to promote safe, healthy and environmentally friendly traffic behaviour. This work is part of other municipal activities, and it is done in cooperation with different administrative sectors of local and regional authorities and other cooperation partners.

The model municipalities, Jyväskylä, Kerava and Lempäälä, represent environments of different types and sizes. In the Salo area several small municipalities collectively promote non-vehicular traffic. Without state initiatives these measures would not yet have been taken in Finland.

The activities were based on the desire of the municipalities to develop and promote traffic solutions beneficial to sustainable transport. It was not the current situation that was taken as a model but the work that had begun for developing it.

The model municipal practice is based on a municipal action plan, and it is steered by a local cooperation group. The goal is to achieve better results through cooperation between administrative sectors and by focusing combined resources on specific targets. In the model municipalities novel ideas about arranging sustainable transport are developed and tested.

The Ministry of Transport and Communications paid part of the wages of the coordinators and provided focused support to the research projects



*A quality corridor for non-vehicular traffic.*

carried out in the model municipalities and in the Salo area. The municipality or a cooperation partner financed the actual development measures.

## Experiences

The model municipal practice in sustainable transport seems to be an excellent tool in the promotion of the pedestrian and bicycle traffic policy programmes of 2001, which provided the basis for the work.

The local inhabitants and the cooperation partners have welcomed the measures fairly positively. All parties have conducted round-table discussions in order to promote sustainable transport. The measures taken and methods used vary between municipalities and are constantly changing. The financial and intellectual support of the Ministry is appreciated.

Municipal representation in a national cooperation group influences local work and increases interaction. All model municipalities plan to continue promoting sustainable transport, provided they will have the sufficient means.

The development of sustainable transport is new to Finland. It will not succeed without a dedicated professional and concerted action. A coordinator, non-vehicular traffic ombudsman or someone else responsible for the work will be needed in the future too. In permanent circumstances, this person would be a municipal official or project coordinator. Small municipalities could share a coordinator, who could also be responsible for regional cooperation.

A joint comprehensive plan is required. The existing transport system plans with letters of intent have not yet developed into plans that influence transport choices and promote sustainable transport. In the municipalities, defining the concept and contents of sustainable transport as well as identifying the joint methods are seen as the biggest challenges.

A goal has been to come up with an operating model or several models suitable to other municipalities as well. Municipalities may choose how to develop sustainable transport in accordance with their needs and goals. At the beginning the goal was to point out areas in need of development

and to create tools for the work and impact assessment.

The model municipal and regional practice has proved to be important and the work has continued in the municipalities that participated in the first stage. In accordance with experiences and interests a goal is to extend the work to other municipalities. Experience has shown that the position of the Network of Finnish Cycling Municipalities should be improved and that commitment to its work should be strengthened.

Finland needs an authoritative national forum for the consideration of all aspects of the development of sustainable transport. In the promotion of new ideas and innovations, the authority and administrative support of the Ministry are intellectual in character, which particularly small municipalities need.

### **Operating model**

Through the model municipal practice the municipalities and public transport sector implement the Finnish partnership programme for sustainable development. In cooperation with all actors involved the programme uses operating models beneficial to sustainable development.

The Ministry of Transport and Communications and its cooperation partners gave the municipalities a recommendation for an operating model for the promotion of sustainable transport.



*Cooperation means helping.*

The general operating principles are as follows:

- o The municipality finds it necessary to continue or initiate traffic development in accordance with the principles of sustainable transport.
- o The development of non-vehicular traffic is based on a transport system plan and on the preceding planning, in which traffic and travel are approached from the point of view of sustainable transport. These are complemented by separate plans concentrating on different transport modes and perspectives.
- o The implementation of the transport system plan means promoting all goals. At different stages the planning may, however, focus on particular issues such as traffic safety, non-vehicular traffic or accessibility.
- o The municipality appoints a working group with representatives of sectors of local and regional authorities and cooperation partners. Its task is to ensure that measures are taken. Its make-up may vary and external interest groups may complement its work. Already existing working groups are activated and their input is used.
- o The municipality needs know-how of general or specific traffic planning, or non-vehicular traffic planning. It must promote this issue and define the areas of responsibility. Small municipalities may arrange the services together.
- o The municipality should stay in continuous contact with public administration and other municipalities during the project planning and implementation.

A summary report including conclusions and recommendations will be drawn up about the model municipal practice.

# On a par with other transport modes through basic research

## Walking and cycling database

There is a need for diverse information about non-vehicular traffic. As regards transport policy, transport system planning and projects, the non-vehicular traffic databases simply are insufficient.

The system for counting non-vehicular traffic is the corner stone of basic research as far as monitoring the situation, arguing for projects and assessing the impacts are concerned. The competition for resources and funding between different transport modes requires not only sound quantitative information but also feasible methods for assessing the quantitative and qualitative impacts of the measures chosen.

The goal is to create a uniform method for counting pedestrian and bicycle traffic in Finland.

In developing a system for non-vehicular traffic counting the first stage is the most important:

- o A national passenger traffic study conducted every six years determines the amount and share of non-vehicular traffic in large urban areas, and in sub-regions. This information is used more efficiently.
- o Instructions for uniform questionnaire and interview studies are issued. Similar instructions are given for sample counting.
- o An organisation responsible for the data processing in traffic counting and its development is established in Finland. The locations for continuous information gathering are first concentrated to larger urban areas.
- o On the basis of continuous counting information and weather reports the general conversion factors of sample counting are defined for average daily traffic.
- o Instructions are drafted for assessing the amount of non-vehicular traffic on the basis of location data. Simultaneously the development of a trip generation information system is studied.
- o Route information systems are developed so that they also contain all geometrical information about non-vehicular traffic routes.

The Ministry of Transport and Communications and the Road Administration implement the measures above in 2004–2005 together with the largest cities.

<http://www.mintc.fi/www/sivut/dokumentit/julkaisu/mietinnot/2003/jub3003.htm>

## Impact assessment of promoting non-vehicular traffic

In connection with the JALOIN programme, guidelines were drawn up for the impact assessment of developing non-vehicular traffic. Their main purpose is to provide instructions for assessing the impact of non-vehicular traffic programmes and projects so that they are comparable with the assessment of the socio-economic impact of car route projects.

No similar tool for non-vehicular traffic is known to exist anywhere in the world.



*The same principles of impact assessment apply to non-vehicular traffic as to road projects.*

A separate assessment framework is needed for non-vehicular traffic as others have been developed for car traffic and do not consider impacts typical to walking and cycling. Health benefits are an important example of this.

This method is well suited for extensive programme and project packages, and for use as general background in the impact assessment of non-vehicular traffic. The guidelines present the application principles and the situations in which the assessment framework can be used.

The assessment also has to consider the impacts on car traffic and public transport as well as on transport infrastructure and community structure. The current values are based on the existing information.

Profitability calculations are mainly based on unit prices used in the assessment of other transport modes. The impact assessment complementing the profitability calculation is a verbal description of the implementation of the programme or project goals.

Especially health benefits and their financial value merit further research due to their significance. More basic research is needed for the assessment of the quantitative impacts of non-vehicular traffic. The guidelines have been tested in single cases.

It is hoped that the assessment method contributes to the creation of larger programme and project packages for the promotion of walking and cycling.

The Ministry of Transport and Communications will recommend using the assessment method in suitable transport system planning projects. (Publication number 32 at [www.mintc.fi/julkaisusarja](http://www.mintc.fi/julkaisusarja))

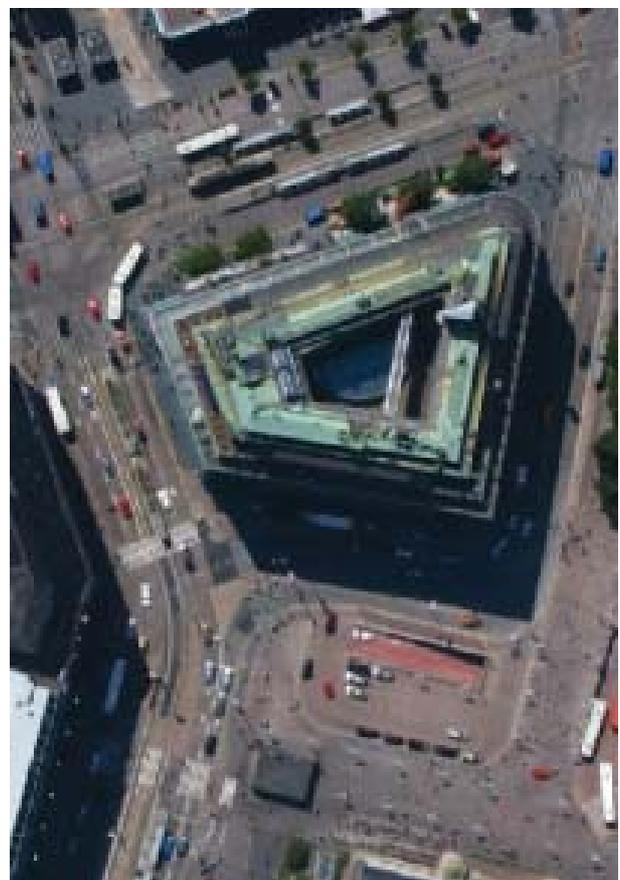
### **Aerial photography as a traffic counting tool**

This JALOIN project was not primarily concerned with the development of traffic counting techniques. However, opportunities to develop a new system of non-vehicular traffic counting in Helsinki were studied. The system would be based on aerial photography and image interpretation relying on automatic pattern recognition.

This method involves extracting localised data about situation-specific traffic kilometrage and speeds through computer processing of digital aerial photographs.

Findings in the first research stage revealed that this would be a cost-effective method compared to traditional traffic counting, although it would require extensive further processing.

The method is developed as part of an extensive project covering several themes.



*Traffic in Helsinki seen from the air.*

# Putting service level and quality goals into practice

## Quality corridors for non-vehicular traffic

In the development of traffic conditions there is a need for criteria that define which services are provided in which conditions. Limited possibilities to offer services to pedestrians and cyclists make it necessary to prioritise. In the competition with other transport modes, it is the concept of basic service level that forms the basis for higher-quality non-vehicular traffic.

The concept of quality corridor is known in public transport. Odense, the Danish bicycle city, has applied this concept systematically and innovatively in non-vehicular traffic.

In Jyväskylä the first stage of planning a quality corridor network for non-vehicular traffic was a major connection to the city centre. In order to qualitatively analyse the network, quality level goals and target service levels were set for the routes. The purpose was to raise the status of walking and cycling and to improve the traffic conditions.

The example showed the traffic, structural, functional and environmental measures that improved the quality of the route. The quality network was planned for the entire city area. It mainly consists of main connections to the city

centre and to the university campus. Quality can also be argued for on such grounds as the importance of exercise and outdoor activities.

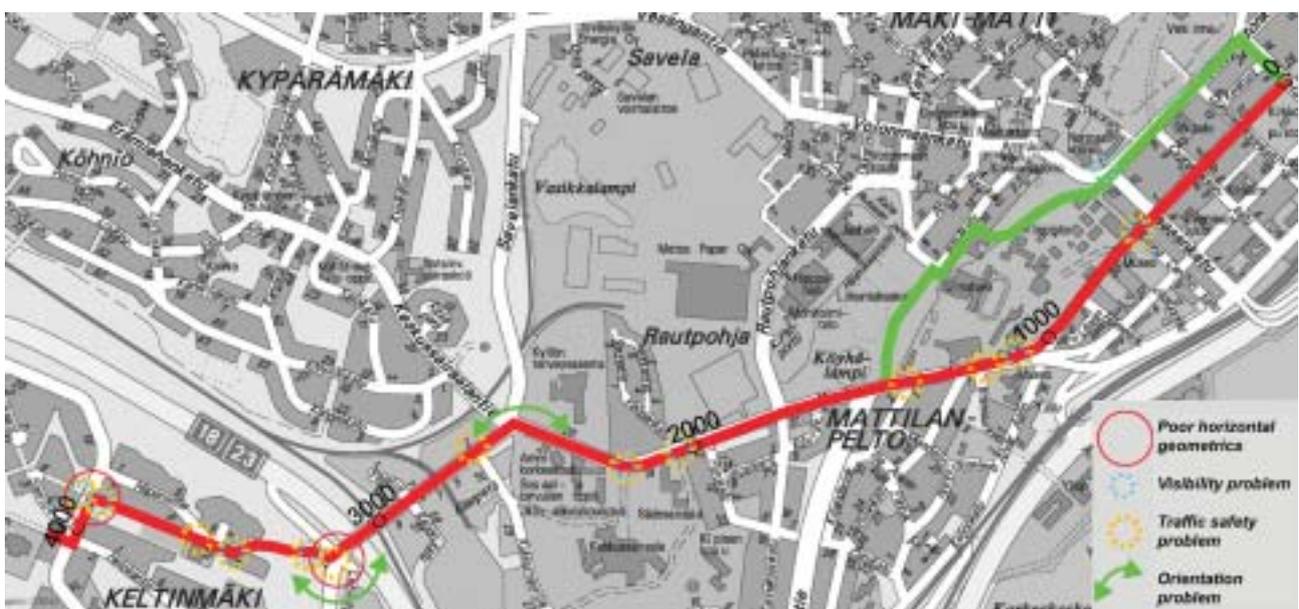
The quality classification goals as well as the quality corridors and network in Jyväskylä set an example for other cities on how to increase the service level of non-vehicular traffic.

The planning of quality corridors for non-vehicular traffic is expected to become an important method of developing the cycling and traffic conditions in Finnish cities.

## Better services with small measures

The main goal of the development of the walking and cycling routes along the Itäväylä motorway in Helsinki was to identify cheap and fast ways to resolve the worst problems and to improve the existing routes so that they are of the same quality everywhere. These routes, about 15 kilometres, partly belong to the street network, partly they are public roads.

According to the results it is possible to improve a major regional bicycle route with a combination of small and easily adaptable measures. In the project, several such measures were identified and taken.



*This non-vehicular traffic connection to the city centre of Jyväskylä has been analysed in order to increase the service level of walking and cycling.*

Many have been commonly known but they have not been carried out. This quick-improvement plan should be adjusted to the city's normal activities, including financial planning.

The charting of problems and the presentation of solutions are best done by a professional coordinator without cumbersome and expensive user interviews. It is the users' experience that small measures clearly contribute to the service level and the pleasantness of using the routes. No quick changes can be seen in the popularity of cycling, though.

This example proves the importance of continuity in the programmatic planning and implementation of small measures.

The City of Helsinki and some other municipalities plan to use this method in other locations too.

<http://www.hel.fi/ksv/>

### **Street repairs and mobility**

Legislation has not allowed the municipalities to manage and schedule street repairs so that they would impair traffic as little as possible and not weaken the street structures or lower the service level. Pedestrians and cyclists have thus had to suffer because of the badly managed arrangements.

In 2003 the Ministry of the Environment began the drafting of a bill on road maintenance and public

sanitation, which the Government now has submitted to Parliament. The main goal is to improve the winter maintenance of central pedestrian areas by increasing the responsibility of society and by developing maintenance methods.

It is proposed that a notification procedure for street and public area repairs would be adopted and municipalities would be able to order repairs. This method would make it possible to promote accessibility, safety and pleasant environments and to monitor that streets are repaired and used according to plan.

The amended Act would also include clearer provisions on the responsibility of the authorities, supervision, and the use of coercive measures.

The research project behind the bill and the consideration of its results during the drafting process are examples of topical and effective research.

During the work it became apparent how important information and training will be for the application of the Act. Information is needed by street managers, contractors and real estate owners. National models are needed for the development of instruction, permit and contract practices.

A goal is to write a handbook for municipalities on the arrangement and monitoring of street repairs.

<http://www.mintc.fi/www/sivut/dokumentit/julkaisu/mietinnot/2002/b282002.htm>



*The repairs in Aleksanterinkatu in Helsinki in 2001–2003 were inconvenient, but the final result greatly improved sustainable transport.*

## *Non-vehicular traffic routes are the most important place for exercise*

In Finland the planning and construction of non-vehicular traffic routes for everyday use began in the latter part of the last century. An important aspect was traffic safety. Studies show that exercise has undisputable health benefits – thus the promotion of exercise is an important goal.

Recent studies show that in Finland non-vehicular and public traffic routes are the most popular places for exercise.

Commercial traffic and physical exercise go hand in hand, and they have common interests. Physical exercise is another compelling argument for the development of non-vehicular traffic and its conditions.

The project studied how exercise is taken into account in non-vehicular traffic routes and how the responsible actors cooperate.

Sports facilities and transport matters are on the responsibility of different authorities in both state and municipal administrations. The programme thus tried to create cooperation between the sectors.

Today, people interested in exercise have various hopes and wishes as regards non-vehicular traffic routes and their maintenance. The problem is that all specific needs are not easy to satisfy .

According to the study the best way for different exercise groups to be heard is active interaction. Interaction methods have been described in the study, which includes a recommendation for a general operating model.

As a result of the study the Road Administration will amend its national instructions for planning non-vehicular traffic.



*Non-vehicular traffic routes are among the most popular places for exercise in Finland.*

## *Bicycle parking still in its infancy*

### **Better parking opportunities increase cycling?**

The planning and arranging of bicycle parking still has no established form. The responsibilities are not laid down in legislation, municipal ordinances or, so far, town plans.

Studies on bicycle parking of blocks of flats, shopping centres, schools and work places were conducted in the cities of Oulu and Kuopio.

Seasoned cyclists are not affected by bad parking opportunities, but these do not attract new cyclists. Bicycle parking is often forgotten in the different stages of planning and decision-making.

In order to improve the situation it was proposed that the participating cities add the following to their planning regulations:

“Blocks of flats should reserve two slots per flat or one slot per 30 m<sup>2</sup> of floor area for bicycles. In the city centre, commercial, office and public buildings should reserve one bicycle slot per 40 m<sup>2</sup> of floor area.”

Planning regulations can be complemented with building regulations. These should emphasise the accessibility of the bicycle storage and the right quantitative ratio between indoor and outdoor storage.

As the first municipality in Finland, Kangasala has a planning regulation on bicycle parking.

The promotion of bicycle parking should be continued through planning, administration, instructions and cooperation.

In accordance with a recommendation of the research project, a model provision on the arrangement of bicycle parking has been included in the Ministry of the Environment instructions for plan symbols and regulations. Some municipalities have used it. The Ministry of Transport and Communications recommends that the municipalities adopt these plan regulations on the arrangement of bicycle parking.

### **The bicycle in the transport chain**

In the Helsinki metropolitan area, the goal of the project on bicycle parking for feeder traffic was to identify and test equipment available for bicycle parking in cooperation with the municipalities in the region, the Helsinki Metropolitan Area Council and the Finnish Rail Administration.

The project was unable to unequivocally recommend a particular cycle rack model. The need for product development is clear, and the project identified the target areas. The greatest need concerns the development of racks to which the bicycle frame can be locked, as this would prevent vandalism. A bicycle locker that can be locked with a mobile phone was also designed.

On the basis of the project results equipment manufacturers are improving their bicycle racks and shelters. In addition, the project has generally improved bicycle parking at terminals.

Bicycle parking requires extensive planning and know-how and is closely related to several activities, which makes it hard to arrange a project solely on bicycle parking.

In Finland environments of parking areas at larger stations involve several owners and actors. Therefore, it requires particular attention. The goal is to create an operating model for the division of responsibilities for bicycle parking at stations.

<http://www.mintc.fi/www/sivut/dokumentit/julkaisu/mietinnot/2003/jub3103.htm>

# Development programme for bicycle tourism

## Marketing bicycle tourism

Important achievements for Finnish bicycle tourism are the Fillari GT maps drawn by Genimap Oy in 2000–2004, and the six cycling guides produced by the Cycling in Finland project.

Several cycling guides with route descriptions were written in connection with the JALOIN programme: two of the province of Uusimaa and one of the lakes Päijänne and Saimaa. The guides were also translated into English.

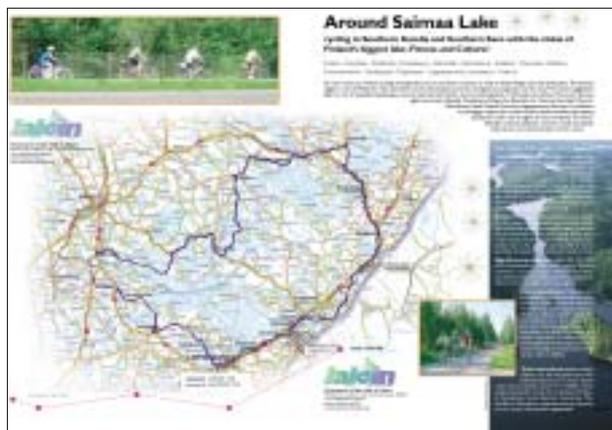
The need for a national bicycle tourism policy and cooperation among the responsible actors became abundantly clear. In future these matters will be addressed by the programme for promoting bicycle tourism in Finland.

<http://www.easyliving.fi/pyoraily/pyorailykartat.html>

## Joint effort to develop bicycle tourism

The situation and needs of Finnish bicycle tourism have been analysed. The results of the analysis show that Finland needs a programme for the promotion of bicycle tourism, which would outline the development targets for routes, services and marketing, the measures to be taken, the responsible parties and the division of labour between them.

It is important that the programme work is coordinated and certain measures prioritised.



*Brochures market bicycle tourism.*

The Road Administration has set up a national group as well as regional groups to monitor the development of tourist traffic. One part of it is bicycle tourism, which naturally falls under the mandate of the official national group and the regional groups. A specific programme for the promotion of bicycle tourism is needed due to its special features. The work is planned to be headed by a national organisation.

## Improving the map of outdoor recreation areas in and around Helsinki

For 25 years the map of outdoor recreation areas in and around Helsinki has served cyclists and other exercisers. It has established itself as an essential non-vehicular traffic service.

The inhabitants and users were asked to tell their opinions of the map, and an improvement proposal was put forward.

The users were fairly satisfied with the map. Mostly they hoped for more detailed information and more markings of services available to exercisers.

Through better distribution and availability of the map it is hoped that more people will make use of the recreation trails. It is possible to act on most suggestions in the next edition of the map.

The map and its improvement also serve map planning and development in other urban regions. The JALOIN project has aimed to disseminate the information to municipalities outside the Helsinki metropolitan area.

[http://www.ytv.fi/julkaisut/ulkoiluraportti\\_140404.pdf](http://www.ytv.fi/julkaisut/ulkoiluraportti_140404.pdf)

## *Making use of private roads*

Ways to promote walking and cycling by making use of private or other small roads outside the main road network that are in need of no or some repairs have been discussed in Finland.

By using private roads it would not be necessary to build non-vehicular traffic routes along the main roads close to the car traffic.

It is cheaper to direct walking and cycling to parallel private roads than to construct new non-vehicular traffic routes.

The use of private roads might have other benefits as well: the route might be more direct and/or pleasant, and it would save land along the main road. By avoiding several parallel routes money is also saved.

If a private road were repaired, it would benefit all users of the road.

The legislation and already or soon to be completed projects were studied. Instructions were tested in a couple of municipalities.

As a result the necessary technical solutions and the contractual and funding models for their implementation were presented. The implementation calls for cooperation with the Road Administration, the municipality and the maintainers of the private road.

The experiences of making use of private roads as routes for non-vehicular traffic have mainly been positive. The procedure could be applied more widely.

In addition, the instructions for using road maintenance allocations, changing a private road to a public road and providing for municipal financial support to non-vehicular traffic routes need to be clearer. The general agreement on responsibilities between the Road Administration and municipalities should also be amended.



*In order to fully utilise private roads they could be used as non-vehicular traffic routes parallel to main roads.*

## *A living countryside*

### **Promoting the countryside through walking and cycling**

In sparsely populated Finland there are a lot of rural environments, where walking and cycling is fairly uncommon. There is a clear need to develop new small-scale and cheap improvement methods and to create a suitable administrative environment for using them. Traditional heavy road construction is not always necessary or suitable in fragile and valuable rural environments.

An important purpose of regional planning is to ensure the vitality of villages. The project studied whether support could be provided through unconventional non-vehicular traffic arrangements in cooperation with the municipality and inhabitants.

This led to further planning and implementation plans in the areas involved. The use of the model will be expanded in the province of Northern Ostrobothnia. The Ministry of Transport and Communications recommends the model to be applied for example in other Regional Councils.

### **The environment determines traffic arrangements**

A guide including model solutions for adapting car traffic to rural environments and for promoting walking and cycling on rural roads was produced. Rural roads are roads belonging to the low-volume road network.

Main attention was focused on the reconciliation of transport needs and the rural environment as well as on the detailed planning of rural road environments.

The work resulted in a general planning model and in examples of how the character, landscapes, constructed environment and cultural heritage of the countryside should be taken into account in planning. Additionally, instructions for green space planning, the use of structures and materials and addressing environmental disturbances are issued.

New methods propose for example how to make rural centres more noticeable, how to better mark the limits of built-up areas, and how to construct rural yards at the most central location of a rural road. Pedestrian and bicycle traffic could be transferred outside the carriageway on rural roads too, as long as it is done with consideration.



*Developing the street network may enliven the rural centre.*

## Accessibility – a new approach

### Accessibility strategy of the Ministry of Transport and Communications

Ensuring accessibility for pedestrians, and cyclists, is an important viewpoint, which has claimed its place alongside the goals of traffic safety and good environment. As with traffic safety and environmental aspects, accessibility should be part of all planning and other activities.

In 2003 the Ministry of Transport and Communications adopted an accessibility strategy. In order to support its implementation an inter-administrative research and development programme called ELSA – Towards Accessible Transport was launched in autumn 2003 (<http://www.elsa.fi/>).

### Operating model for taking accessibility into account in municipalities

The goal of an accessibility study conducted by the City of Espoo was to create an operating model for the continuous promotion of accessibility in municipal activities. The project also served as a study on the accessibility of the two-tier transport system and nodes between different transport modes.

One result was an operating model for the promotion of accessibility in regional centres. The model includes the identification of the parties concerned, interactive work methods and the charting of the current situation.

A project group with the recommended composition heads the work, and a cooperation network monitors the progress of accessibility. On the one hand, monitoring was regarded as a very important development task, on the other hand, the proposed operating model is more of a project both in character and length.

The decision-makers and authorities of the City of Espoo have shown that they have the will to develop their work according to the goals set.

[www.espoo.fi](http://www.espoo.fi)

### Better conditions increase walking?

This JALOIN project examined the pedestrian environment in the city centre of Oulu.

It was concluded that increasing the share of walking in short distances requires a combination of several measures and extensive cooperation. Individual measures may improve walking conditions but their impact on the number of pedestrians is hard to predict.

The project summarises the opinions of the inhabitants and different methods of improving the pedestrian environment in general and in the target municipality in particular.



*In a good operating model, needs are identified together and taken into account in plans and decisions.*

## Walking and cycling safety can be improved

### Model case: City of Pori

This JALOIN project was not really concerned with traffic safety, as the Ministry of Transport and Communications has a separate programme for road safety (<http://www.lintu.info/>). Safety, however, is important to the promotion of non-vehicular traffic. Thus it should not be treated separately from other development measures.

The purpose of this project was to examine why the number of accidents resulting in injury is higher in Pori than in other cities.

The study showed that surprisingly few motorists and cyclists know the give-way rules that entered into force in 1997. A majority of road users do not know the rules for junctions that have no give-way priority. On average, every fifth user does not know the other give-way rules either. Many thought they knew the rules but actually did not.

In 2002 Pori decided to improve the cycle path arrangements at junctions and to start an information campaign on the give-way rules.

The cooperation methods used in Pori in increasing traffic safety – e.g. traffic forums, traffic columns regularly published in local newspapers and radio infomercials – set a good example for others.



*Winter demands much of route maintenance in Finland.*

### Road condition information to non-vehicular traffic

A clear goal could be to enable walking and cycling throughout the year. An increase of non-vehicular traffic during winter months would promote public health.

Pedestrians and cyclists are able to adapt to changes in weather. Slipping injuries are, however, too common, and their impact on the economy is great. Winter demands much of route maintenance, weather services and information.

In Finland road condition information to non-vehicular traffic is under development. This could prevent injuries resulting from falling. It has attracted much interest both at home and internationally. Information has been provided in the Helsinki metropolitan area since 1998. After that the service has gradually expanded. So far, information has been provided only to pedestrians.

Road condition information models used for car traffic cannot be applied to non-vehicular traffic. The development of a model for non-vehicular traffic was begun in 2003 with the aid of measurements of slipperiness. The measurement method proved efficient and at the end of the year the model was able to correctly predict 73 % of all cases.

Meteorologists have been trained to make forecasts for pedestrians, and the model developed has been used in seven municipalities.

In 2004 the goal was to improve the model for non-vehicular traffic by making further measurements of slipperiness, and to launch a nationwide information service in regional radio and television by the end of the year.

The goal of the next stage is to develop a weather service and road condition model for the maintenance of non-vehicular traffic routes. The model will be developed for locations where maintenance is effective. This will also create a basis for the development of maintenance methods. It is essential that street and road managers will participate in this work.

### Winter traffic conditions play an important role

In Finland cycling reduces significantly during the long winter. In 2002 the cities of Oulu, Jyväskylä, Rovaniemi and Helsinki conducted a study for the promotion of winter cycling. The goal was to study the modal share and health benefits of winter cycling as well as obstacles to and motivations for cycling in winter.

The project aimed to promote commuter cycling in selected target areas and to generally campaign for cycling in winter. The sports authorities of the cities have actively promoted this issue and continued the work after the completion of the project.

Slipping is the main cause for accidents in winter. Therefore, it is essential to place the focus on the improvement of maintenance and cycling equipment.

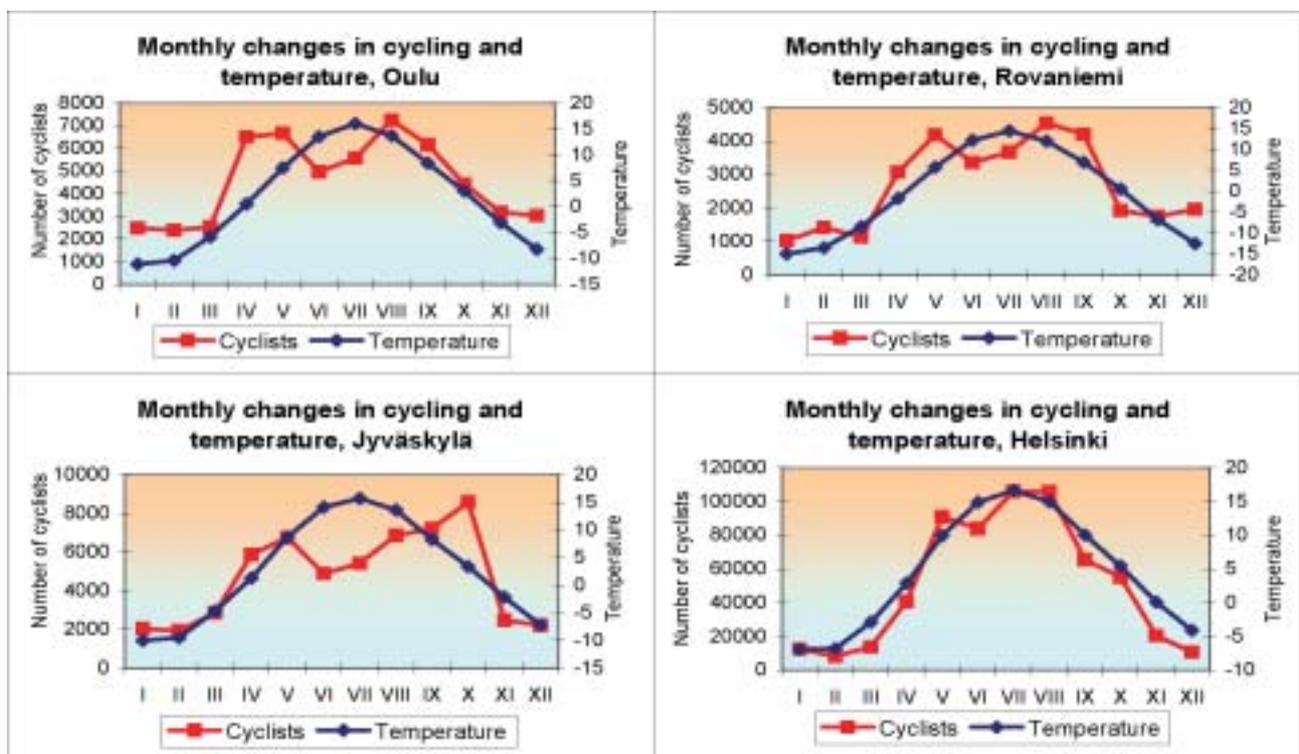
The results show that the promotion of winter cycling has great potential – as long as appropriate safety measures are taken. As many as 28% of people mainly cycling in summer would be prepared to cycle in winter too, if the maintenance level was higher.

More winter cyclists would clearly increase the total amount of cycling, and simultaneously improve the wellbeing of individuals and the environment.

The health benefits of winter cycling were studied with fitness tests that covered the respiratory and cardiovascular organs, fat tissue and metabolism, and muscular fitness.

Winter cycling had its greatest health impact on blood pressure and blood fat levels. Cyclists' blood pressure decreased significantly over the observation period. In comparison to the control group there was a statistically significant change in the triglyceride levels. The beneficial effect of exercise was also manifest in the levels of HDL cholesterol, although the change was not statistically significant.

The results show that winter cycling has a beneficial effect on health problems that are typical in Finland. The results should be used in campaigning for everyday exercise.



*In Finland cycling largely depends on weather and season.*

## Conclusions

The working group of the JALOIN programme of the Ministry of Transport and Communications especially emphasises the following:

- o An inter-administrative approach proved to be a good way of bringing different actors together. Cooperation between the state and the municipalities has to be strengthened in the promotion of walking and cycling.
  
- o The results of the JALOIN programme must be monitored and their application guaranteed after the end of the programme. Research promoting walking and cycling should continue as part of the Ministry's and cooperation partners' annual R&D programmes.
  
- o The municipalities hold a key position in the promotion of walking and cycling. There are several methods available, the most important being the development of the community structure. Measures should be based on a transport system plan that recognises the need for sustainable development and on separate plans complementing it. A more extensive transport system planning should be promoted.
  
- o In terms of continuous cooperation between the state and the municipalities, it is important that the model municipal practice in sustainable transport, which has come to a good start, continues in the participating municipalities and spreads to other municipalities as well. A recommendation for an operating model has been given to the municipalities.
  
- o Walking and cycling should be given more weight in transport policy. In order to define the responsibility of the state, the Ministry needs its own walking and cycling policy. In addition, the goals of the Ministry have to be clearly defined and its role explained to all parties concerned.
  
- o The cooperation partners of the JALOIN programme have defined their own areas of responsibility and goals in the promotion of walking and cycling. Several goals include cooperation, which emphasises the leading role of the Ministry in the management and organisation of cooperation.

## **Contacts**

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