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# Conditions relating to cycling and planning parking facilities for bicycles

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Perhaps the two most essential factors affecting cycling are traffic safety together with climate and weather conditions. If the traffic environment is dangerous, parking arrangements seem secondary. Would it even be right to use tempting parking facilities to increase the number of cyclists in such circumstances? Improving traffic safety in one way or another is the first goal. Some cyclists do well in the middle of car traffic no matter how heavy it is, but this cannot be expected from, or recommended to, the whole of the population.

For the sporty or 'reckless' cyclist, the lack of parking possibilities is no problem either. You can always find a pole or a post that is visible to others and enables you to lock and leave your bicycle for a short while. But as the traffic environment becomes safer, the number of cyclists increases and this kind of unauthorised parking poses a problem. Bicycles which are parked carelessly get in the way of pedestrians, make the work of service and maintenance traffic difficult, and are not a very pretty sight.

*Well planned and large-scale bicycle parking becomes necessary when the worst traffic safety problems are solved. In addition to serving cyclists needs, parking enhances the image and visibility of cycling. Cycling will gain more credibility as a part of the traffic system.*

In areas outside the city centres, traffic safety is often already at a level that makes it possible to develop bicycle parking in many different ways. But in urban centres too, planning of cycle parking must be started in good time, together with other projects related to improving cycling conditions. Otherwise lack of space, for example, might become a problem later, and planning the parking will not be able to be carried out when it is needed.

## Seasonal variation: challenge or threat?

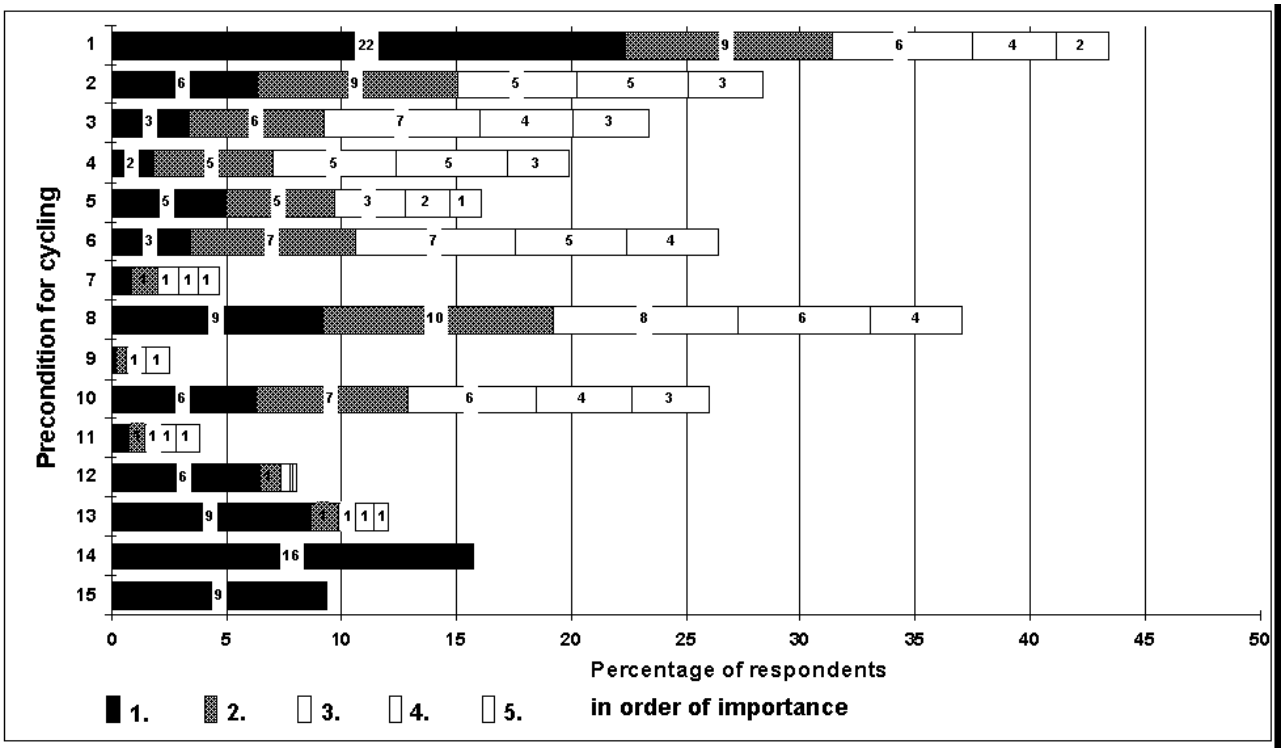
In the Nordic countries we cannot forget that winter poses a special challenge for traffic. Many other countries also face large seasonal variations in weather conditions. This must be taken into account when planning future cycling-related measures. There are however, examples of places where the percentage of cycling in the yearly modal split is as high as 25% (Oulu, Finland). In these locations, the city structure is cyclist-friendly, i.e. distances are short enough, but the high percentage is also due to the well-lit cycle route network and winter maintenance.

Could parking arrangements have the effect of levelling seasonal variations of use, and increase the number of bicycle trips? Or should we just take all the bicycle parking stands away for the winter and use the space for storing snow? I'll discuss these questions later on in this paper.

**Reasons for choosing cycling and wishes concerning preconditions**

Environmental values probably now have a little bit more influence on the choice of the mode of travel than before. However, when there are several options, people usually choose the one which is the most comfortable, taking the economic realities into account. Exercise and time are often the reasons mentioned for choosing cycling. Other popular reasons include the independence from timetables, being outdoors etc.

If people were asked what their priorities are regarding the improvement of cycling conditions, bicycle parking would probably not be on the top of the list. In this respect, people are content with what is offered. Instead, they want action concerning the safety and ease of cycling, such as the construction of more bicycle ways/lanes and the improvement of traffic arrangements in places where bicycle traffic meets major roads. All this is quite understandable. Nevertheless, if the question was; what conditions should exist to make you start cycling or cycle more than now, the situation would change somewhat. An example of this is shown in a study of bicycle traffic conducted in the Finnish capital city region[1]. The question asked was "I would cycle more, if…" and respondents were asked to rank in order of importance the five most important conditions for them from a given list of 15 factors (see figure 1). In that region, cycling has an overall yearly modal split of 9%, but in summer in good weather conditions it rises to 17%.




**I would cycle more if..: 1. Bicycle route network was well-integrated 2. The quality of bicycle route and the surfacing was high 3. Bicycle routes were better maintained 4. Signing of bicycle routes was better 5. Work place and schools had better conditions for showering and storing clothes 6. Motorists paid more attention to cyclists 7. Other people cycled more 8. Bicycles were better protected from vandalism and theft 9. Cycling was marketed more 10. Cycling was safer 11. Bicycle equipment was better developed (for example for the transport of children) 12. I had a bicycle 13. Other measures 14. Such preconditions do not exist / none of the above 15. I do not know.**

***Figure 1.*** *What conditions should exist to make you start cycling, or cycle more than now_*

As regards bicycle parking, attention is drawn to condition number eight, which relates to better protection against theft and vandalism. After the condition relating to the bicycle route network, this was mentioned the second most frequently. There is obviously quite a big challenge to improve bicycle parking and storage!

**The most important factors affecting personal choice of cycling as the mode of travel**
What is the most important condition affecting a persons choice of cycling as their mode of travel? Of course having a bicycle at their disposal. The next one is the ability to ride a bicycle. This skill is most naturally acquired in childhood.

In Finland, about 80% of the population that could cycle (seven years and older) own a bicycle. It has been estimated that half of the remaining 20% would cycle if they had a bicycle at their disposal. One reason for not owning a bicycle (in a society in which cycling is common) is related to the possibility of storing a bicycle where the person lives. In countries or cities where cycling is not an established part of the transport system, there are supposedly more problems in this respect.

**Bicycle on a balcony?**
Those living in city centres do not own bicycles as much as those living in suburban areas or in the countryside. According to a bicycle traffic survey made in the capital region of Finland in 1997[1], approximately. 30% of those living in the city centre do not own a bicycle. In suburban areas, the percentage drops to 10%. The same survey revealed that in good weather in summer, more than half of those who answered cycled daily or several times a week. About a third cycled once a week, and little less than 20% said that they never ride a bicycle.

Those who said they never cycled were asked, ”Why do you never ride a bicycle in good weather conditions in summer?” Not having a bicycle was clearly the biggest reason for never cycling. Even of the people living in the city centre, only 5% found the difficult traffic conditions to be the biggest obstacle.

In the area that the survey covered, the most common place to store bicycles was a special storage room for them. People are quite satisfied with storage rooms as places to leave their bicycles. They were also stored in garages and separate basement rooms, and these were seen as the best way to store bicycles. City centre residents stored their bicycles outside the building far more often than others, but were not happy with this situation. The people most dissatisfied with where their bicycles were stored were the ones who had to store their bicycles on a balcony or porch.

It can be assumed that when bicycles need to be stored close to ones residence overnight or for longer periods of time, people want to have reliable indoor storing facilities. That way, the bicycle is protected against weather, vandalism and theft. Storing cannot however be too difficult. If the storing is very difficult, some people simply do not purchase bicycles at all. It has also been experienced on a number of occasions that when a persons bicycle gets stolen from, or near ones home, the owner will not buy a new one readily. When asked about it the reply often is, ”No, I will not, it would just get stolen again.”

*The possibility to store a bicycle at home will essentially affect the decision whether a person will ever choose cycling as their mode of travel.*

We cannot speak of a true everyday cycling culture until no one has to carry a bicycle up and down the staircase. Only competitive cyclists could be happy to have this extra training!

Adequate and easy to use ground level storing facilities must be built. There should be a storage room per stairwell or a locker for every apartment in the building. In older buildings a separate storage facility can be built in the courtyard.

Short-term parking must be made possible by adding bicycle stands next to residential buildings. The criteria and significance of short-term parking around residential buildings are much the same as elsewhere. They are discussed to more detail later. The most usual start or destination of a cycling trip is home. The degree to which bicycle parking at the start of a trip affects the choice to cycle is directly related to the bicycle storing and parking facilities of residential buildings.

## Making intermediate stops en route and bicycle parking

**Short stop: is it worth it?**
A short stop along the way is typically a visit to a kiosk or something similar, during which the bicycle is not left far away, or for a long period of time.

The most important aspect in short-term bicycle parking is its ease of use. More important than the structures themselves is its attractiveness and to what degree it is within easy reach. The risk is that if it is bad, cyclists will choose another place to stop. Parking facilities therefore have ”negative” effect: if parking in the immediate surrounding of the destination is obstructed, it will not appeal to cyclists. Possible obstacles include stairways, traffic which is too heavy and sometimes even a bicycle parking ban, which is unfortunate. It is possible to organise a good bicycle parking system, if the will exists and planning is made in good time.

*Short stop cycle parking arrangements do not have major affect on the total amount of cycling trips.*

**Parking arrangements regarding park-and-ride cycling**
Park-and-ride traffic linked to public transport offers perhaps the best chance to increase the amount of cycling trips, given good parking arrangements. The best service public transport can offer is of course short distances to a stop or a station at both ends of the trip. Today it seems that there is a demand for park-and-ride traffic. So far, linking park-and-ride to cycling has been rather limited, but a lot can be done to improve the situation. Bicycle parking is one tool.

**Public transport stations**
Even when a public transport station is a 10-minute walk away, i.e. about 1 kilometre away from home, some people cycle to the station. Rail traffic stations are the most popular destinations of park-and-ride cycling. However, the parking area is often insufficient in terms of the amount of parking space, and there are not enough, or no covered parking facilities. Bicycles parked too close to each other easily become dented or damaged in some other way.

*Good cycling connections to public transport stations and well-organised bicycle parking can, if good, increase the amount of both bicycle and public transport trips and decrease private motoring.*

For this reason, public transport terminals should pay extra attention to the ease and quality of cycling connections leading to them, as well as the quality and extent of the bicycle parking itself. Bicycle parking should be situated on a paved area, be well-lit, and be in the immediate vicinity of platforms. There should be a sufficient amount of covered, lockable bicycle stands. Passengers could be informed about sophisticated safety bicycle stands approved by insurance companies with advertising slogans such as ‘you pay nothing if your bicycle gets stolen from this stand!’

**Have bus stops been ignored?**
At bus stops, bicycle parking is often not as well organised as at rail stations. Cycling to the bus stop has not been considered to be as realistic an option as cycling to the railway station. Compared to rail traffic, the number of passengers who get on the bus from each bus stop is smaller and walking distances are often shorter. In detached housing areas, where walking distances to bus stops may be fairly long, bicycles are often parked behind the bus shelters and locked by the frame to the shelter poles. Planning a covered bicycle parking area with winter maintenance has never been a priority at these types of bus stops. If parking is organised, bicycles do not have to lie buried under the snow or become damaged by a snow-plough, but gain a status of a valued 'means of transport' instead of being just a 'useless piece of junk'.

**Park and ride cycling - winter cycling**
The seasonal variations in park-and-ride cycling are not quite as marked as the seasonal variation of cycling in general. Park-and-ride cycling trips are typically short, varying from 1 to 2 kilometres, and they are a part of the daily travel to work or school. When the distance is short, cycling is an option even in cold weather, provided that the cyclist wears proper clothing and does not pedal too hard. To promote year-round park-and-ride cycling, the cycle routes leading to public transport stations need to be well lit and maintained. Another important requirement is well-organised bicycle parking in the immediate vicinity of station platforms. In addition, a small number of inexpensive rentable lockers for bicycle storage is recommended.

*It is estimated that by improving the conditions of park-and-ride cycling, including parking arrangements, the seasonal variation of cycling can be reduced and the amount of cycle trips increased. In the long run, the increase of park-and-ride cycling trips can be significant if conditions are improved substantially and this option is well marketed.*

**Bicycle centres, a special way of parking**
It is recommended that cycling centres are established at public transport main terminals and interchanges between different modes of transport. These centres would provide services and promote first of all bicycle tourism, but also everyday cycling. The services offered by the bicycle centres includes repair and maintenance, bicycle renting, overnight storage service etc. As regards bicycle travelling, the main concern has usually not been the ease or comfort of travelling. However, bicycle centres could provide their users with "logistic advantages" similar to those of distribution centres at interchanges between different modes of transport have provided to the users of their wide-ranging services.

**Parking in the destination**
The cycling destinations can be divided roughly as follows: workplaces, schools and other institutions, shopping centres and other services, recreational, cultural and other places connected with leisure time (traffic terminals were already discussed above). Different destinations have different types of requirements regarding bicycle parking. Therefore, it is recommended that bicycle parking area at the workplace should:

- be situated near the entrance,
- be covered,
- have some stands to which a bicycle can be locked by its frame,
- be supervised and some of the parking spaces should be indoors, especially for longer storage of bicycles used in work-related duties,
- be lit, and
- be situated near showers and locker rooms.

Regarding public buildings, business districts, schools and institutions, recreational and leisure destinations, the need for bicycle parking spaces varies and has to be evaluated individually in each case.

A general principle of bicycle parking in all of the above-mentioned destinations is that the longer the bicycle storage period is, there should be more covered bicycle racks that enable locking by the frame. Bicycle parking spaces have to be situated near the destinations. 'Decentralised parking', that is several small cycle parking areas rather than one large centralised one has proved to be more practical and visually acceptable, especially in shopping areas. There should also be a few more bicycle stands than the estimated demand, in order to prevent the area from becoming too cramped.

*In different destinations, well-organised parking will make cycling easier. In addition, it will improve the city image, which has an important indirect effect on the promotion of cycling. In the long run, the above-mentioned direct and indirect effects on the cycling usage could be substantial as long as other factors promoting cycling are also addressed.*

**Actions to promote cycling**

Below are three suggested categories of actions to promote cycling, and their estimated impact in terms of percentage shares of these actions, see figure 2. Because of various factors, these impacts are only an estimate. The effect of cycle parking facilities alone (including storage) on the amount of cycle use would be around 10-15%. Parking facilities belong to the physical conditions as well, but to emphasise their functionality, they are also considered as a part of the trip chain[2]. Supporting commuter cycling includes paying special attention to showers and locker rooms at work places.

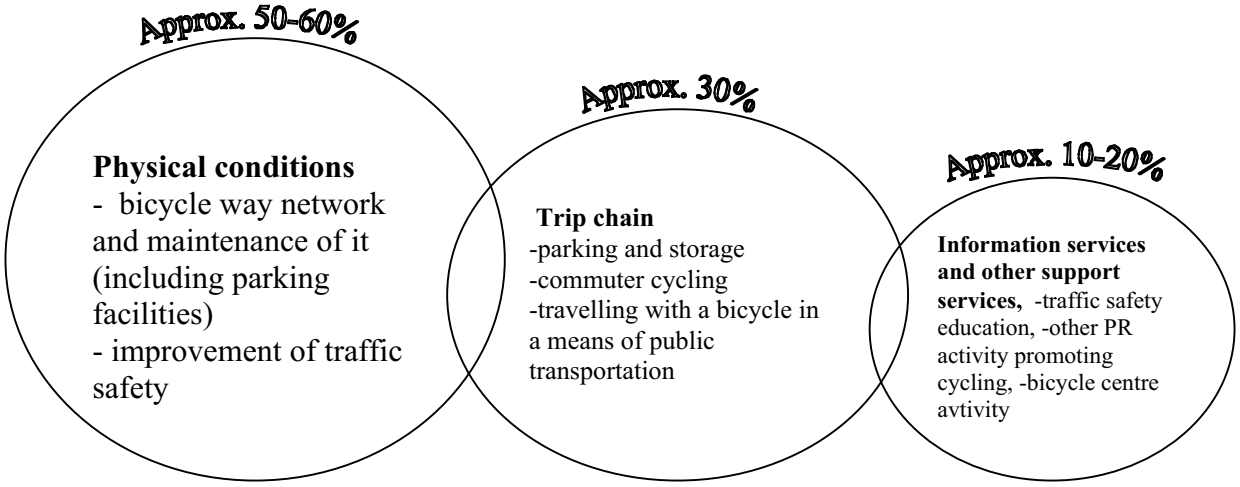



***Figure 2.*** *Three suggested categories of actions to promote cycling.*

## Planning good bicycle parking

Planning good bicycle parking is a process including several parties. It is set out below (see figure 3):

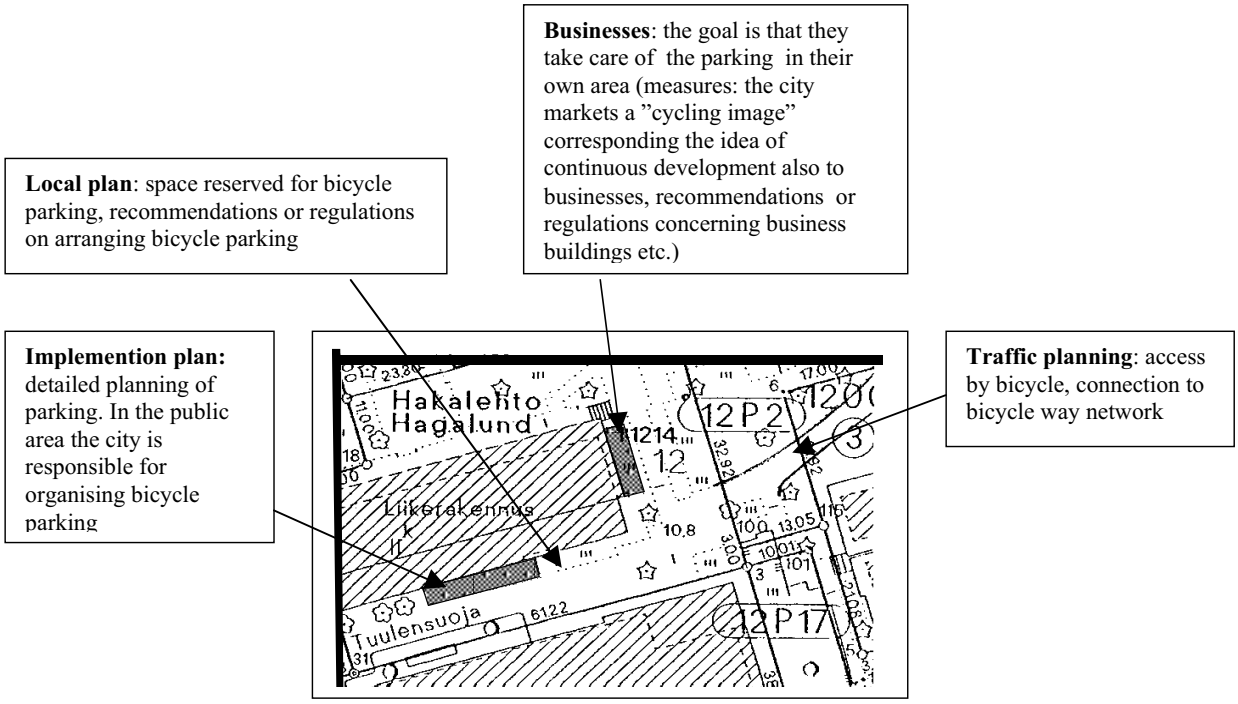



***Figure 3****. The process of planning cycle parking.*

### At the end

The status of cycling has to be improved continuously by many actions so that it can compete with other modes of transport. It is difficult. However, it is positive that not only the users of public transport but also private motorists have begun to commute by bicycle.

Improving bicycle parking is just one action among others, but it should not be considered as a 'mere technical detail'. Rather, it should be considered from the point of view of different types of cyclists and their needs, as well as a part of the trip chain.

Properly organised cycle parking has a message: 'a cyclist is welcome here!' This message is positive not only for residents and visitors, but also for businesses willing to locate in sustainable surroundings and having similar principles themselves.

To obtain good results, everything that has to do with cycle promotion must be appreciated not only by professional planners, but also by high ranking decision-makers and officials.

**Sources:**


1. Pääkaupunkiseudun yhteistyövaltuuskunta 1998. Pääkaupunkiseudun pyöräliikennetutkimus 1997. (The Helsinki Metropolitan Area Council 1998. ”A study of bicycle usage in Helsinki region”.)
2. osittain: Pääkaupunkiseudun yhteistyövaltuuskunta 1999. Pyöräliikenteen strategiasuunnitelma, luonnos 11.10.1999. (partially adapted from: The Helsinki Metropolitan Area Council 1999. ”Bicycle traffic development strategy in Helsinki region, draft 11.10.1999.”)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