



Report of the Bustrip Peer Review of
the city of Turku
Final
2006-11-24



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Towards Sustainable Urban Transport

1 Introduction

The performance assessment of the progress towards sustainable urban transport being made by the city of Turku was conducted between the 21st and 25th of August 2006 as a part of the BUSTRIP project. The team comprised of:

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- Ms. Anna Granberg – Union of Baltic Cities, Environment Commission
- Mr. Per Elvingson – City of Örebro, Sweden
- Mr. Gintaras Stauskis – City of Vilnius, Lithuania
- Ms. Dace Liepniece-Liepina – City of Liepaja, Latvia
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- Mr. Mindaugas Kucinovas – City of Kaunas, Lithuania
- Mr. Björn Gunnarsson – City of Gothenburg, Sweden

We have reviewed many aspects of the land-use and transport planning in Turku. In this report we summarize our findings and give our recommendations, for the City of Turku to consider. Since many problems have the same causes many of our findings and recommendations are listed under more than one headline.

2 Executive summary

The city of Turku is a good city with many unique qualities, such as the Market Square, the river Aura that adds life to the centre and the beautiful archipelago. But the city is also facing serious problems. The most important, in our view, are:

- Weak regional planning
- Insufficient public transport
- Problems for pedestrians and cyclists
- Increasing congestion
- Fierce competition for the City Centre

Weak regional planning

There is no real coordination between the city of Turku and the surrounding municipalities. This causes problems for land use planning and transportation planning. Instead of cooperating, the municipalities compete with each other for “good taxpayers”.

A municipal reform seems to be needed. If changes in the municipality structure cannot be achieved, a regional planning organisation must be established that has power to coordinate the different municipalities.

Insufficient public transport

The public transport seems to be mainly regarded as an exceptional service for those people who cannot use a car. The buses are too slow, the frequency is too low and the information to passengers is not good enough. There is a need for a revised line network with a limited

number of trunk lines with frequent service and few stops and additional service lines with less frequent service and more stops. The speed should be increased with more bus priority on the streets and in intersections and with a better ticketing system that decreases the boarding time for passengers. The information on bus stops and in buses should be improved.

Problems for pedestrians and cyclists

Turku has an ambitious bicycle plan. In many suburbs the provisions for cyclists and pedestrians are excellent. In the more central parts of the city, however, there are critical missing links in the network. The city needs to implement the cycle plan and to make sure that the city centre and other important destinations can be reached by foot or cycle without serious conflicts with car traffic.

Increasing congestion

Congestion is an increasing problem in Turku. If current policies are continued, congestion will increase even more. The main reasons are:

- Population growth.
- Economic growth.
- Increased car ownership with many families having more than one car.
- Urban sprawl with a big proportion of new housing areas being built far from the city centre and in a way that is impossible to service with efficient public transport.

Experience shows, that it is useless to fight congestion with new roads. No large city in the world has succeeded to decrease congestion with increased capacity. Instead, the policy must be to shift the modal split towards a bigger share for public transport and cycling and a smaller share for car traffic.

Fierce competition for the City Centre

Turku has a very pleasant City Centre, with the Market Square, the Market Hall and the river Aura as important and unique qualities. Nevertheless, the competition from external shopping centres is very hard. Many customers are used to go by car and to park near the shop in external shopping areas, which is not convenient in the city centre.

To preserve the attractiveness and the competitiveness of the city centre must be a primary target for the city. A prerequisite for this is that the accessibility is good, both by car and by public transport, walking and cycling. But at the same time too much car traffic will cause congestion, which decreases accessibility, and a bad environment with noise, pollution and accident hazards. Thus it is a very delicate balance to decide how many cars that shall be allowed in the city centre. The problem is to differentiate between commuters and shoppers. Those who travel to work with car should be discouraged from doing so and encouraged to choose other modes of transport. Those who come by car to visit the shops, on the other hand, should be encouraged to come to the city centre. But the businesses in the city centre must realise, that they can never offer the same services to customers coming by car as the external malls can do. To compete with only car accessibility is to fight a losing battle. Instead the city centre must strengthen its unique features, such as diversity, atmosphere, culture, street life and quality.

3 Drivers

Urbanisation, economics and transport are considered as drivers that affect the Sustainable Urban Transport issue in cities. This chapter will discuss the findings about the strength of these drivers found in the Turku peer review.

3.1 Urbanisation

Issues to consider

The European Environmental Agency states in its report "Urban sprawl in Europe – the ignored challenge" that "Urban sprawl should rightly be regarded as one of the major common challenges facing urban Europe today". EEA claims that urban sprawl is an important but ignored issue with environmental, social and economic consequences for both the cities and the surrounding rural areas, and which makes it more difficult to reduce climate change. The report is available at http://reports.eea.europa.eu/eea_report_2006_10/en/eea_report_10_2006.pdf

Urban sprawl may be an even bigger problem in the long-term perspective. Regional co-operation is needed to avoid this. The regional land-use plans should be updated and respected in detail.

External shopping centres that compete with the city centre and local shops in the neighbourhoods increase traffic and car dependence and decrease the accessibility for those people that do not have a car. There are some Swedish reports on this issue that could be useful to study (the reports are available on the Internet):

Externa och halvexterna affärsetableringar – litteraturstudie och kartläggning, Trivector traffic AB, rapport 2004:18,

Dags att handla nu – detaljhandeln och en hållbar samhällsutveckling, Stellan Svedström och Helena Holm, Boverket 2004,

Effekter av externetablerad handel, särskilt dagligvaruhandel, på trafikarbete och miljö – En kunskapsöversikt, Anders Hagson, Tema Stad & Trafik Chalmers tekniska högskola 2003.

New housing areas need to be planned in further detail to be attractive and possible to serve with public transport and cycling.

The traffic, environment and urbanization impacts of the proposed roads must be assessed and only those with positive impacts built.

Specific archipelago and coastal area landscape has led to a spread location of urban settlements in Turku region, where Turku is the main urban centre with several urban neighbourhoods located around; this system of settlements requires good travel connections for the residents, that is proper balance of regional and local in-city transport systems.

As many of residential areas in Turku have developed already to municipal border lines, the urban growth continues naturally in the neighbouring municipalities (evident also from the new city master plan 2020); in this situation cross-municipal and regional planning seems to be the only visible way towards sustainable urban development in general and sustainable urban transport system in particular.

The formal municipal boundaries of the city of Turku form an area from the north to the south, while the urban area instead goes from east to west. Expansion into neighbouring municipalities on both sides of Turku (east – west) should be given preference to urban expansion into the islands in the south or further to the north

The specific type of settlement in Turku with limited residential areas surrounded by areas of green spaces should be preserved.

Relatively big travel distances from home to work are the result of such a specific urbanization, requiring understanding of “in-city” and “regional” transport systems as one in-extractable whole.

Recommendations

- In order to keep the existing character of town, the Turku municipal area should be planned together with the neighbouring municipalities to the west and to the east, in order to provide a coherent and balanced plan for developing areas of residence, employment and services, interconnected by sustainable city and region transport.
- More intense urbanization of the municipal islands Hirvensalo, Satava and Kakskerta should be considered as an extremely critical act with consequences for the city of Turku reaching far beyond the goals accounted for at present.
- External shopping centres is a growing problem in the Turku area due to the competition between the neighbouring municipalities, but also a lack of policies and strategies to make shopping centres a integral part of the Turku city centre. As it is now they are planned in areas e.g. close to the bypass that will only increase traffic and is a threat to the city centre of Turku.
- See also “Handeln i planeringen” from the Swedish Board for Urban Planning.

3.2 Economics

Issues to consider

In Turku there are so far no planning or economic tools that can decouple transportation growth from economic growth. Thus, economic growth will inevitably lead to more transport, increased car traffic and increased environment impacts. This will work on several levels:

Most evident is that a growing economy will generate more transport, both passenger and goods transport. Without proper counter-measures, transport will grow at least as fast as the economy.

The modal share of car traffic will also grow as increased prosperity will make even a second private car affordable for more households.

The spatial organization is characterised by suburbanisation of housing, working and shopping. This will increase passenger and goods transport.

Increased car ownership will further fuel suburbanisation. Families with high income will leave the city and move to quieter and cleaner housing areas. This creates an increasing demand in passenger car traffic, because these areas cannot be efficiently served by public transport. The growing car traffic leads to congestion, putting pressure on additional road investments. This, and the motor traffic, decreases the quality of life in urban areas further which again urges people to move to the suburban zones. Experiences in the western countries show that the traffic problems cannot be solved by additional roads. Although land-use planning schemes aim at a mitigation of urban sprawl this trend is still going on. In Turku this processes are also fuelled by the competition among the municipalities in the region for new taxpayers, a competition that results in a suboptimized housing structure from a regional transportation perspective.

Recommendations

- The growth in car traffic that is driven by the economic growth should be counteracted by increased costs for the car drivers. The external effects of car traffic should be internalized through fair and efficient pricing and taxation systems. However, most of these means are not controlled at the local or regional level, but by the state.
- What could be affected at the local level are the parking charges. The City of Turku should ensure that the car drivers have to pay the real costs for parking places, especially for long time parking when going by car to work. Employers that offer free or subsidized parking to their employees should be encouraged to stop doing so. Free or subsidized parking should be regarded as an employment benefit that should be taxed just like the salary.

3.3 Transport

Issues to consider

The urban region of Turku is experiencing considerable pressure for urban growth and redevelopment; this is reflected in the rate of new construction in the archipelago and suburban areas. Many people, especially families with children, move away from congested districts to avoid exhausts, noise and lack of traffic safety.

The increase in car ownership and the decline of public transport are both effects of the urban structure and service structure of Turku becoming increasingly car-oriented (suburban areas in Hirvensalo and Maaria) and car-dependent (suburban areas in neighbouring municipalities where the people mostly use the big shopping malls like Mylly and Länsikeskus).

The car-oriented transport system negates the location advantage of compact urban areas, which can be perceived congested. The car-based transport system causes decline of local services, which are replaced by faraway services. This leads to the local services being reduced. In 2001–2005 a reduction of public transport ridership in context of the other drivers was noted.

Recommendations

- The Turku strategy and policies should be revised in order to achieve a sustainable transport system. Sometimes, the land use development based on client's needs causes transport problems, therefore the City should have stronger influence on these needs, for example by promotion of public transport / walking and cycling oriented areas.

Transport Management

There seem to be no understanding of the concept "Transport management" in the city of Turku. There is plenty of work going on to prepare transport plans, strategic plans, infrastructure investments and forecasts of traffic flows in the city. But, the demands for transport are lacking sufficient support, responsibilities and work in the city administration.

All modes of transport: road, rail, air, walking and cycling need to be considered within the transport plans of the city. Sustainable modes like public transport, walking and cycling need to be considered as important as car use. Walking and cycling should not just be a recreational transport mode, but also to be considered as a mode for work trips etc.

Both passenger transport and freight transport need to be considered. The plans should include strategic plans as well as implementation plans for a sustainable development of passenger and freight transport not only in the city of Turku but in the whole region.

4 Impacts

4.1 Noise

The EU directive 2002/49/EC sets limits for noise. To provide relevant data that explains the impact of transport it is interesting to know the share of population exposed to noise above 55 dBA during day (L_{den}), evening and night periods and sleep disturbance caused by exposure to noise above 45 dBA during night period (L_{night}).

An evaluation of the noise situation along streets and roads in Turku was made in 1993 in cooperation between the City and the Road Administration. 33 street sections were analysed and a plan for noise abatement measures was approved. The plan has not been implemented.

The Regional Council of Southwest Finland has made an estimation of population exposed to road traffic noise in the Turku urban area (April 2000). Of a total population of 215 000 people (1995) 9 000 were exposed to noise levels above 65 dBA (L_{Aq}) and 66 000 to a noise level above 55 dBA (L_{Aq}). Most people exposed to high noise levels live near the main roads close to the city centre. Also in the very centre many flats are facing the street side only, which implies high noise levels. The method used, however, is rather generalized and not very exact in its details.

For people living in urban areas with high noise levels relief may be found by visiting silent areas in the weekends and even in the evenings. In the noise mapping made of the Regional Council of Southwest Finland also silent areas (areas with noise levels below 45 and 35 dBA, L_{Aq}) were estimated. It was found that in the central part of the region there are nearly no areas with a sound level below 45 dBA L_{Aq} . Thus, silent areas give no possibility for people exposed to high noise levels in their homes to visit a more silent place within convenient distance.

Recommendations

- The noise mapping from 1993 is today rather old and does not cover all roads and streets with sound levels above 55 dBA. The mapping from 2000 covers the whole area, but is not sufficiently exact. Therefore, we believe that there is a need for a more thorough analysis of the noise situation in the City of Turku and in the urban area, to form a baseline for a plan for noise abatement. We also believe that it is important for the region to preserve silent areas and areas that potentially could be silent and to make plans to ensure that valuable recreational areas can be silent even in the future.

4.2 Air pollution

The main impact factors from transport on air quality are fuel mode, quality and consumption, driving mode and traffic flow.

There is a good developed air quality monitoring system in Turku Urban region - consisting by 7 automatic monitoring stations. The measurements of air quality meet the EU directives; however the levels of particulate matter (PM10) and nitrogen oxides (NO_x) sometimes have been exceeded.

The most important sources of these emissions are transport and industry.

However, the city demands low emission buses (Euro II to IV) in the procurement of public transport and the use of clean ships is promoted by differentiated harbour dues. The city has no incentives to use alternative fuels and or to buy a cleaner car and there are no buses with alternative fuels. Alternative fuels are not used by the city with the exception of two electric vans.

Examples of Target Values with regard to Sustainable Transportation:

ISSUE	TARGET
NO _x Emission, total	- ... % (2005 -)
Carbon dioxide emission, total	- ... % (2005 -)
urban air quality	
NO ₂	< 40 µg/m ³ mean annual
particulate matter	< 15-20 µg/m ³ mean annual
benzene	< 2 µg/m ³ mean annual
1,3 Butadiene	< 0.1 µg/m ³ mean annual
PAH	< 0.5 µg/m ³ mean annual
ozone (suburban)	< 120 µg/m ³ (8-hour average)
noise in residential areas	< 55 dBA (day) < 45 dBA (night)

Recommendations

- There is a need to develop goals and targets for the use of alternative fuels.
- A campaign on environmental impact and what measures are necessary to improve the situation may help to attract stronger public and political support for implementation initiatives.

4.3 Health

Transportation affects health mainly in three ways:

- Traffic accidents
- Noise and air pollution
- Effects on physical activity

Traffic accidents are dealt with below section 4.4 Safety. There have been about 5 killed and 275 injured people per year in the city of Turku recent years, which indicates that the traffic accident figures are rather high.

Noise and air pollution are also dealt with in separate paragraphs. The health effects of air pollution are fairly well known, e.g. by the APHEIS project (particulate matter). Noise has been regarded more as a nuisance than a health hazard, but recent data from Denmark indicate that noise may lead to hypertension and consequently to illness and premature death.

Physical exercise is more and more seen as a key factor to health and well-being. The transportation system has a huge impact on people's habits and how physical active they are. Cycling and walking to work and school may be an important part of people's physical activity. Special approaches and solutions need to be implemented in urban planning to provide good conditions for and promote these modes of transport.

The City of Turku is part of the healthy cities network and hosts the Baltic healthy city network, still it seems like the environmental health monitoring, at least the one presented on the internet, is quite poor.

There seems to be a lack of understanding of the impact of noise on the quality of life in the City of Turku, for example new residential blocks are built at crossroads of larger highways and streets.

The office for South-western Finland's Agenda 21 has for many years had a campaign for cycling to work. This is a good initiative to promote biking and a better health.

The environment for cyclists seems to be quite unsafe in the city centre.

Recommendations

- Make use of the Healthy city status to a greater extent to promote environmental health and healthy modes of transport.
- Noise mapping should be regularly made and taken into account in planning.
- Campaign for cycling to work could be even more promoted through the city.
- Increase the number of cycle lanes, decrease car speed and improve safety at crossings for cyclists and pedestrians. Underpasses should be considered at major crossings where it may be technically and economically justified.

4.4 Safety

The Urban Region of Turku has a fast economic growth, which leads to more transport, increased car traffic and increased importance of the need for awareness of associated traffic safety problems.

Traffic safety issues currently appear to lack the full consideration that is required at the highest level in order to tackle and address these issues. The City of Turku does not seem to have allocated resources and funds enough from the city budget to pursue financing traffic safety measures. Weak political will doesn't support decisions that may be considered – initially at least – unpopular, such as car restrictions to the city centre, lower speed limits and reducing actual speeds by narrowing the roadway and widening the sidewalks – measures that may provide a big input to traffic safety statistics. In order to improve the traffic safety planning in the city a Traffic Safety Audit could be made, following the principles set up by the Swedish Organisation of Local Municipalities.

Regarding mobility choices, there appears to be far too few safe cycle roads in the centre. Cycling generally is not safe enough in the city, and there are missing links in the bicycle network throughout the city centre meaning that a single journey for many cyclists is fragmented and therefore more likely to experience restrictive problems. Too few cycle paths and an incomplete network of cycle paths can discourage citizens and school children to use bicycles for daily commuting to and from their places of study or work. More tracks and better signs would in our opinion improve the likelihood of more cyclists in the city centre – and so hopefully less cars.

Housing areas and the city centre are 40 km/h zones, or sometimes even 30 km/h zones. But the streets and roads design on the main roads in the city are very comfortable for those who enjoy fast driving. Decreasing the speed limit to 40 km/h even on the main streets in the city centre and building new roundabouts would improve safety considerably. Another very important issue is street marking. It's clear that many streets are visibly missing basic street markings that have a bearing on the misunderstanding and accidents between pedestrians, cyclists and car drivers. For the city centre traffic speeds should be lowered even more with traffic planning, for instance the green wave at 30 km/h or traffic lights away altogether, then it is better to cycle.

Pedestrians and cyclists should be given separate lanes or paths. When planning and building new infrastructure for cyclists, traffic safety needs to be especially considered. The

implementation of the planned cycle path network should be considered as a priority measure to help solve safety problems in the city centre. The central cycle paths should be much better connected and joined together. Where new cycle paths are not possible, separate cycle lanes on the streets should be discussed. One advantage with this action would be the reduction of conflicts between cyclist and pedestrians. Another reason is that many walking routes for pedestrians would be more comfortable and pleasant. On the point of safety the idea of building new bridges over the river Aura dedicated only for light traffic should be discussed, however the full consequences should be estimated in advance and of course full public stakeholder participation should be part of these discussions.

People in Turku fear the 'driving culture' of car drivers. Therefore some education campaigns for promoting better behaviour on streets should be in the focus of the municipality. There also appears to be a problem with drinking and driving with no special programme promoting safe driving among youngsters.

School children are an especially vulnerable group, so it is very important to have education at an early age. There are some good examples of learning process that should be considered as good practice such as the projects involving yellow caps for pupils in first grade and also traffic safety lectures in the schools. Car free days campaigns exist but the demand for it from the inhabitants is not well developed. Traffic safety training for children at schools could be held in cooperation with active NGOs who are specialists in this field, like Liikenneturva. The campaigns should have a special focus on the issues particular to Turku and not only on national issues.

There appears to be an issue with the attitude and behaviour of bus drivers; feedback from people we spoke to suggests that bus drivers should pay more attention to people at the sidewalk and especially for elderly people. Vocational training should be improved and take into account traffic safety. Special training seminars for bus drivers would be useful, especially eco-driving courses.

Recommendations

- The planning of traffic safety should be audited.
- The network of cycle lanes should be completed.
- Speed should be reduced.
- Special attention should be given to give children safe routes to school.

4.5 Congestion

Issues to consider

At present, streets in Turku are sufficient and congestion is not especially dramatic, but in the near future urban sprawl and growing motorization will increase car traffic and congestion time and areas. Motorway standard roads with transit traffic and heavy vehicles go directly to the city centre area, where the street network is equipped with traffic control provisions. The housing development on the archipelago can cause congestion near the bridges and on the roads to the city centre. The plans for more external shopping centres also increases the traffic flows.

Recommendations

To reduce the congestion and its negative impact, it is necessary:

- to encourage or force transit drivers to use bypasses in suburban areas
- to develop public transport and cycling infrastructure
- to stop further parking garage building and introduce higher parking fees in the central area
- to manage the congestion area using ITS measures
- to control the archipelago development and reduce car-oriented housing areas and shopping centres. If more external shopping centres have to be built they should be located so that they can have good public transport services.

4.6 Social equity

The issue of social equity in Turku seems to be the one which is most often dealt with, naturally and traditionally as it is a very important one. With evident demographical shifts towards an ageing population, the social aspects in urban planning have become the key issue. This requires better understanding, to better satisfy the needs of different social groups.

Integrated management of cross-border urban planning should bring much more social benefit in near and also long-range urban future than competition between neighbouring municipalities for "good taxpayers" which is appearing sometimes at present.

Evaluating the level of accessibility in town needs more thorough analysis, but in general it could be estimated as good, with preference to be better.

In particular areas additional attention should be paid to the areas where citizens on different means of transportation (public transport, cyclists, and pedestrians - especially children) come together or concentrate, e.g. city centre, the old city.

In separate cases routes for the disabled citizens should be checked once more to provide non-interrupted and safe travel routes.

Recommendations

- Signing and marking as an element of an information system should be provided for cyclists and the disabled on the most important areas, as intersections, crossings, turns, level changes, etc. in a more visible and accessible way.
- All major bus stops have to be reconstructed as to the accessibility requirements, as this provides the elderly people with the possibility to use the public transport.
- The special efforts and daily activities should to be used to implement the City of Turku Accessibility Plan until 2012.

4.7 Quality of urban life

Town planning has the important task of creating a high quality of life and a sustainable urban area. The aim of planning any sustainable town is to combine residential areas with green areas and to develop an infrastructure which is convenient and sustainable to give access to everyday services. Combining different types of transport and making it advantageous for public transport and non motorized traffic all helps to create a healthy urban area.

Turku has good quality of urban life, achieved by a town planning which combines green spaces with residential areas and industrial areas.

The archipelago as a recreation area is a big benefit for the inhabitants in Turku, however planned new housing areas in Hirvensalo may be very attractive but will also lead to increased traffic, because the people there will use mainly private cars and the demand for public transport will be low.

Accessibility and transportation are vital to ensure people a good quality of life. In Turku it is evident that the citizens very much appreciate neighbourhoods with good public transport, good cycle paths and good access to services.

An analysis of social equity and segregation in Turku (Self assessment report, annex 6) shows that most neighbourhoods in the municipality are popular among their residents. Only four areas can be identified as having clear segregation problems, namely Varissuo, Lauste, Pansio and Pahamiemi. In these neighbourhoods the proportion of immigrants is high and the average income is low.

The reasons for the low status, however, cannot be found in the transportation system, nor in the distribution of services. On the contrary, especially Varissuo ranks high on the standard of public transport, walking and cycling facilities and accessibility to services. This indicates that there are other factors than the physical structure that explain why these areas have more poor people and immigrants.

Nevertheless, when planning for a good quality of life it is important to cater for the transportation needs also for those people that do not have access to a car. After all, about 30 % of the population cannot drive a car, because they are too young, too old or too disabled. Added to that figure should be those people that cannot afford a car, which are about 10 % (students, people with low income). These figures are also found in a questionnaire study in Turku, according to which about 20 % do not have a car and do not need one and 15 % have a car but can do without it. In the light of these figures it is obvious that the city of Turku must plan for good public transport, walking and cycling in order to offer its citizens a good quality of life. Today even some popular neighbourhoods rank low on these qualities, which leads to a big proportion of residents that feel that they must have a car. For instance in Kohmo 75 % of the inhabitants think that they must have a car, while in the neighbouring Varissuo only 55 % have the same opinion.

The city centre could be made more living if the roads were less of a boundary between different blocks. More road area could be transformed to pedestrian walkways, some street parking could be removed and the general street section could be narrowed to decrease the speed of traffic.

Recommendations

- The residential area planning process and the public involvement and cooperation with different actors and stakeholders should be improved in order to preserve a high urban life quality and reduce social problems. This will help the municipality to encourage the development of urban areas where everyone feels equal.
- The city centre should be made more attractive by reducing car traffic and increasing pedestrian areas.

5 Benchmark: SUT - Planning

5.1 SUTP and Sustainable Development Strategy

Both the Turku Strategy (2005-08) and the Sustainable development programme (2005-08) of the city acknowledge land use and transport planning as important factors to reach a sustainable development. Although the major strategies and sustainability programmes points out a quite sustainable direction, the city seems to be going in another direction with decreasing usage of public transportation and increasing urban sprawl. There seems to be no real understanding of what is needed for a sustainable development. For instance, the social department is not very interested in sustainable transport and has no strategy for how to achieve a social mix in different housing areas. This leads to age and socioeconomic homogenous areas, like Hirvensalo, which in turn means a risk of problems with social segregation.

The strategies and programmes are made for a very short period which is not compatible with sustainable development. On the other hand the short term planning does not include targets, measures, responsibilities and monitoring to follow up the implementation of the plan.

There is a lack of a detailed transport system plan with transport goals with rational sequences of development.

There is not enough cooperation on the functional urban area/regional level, each municipality seems to be going in their own direction and competing with each other. There will be a regional transport system plan done in next year that will improve this situation, but there is no suggestion on how to monitor the implementation of the plan. Thus the land use planning need to be regionally coordinated as well and integrated with the transport plan.

Recommendations

- Stick to the plans and programmes that have been decided in the city. Make plans and strategies on a longer term. Secure implementation of short term action plans through the inclusion of targets, measures, responsibilities, finance allocations and monitoring systems.
- Increase cooperation of land use planning and transportation on the regional level. Ensure that the regional transport system plan is implemented and monitor the progress. The regional transport system plan should have sustainability at its focus.
- A new master plan for the city centre is needed that balances the different modes of transport and deals with the issue of how to make the city centre the most attractive shopping area in the region.

5.2 Responsibility for SUTP

Issues to consider

In Turku the responsibility for developing the SUTP lies with the Board of Environment and City Planning and the Board of Public Transport. There is a strong will among the traffic planners to create a sustainable transport system and the cooperation between planners is good.

Those boards have officials with excellent knowledge of sustainable urban transport and therefore have a good potential to develop a plan with real impact for the future. The political knowledge of the concept sustainable transport seems to be somewhat uneven, however,

and the cooperation between planners and politicians is not as good as it should be. To some extent this is due to the short-term thinking among leading politicians.

Recommendations

- The responsible boards should start a discussion on what sustainable transport really is and how it can be implemented within the whole municipality.
- It is necessary to start a cross-sector working group to involve all parts of the administration in the process, since sustainable mobility affects the whole society.

5.3 Citizen participation and stakeholder consultation

Issues to consider

In urban and transport planning, the stakeholder involvement is guaranteed by Finnish law. In addition to this the municipality tries to reach all kinds of stakeholders. Our impression is that this work is done very seriously and that the dialogue generally is well developed. However, all groups do not have the same influence on the planning.

The Chamber of Commerce has a very good dialogue with the city - but that could also mean that their interests are given more priority than others'. For instance, the businesses along Humalistonkatu work against cycle paths, since they would need the removal of a few parking places. Another example is that Tok and K (the two big retail companies) usually get their will through, sometimes at the expense of other interests. The commercial interests develop external shopping centres and the municipalities just confirm.

However, cooperation with private businesses is necessary to solve the transportation problems in the city centre. The "parking problem" probably is not that there are too few parking places for customers, but that too many parking places are occupied by people working in the city centre.

The political parties play an important role in citizen participation, and if the parties are active they will get a good notion of what the citizens want. For example, the Swedish Peoples Party (SFP) is rather active and has expressed a clear standpoint on planning issues. SFP wants denser residential areas on the islands and has expressed that all traffic modes are necessary in the city. They also have continuous meetings with planners to have their say. It is important that all parties take part in the debate and that they form their opinions on sustainable transport.

There is a good communication between police and planners.

Active NGOs can help a lot to improve the traffic safety on the city and provide good channels for the citizens to take part in the planning process.

The University plays a significant role in the city life.

The direct participation of individual citizens is more limited. The chairman of the executive board wants to "give people what they want" and thus is open for all ideas on how the city centre should be developed. But a few individual voices are not necessarily representative for the majority's opinions.

To improve citizen participation, regional partnership groups help the municipality to have a constant feed-back from citizens through project coordinators on transport and other issues of regional community EU projects. So far only the most problematic districts, though, have regional partnership groups for collecting feedback from citizens. The regional partnership will cover whole of Turku in 2007.

Since most of the traffic problems arise because of individual choices it is necessary with more public involvement in the planning of a sustainable transport system. So far, the communication has mostly been one-way; from the City to the citizens. One example is the "Yellow caps" to pupils in first grade to improve traffic safety. This is a good measure, but it should be used also to inform on e.g. traffic safety education and the traffic problems that are caused by parents driving their children to school.

From these examples we draw the conclusion that two areas are of special concern, namely:

- How to reach that part of society that is normally not active in the public debate.
- How to improve the regional cooperation between municipalities.

The first problem is probably shared with most cities in Europe.

The answer to the latter question is crucial to get a coherent view on regional development, which in turn is one of the most important factors to reach a sustainable transport system in the region.

Recommendations

- Regional cooperation among municipalities must be improved, especially with regard to land-use planning and public transportation. If a municipality reform cannot be enforced, steps must be taken to form a regional body with real power.
- Improve communication/stakeholder participation regarding student unions. The students are 15-20 % of the inhabitants and potential citizens and voters. It is important to improve employment for newly graduated and provide with trainee places to stop the brain drain. If the students get more involved in the decision making of the city. If they feel that they can have an influence on policy making they might be more likely to stay in Turku.
- Cycle to work campaigns should be continued.
- More efforts should be made to discourage people from driving their children to school.

5.4 Policy coordination through actor cooperation

As there is no SUTP approved by the City of Turku, it is hard to estimate, on what level there is actor cooperation to facilitate sustainable transport development.

When a SUTP content definition is achieved, coordination of different municipal actors has to be outlined.

Recommendations

- Cooperation between the transport officials and the city planners and architects should be increased to bring more awareness of SUTP issues and thus implement them in regional, general and detailed planning documents.
- Cooperation between in-city and regional transport authorities has to be brought to a more constructive basis as to reach a better coordination of both into one integrated transport management system.
- In order to accelerate steps towards a sustainable urban development by introducing social aspect into urban planning in general and transport planning in particular, professional cooperation and policy coordination between the municipal actors of social, education, economic, cultural and the other relevant spheres has to be intensified.

5.5 Gender equity and equality

Issues to consider

As stated in the self assessment report, gender equity is a generally accepted social goal in Finland. By law all municipal boards must be composed so that there must be at least 40 per cent of the gender in minority, and in recruiting officials it is forbidden to choose or not to choose a person on basis of gender.

However, our impression is that most of the top politicians and senior officials are men. This may be a serious shortcoming, since it is well known from research that men and women have important differences in their views on the transportation system and how they actually use it (in general female travel behaviour is much closer to sustainability with shorter journeys and higher use of walking, cycling and public transport).

Another point, which is also stated in the self assessment report, is that the transportation and land-use plans and decisions are not usually reviewed and evaluated from the perspective of gender equality.

In terms of ethnic and social equality, our impression is that the segregation problem in Turku is small and that there is no clear discrimination of areas with lower social status in city planning, services and transport provision.

The ongoing competition between neighbouring municipalities for "good taxpayers" may in the future have a negative impact on equality since it can increase social segregation.

The need for a barrier-free environment has been addressed in the Barrier-free programme. The ongoing structural change of the trade with everyday products is however an increasing problem, since shopping possibilities are more and more concentrated to external centres which are difficult to reach without a car. This is negative not only for disabled but also for elderly people and those who cannot afford a car.

There are active NGO's for disabled people in Turku. They are giving detailed suggestions on city planning and there is good cooperation between traffic planners and the accessibility representative. An accessibility plan has been adopted by the city council until 2012.

However, few bus stops are adapted for easy access for disabled people and the lack of cycle paths leads to bikes on the sidewalk, which leads to conflicts between cyclists and pedestrians, especially disabled and elderly people.

Recommendations

- A system should be introduced to review plans and programmes from a gender perspective.
- A policy should be formulated to regulate the development of trade with everyday products in the Turku region, preferably on a regional level, to ensure that even people without access to a car can purchase their daily needs. Many cities in Sweden have such policies on municipal level.

5.6 Capacity building

Issues to consider

The personnel are generally well qualified for their jobs. The Board of Environmental and City planning and the Board of Public Transport have conducted a study trip to some European cities which are good examples of sustainable development. Police is well trained with safety problems and visit all schools every year. Regional Agenda 21 starts cooperation with the chamber of commerce. But many officers suppose that additional knowledge of SUTP practices will be necessary and think that the Bustrip project meets partly these expectations.

It can be noticed that many politicians do not understand the problem of suburban development as a driver for increased car use in the city. For instance, the requirement for a minimum number of parking places in new plans creates more car traffic.

But they also consider that the understanding of politicians on sustainable development and sustainable transport issues should be improved.

Usually, inhabitants demand road transport provision without thinking about sustainable development. Not even all planners use public transport or bicycle as their major mode of transport, or even as often as it would be possible.

The cooperation between Turku city and regional municipalities is poor at all levels and planners are often only looking within city borders. This approach is limiting an integrated planning of land use and transport in the suburban areas, especially public transport.

Car drivers sometimes show bad driving culture, for example by not stopping at zebra crossings. Also there is probably a temporary problem with the traffic behaviour of immigrants.

Recommendations

- It is necessary to create a programme of training on SUT best practices for politicians, officers and other bodies. They should consider the benefits of being seen to support and use sustainable forms of transport – “practice what you preach”.
- There is a need to carefully consider the roles, responsibilities and functions of those involved with SUTP to support multifunction teams and horizontal cooperation in the city and the regional areas.

5.7 SUTP scope and definition

Among people working with, deciding about and affected by traffic problems the awareness of SUTP is everything from very good to non-existing. The traffic planners in Turku understand SUTP very well, but there is a lack of knowledge about this among most decision-makers and politicians. This is common in many cities and a problem that have to be addressed by education and information. In Turku there seems to be a problem for traffic planners to inform politicians about the effects of certain decisions. Also it's important to have a public discussion on what the city and the region can do to become more sustainable.

Another cooperation problem is the regional planning where different municipalities' plans don't have a common general plan but instead build new housing, shops and offices without any long-term planning. This leads to a competition between the municipalities to get inhabitants which make the long term planning and co-operation even harder. Again the solution is better education and information about what the effects of this kind of planning will be for the region.

Since Turku is more or less built together with its neighbouring municipalities it's a definite problem with the current municipality borders. If Turku, Raisio, Kaarina and other municipalities were one the planning process would work easier. It would also be easier to create a good public transportation system.

As there is no SUTP yet, there is no scope and the current understanding is different from the SUTP scope. In Turku the focus is traffic and mobility issues, not impacts of transport with a clear link to spatial development. It is necessary for Turku to change its scope and to start developing its definition of what a sustainable urban transport plan should include in the city and what the scope of that plan would be.

Recommendations

- The cooperation with neighbouring municipalities has to be increased. Turku is a metropolitan area and centre competing with Helsinki region. In this competition, the region must act united.
- The possibility of a municipal reform should be considered.
- There are too many strategies, so it's hard to know which is important and not. The goals should be more clear and explicit.

5.8 Analysis of baseline scenario

It seems that the transport system plans and master plans in the city of Turku have been developed from a comprehensive review of the current situation. Turku has a base for sustainable development within most of these plans – but we did not feel that it was clear enough as to how or what exactly the actions or implementation plans were to make changes and development happen.

However, sustainable thinking is not integrated in urban planning. The current SUTP scenario is based on a continuation of the current land use trends such as suburban sprawl. The lack of space for central housing areas suitable for private houses on large lots leads to the movement of families with children to neighbouring communities, meaning quite often that only young and old people with no children remain in the city centre. Building new external shopping malls leads to local shops closing, because of this external competition. Unfortunately, the planning process does not always include sustainable development issues with some big building companies buying land on the islands and elsewhere and steering the development more in favour of what they would like rather than what is good for the city. Even when the city owns the land, the planning practise gives the building companies a big influence.

The City centre and some regions such as Maaria and Jäkärälä need more detailed focus on developing new comfortable walking and cycling paths; developing good PT services in some areas e.g. Varissuo and then leaving other areas with poor services is hard to understand. In Varissuo the public transport and the services are so good that many people state that they do not need a private car.

The City of Turku has a lot of considerable advantages comparing with other Finnish cities that are not used fully: a superb Market square and hall; good bicycle lanes along the river; a good pedestrian/bike bridge and ferry.

The basic indicators are already set up and in most places these are being achieved. Currently sustainable transport development plan sees a considerable rise in private car use (+ 20 – 30% in the period 2005-2025), a slow decrease of public transport use (*here it is worth mentioning that the bonus system for PT in Turku does not give incentives to improve ridership*) and a decline in the relative importance of walking and cycling, (a lot of the city's main points of attraction still lack bike parking). A large proportion of the people that use public transport or bicycle are young or elderly people that do not have access to a car. A good thing, though, is that long distance buses take bikes on board.

The modal split assessment through traffic studies shows that 60 % of the students bike in summer and 20 % in winter. Currently the air quality meets the EU directives and new buses all meet Euro 2 to 5 requirements. On the economic front, there is a decrease in unemployment; good overall economic development; housing units are more often than not fully occupied, and there are day care centres located within easy reach of good PT.

Looking at the internal management and coordination of the SUTP, we notice that co-operation between different departments is improving - although the Strategic Plan is regarded as a document without concrete results as yet. Sometimes it is hard to get

intersectoral working groups to operate in Turku because officials see them as additional work that they don't want to do. However, EU projects are a good opportunity to strengthen the ability and the desire of different departments to work closer together. Especially the horizontal co-operation between the different stakeholders which is a fairly new development.

The involvement of stakeholders is organised by the municipality of Turku e.g. for new developments and/or urban regeneration and the neighbouring administrative units in cases of regional aspects.

5.9 Definition of a vision, objective and targets

The vision about Turku among leading politicians is to provide the kind of living that they believe that the people want. This means they want to make room for more single family housing, good parking in the city centre and working public transport for those who do not own a car. There is no intention to change the citizens' habits to travel from door to door by car. This is close to the Finnish dream of an own house by the water. The current objective is more to create housing according to today's desire rather than what is likely to be sustainable in the long run. This means that the vision is very limited and doesn't reach further than the 4 year election term. Turku needs a better long term planning and an impact analysis of their current plans.

There seem, however, to be a gap between what people really want, or are at least willing to accept, and what the politicians believe that the people want. A study by the Finnish ministry of environment shows that citizens in Finland want to see public transport, walking and cycling prioritized over car use, typically with 65 – 75 % preferring these modes over car. A study in Turku (Self assessment report, annex 6) shows that also in Turku many citizens are very concerned about the quality of public transport, walking and cycling.

One target is to get a complete bicycle path network. This is a good example of a specific plan that will have a positive effect on the city's traffic. One problem is that Turku has many different strategies and no instrument to follow them up. This makes these strategies less important and harder to use for decision-makers and politicians.

Recommendations

Turku should look over what strategies they have and revise them to make them more direct. So they can create very clear transport goals to make this easier. An example could be

- The number of passengers in public transport should increase with 1 % each year.

But there is also a need for a clear vision of what should the competitive qualities of the City Centre be. There is no way that the city centre can compete with external shopping malls with car accessibility and free parking. Younger shopkeepers in the city seem to be more aware of that fact and discuss what other qualities that are unique for the city centre that could be developed to increase the attractiveness of the city centre.

5.10 SUT Plan – implementing actions and allocating finance

Issues noted in the peer review

We found a lot of good intentions and even plans. There is a good Agenda 21 work that is helping the City to plan a sustainable future. The City is planning the school environment to make it more attractive for school children to bike to school and there is also a bicycle plan for the whole city. Some new cycle paths are also designed and built, but mainly in areas far from the city centre. Most newer housing areas (e.g. Hirvensalo, Varissuo and Halinen) seem

to have excellent local networks for walking and cycling, but closer to the city centre the cyclists are often forced to share space with car traffic.

The implementation of plans, on the other hand, seems to be not as good. There are no action plans for implementing approved strategies. The strategic plan does not consider transport. The finance decisions do not seem to take the SUTP principles into account. The budget for public transport is increasing. The operations costs of the bus system (particularly fuel and personnel) are increasing while ridership is decreasing, resulting in more subsidies, higher ticket prices and service cuts. Turku is getting poorer bus services at an increased net cost. The bicycle plan still is not completed, due to lack of economic resources. Also the accessibility plan has problems with financing, since the politicians don't give any money to it. While waiting for big investments (that may never be implemented) the city does nothing. It is a bit unclear for us, though if the problem really is money. Some interviewees claim that it is more about political will than about money. For instance, there seems to be insufficient political wish to support public transport. Another example that is not about money is that external shopping centres have coordinated opening hours, but the shops in the centre do not. In order to support the City Centre and promote sustainable transport opening hours should not discriminate the City Centre.

Recommendations

- Plans should be reviewed with respect to which funding that is possible to get. Nice words with no economic muscles will not change anything, but may only serve as an excuse not to do anything. We believe, that if the City wants to realise its ambitious plans, it must also find ways to finance the implementation of the plans.

5.11 SUTP policies and measures – general principles

Issues noted in the peer review

The planning in the City of Turku does not seem to be made with a sufficient long-term perspective. The dominating planning perspective is the four-year election period. The ruling parties make strong agreements for that period and what is planned seems also to be achieved. But there is no (economic) planning for a longer period of time. The short planning horizon and the strong focus on the election periods seem to bias the actions to goals that are expected give positive results before next election. Long-term actions are not undertaken and there is no long term strategic plan for transport development. There also seems to be low understanding of what sustainable urban transport is about among many representatives.

This does not mean that the city does not have good long-term plans and goals. The City of Turku is a part of the European climate campaign and the Energy agency of Southwest of Finland does a very good job on climate change and energy saving. But as noted in the previous chapter the good strategies and plans are combined with less good practice. City urban quality is not the top priority in the short term period.

The City has no travel policy for its employees. It also has no policy for procurement of transport services, neither for people nor for goods. When the city has adopted own policies on these matters it should encourage other employers in the city to do the same.

Land use planning

One major problem that we have noted is the lack of coordination of land use planning between the different municipalities in the region. The existing administrative boundaries are an obstacle to sustainable land use and transport planning. Regional planning exists only in

theory - in practice each municipality has its own agenda. Each municipality competes with the others for taxpayers.

Public transport

Another key factor for a sustainable transport system is the public transport. We have noted several problems with public transport in the Turku urban area.

Most important is that the coordination between the City buses and the Regional buses seems to be insufficient. There is only some co-ordination between the City buses and regional buses, e.g:

- City bus tickets are accepted in most of regional buses for city trips.
- Parallel city bus services have been removed from some streets where the regional buses offer sufficient service.
- There is a subsidised monthly ticket available which is valid both in city and regional buses.

The public transport must be planned for the region as a whole in terms of line network, timetables, tariffs and ticketing system. Today public transport is in a vicious circle with fewer passengers and decreasing revenues. If this is met by raised fares or reduced services ridership will decrease even more and so on.

Recommendations

- A coordinated regional planning is crucial for a sustainable development. From a sustainability point of view it would be better to develop residential areas more compact and preserve the green areas for recreation. The environment impacts of different development strategies should be analysed and considered. On the same time it must be accounted for that Finns like to live close to nature. However, most people would understand that it is impossible to provide good service and public transport if the regional pattern is too scattered. For instance, development of Hirvensalo might be supported by extension of high quality public transport to the island. But most people there will still mainly use private cars and the demand for public transport will be low. The buses therefore will be rather infrequent and due to the extensive land use walking distances to bus stops will be long, which will further discourage people from using public transport.
- In order to attract people Turku must be able to offer both a viable labour market and attractive housing areas. We believe that Sustainable Transport would give Turku a good profile. Many people, especially young people, prefer to live in a metropolitan area before living in a suburb with poor service and long distances to the City Centre and working places. A more compact city with a better transportation system could make the city more attractive and make students stay when they start to work.
- Regional cooperation also must be better in transportation planning. Public transport should be planned for the whole region, not for each municipality alone. Also between the port of Turku and the neighbouring port of Naantali there is a need for cooperation.

5.12 Reducing the need for transport

The key to reduce the need for transport is short distances between the places you want to go to, like job, school or services like food store, day-care or sport facilities. One advantage with a dense populated area is that it creates an opportunity for all this in a small area. The city of Turku has a large part of the housing in dense areas but have a negative trend with less and less service (stores and schools closing). This has lead to more and longer

transports. With future plans with more single family houses, low density housing, the amount of traffic is likely to rise even further.

So the current development and plans in Turku is going the opposite way, increasing the need for transport.

With the need for longer and more complicated transport the transport possibilities get more limited. People have to rely more and more on their car instead of walking, cycling or using public transport.

Turku need to stop planning a more car oriented city and instead plan a city with better possibilities for other transportation modes. One part of this is the city structure and the location of services. Another is safe and good paths for people walking or cycling. An attractive public transport system is another thing that reduces transport, one bus normally carries at least 30 people, during peak hours, while a car at the same time usually has 1,0 – 1,2 passengers. To have a good public transportation system that attracts new users is a cheap way to prevent traffic congestion compared to building new roads for cars.

Still Turku have many good plans and ideas on how to reduce transports, with a good bicycle network outside the city, a bicycle plan, areas for pedestrians along the river etc. It's interesting that the sport department is so big and active in Turku, they actively encourage people to walk and bike to work. This is good both for health and transport.

Recommendations

- The land use planning should use public transport possibilities as a starting point when planning new areas. Good ideas can be found e.g. from the planning of the early subway lines in Stockholm, where new suburbs were planned around the subway stations. The same way of thinking can be used for light rail or bus lines.
- Development of housing on brown fields near the city centre can reduce car use (at least in theory). New residential areas in central locations should be planned with a "silent side" to avoid noise disturbances.
- If more external shopping centres are planned they should be located closer to the city centre.
- The Sports department should continue to build more and smaller sports facilities so the distance for people to get there decreases.

5.13 Transport management

The attractiveness of the City Centre must be maintained. The centre must be the most popular area for shopping, living and working. However sustainable the transports to the city centre are, this is of no value if people choose to go to other areas to shop or work or if people do not want to live in the city centre.

In order to accelerate the steps towards a sustainable urban development social awareness has to be brought to urban planning practice in general and transport planning in particular, and professional cooperation and policy coordination between the municipal actors on transport issues has to be intensified (involving planning, economic, social, education, culture and the other relevant spheres).

A Sustainable Transport System must rely to a great extent on public transport and cycling. Today we can see no way to make a transport system based on car traffic sustainable. Possibly alternative fuels may eventually solve some of the current problems with car traffic, but many problems would still remain. Congestion, particulate matter, noise and traffic accidents are the same even if the cars are fuelled by biogas, electricity or hydrogen.

Especially congestion cannot be handled in any other way than by decreasing the proportion of car traffic, shifting the modal split towards more cycling and public transport.

It is not a matter of dismissing the cars. A certain amount of car traffic must exist in order to provide the city with a number of services that could not readily use any other mode of transport. But as the region grows, the car traffic cannot be allowed to grow with it, if congestion should be avoided. The most important issue is to decrease car use for going to and from work (see "Parking"). This is important because travel to work is very concentrated in time, thus causing most of the congestion even if work journeys amount to not more than one third of the total number of car trips. Also, work journeys are the journeys that are most easy to divert to bus or cycle and also the most price-sensitive journeys.

Those cars that have to remain in the city centre should be as clean as possible. Old vehicles account for a very large proportion of emissions and by removing them it is possible to improve the air quality a lot. Especially old heavy vehicles are severe polluters. Several cities (e.g. Stockholm and Gothenburg) have introduced an environmental zone in the city centre, thus prohibiting old and dirty vehicles.

Recommendations

The general opinion is that management in transport sphere has quite a wide space for improvements. The following ideas are nominated in this direction:

Transportation planning

- Basic principles of transport management should be discussed on the primary stages of planning and design programming, including social aspects.
- The cooperation between city planners (architects) and transport planners should be improved. Today the architects often have the final word but they have insufficient knowledge on sustainable transport.
- The city should introduce a travel policy for its employees.
- Efforts should be done to make people change their behaviour (mobility management).
- Introduce an environmental zone in the city centre. All vehicles that run in the city centre should not be older than e.g. 5 years old or meet the Euro 3 standard. The criteria could be increased successively.

Public transport

Turku needs to improve its public transport system. The buses are too slow, especially in the city centre. To some extent this is due to the ticketing system. Turku must analyse why they have a PT system. Is it only to give a service to those who cannot use bicycle or car, or is it a way to decrease the use of the car? To fight congestion, it is necessary to shift the modal split from car to bus and cycle during the congested period. This means, that shift workers are not very important, those who work odd hours may well continue to use their cars. The important thing is to make more people use bus and cycle during the peak hours.

Also in this respect, infrequent bus users are not very interesting. The important thing is to have as many regular users as possible. To keep selling single tickets on the bus might give a few more infrequent passengers, but it will also mean that fewer people will use the bus regularly, because of longer travelling times.

Buying tickets on the bus should at least be much more expensive than buying tickets before entering the bus. The ticketing system allows pre-purchased value cards that only need to be validated at the ticket machine already in the bus. So there would be no extra costs for a better practise. All that is needed is that value cards are sold in advance at some places in the city, such as small shops or kiosks. As a comparison, the Arlanda Express Airport shuttle

in Stockholm costs SEK 200 for a single ticket bought in advance. If you buy the ticket on the train it is 25 % more expensive, SEK 250. And this is on a train that has ticket control on the train and with only two stops. In Gothenburg you can buy a ticket in advance and have it checked by the ticket machine on the bus or tram. In Stockholm all cash tickets on buses will be abolished, due to security reasons (avoiding the risk for robbery). This will also give shorter boarding times for passengers, especially with an automated ticketing system.

The bus line system should consist of a few main lines with few stops and short intervals between the buses and a number of service lines with many stops (possibly stop on demand) but long intervals between the buses. The service quality should be more clearly defined. Those who travel everyday to and from work by bus instead of by car normally prefer longer walking distance and more frequent buses before shorter walking distance but fewer buses. Elderly and handicapped people, on the other hand, must be offered very short walking distances, but do not bother so much about frequency. Cities that have reorganised their bus lines according to these principles almost always have increased ridership without any extra costs for the bus traffic. Reorganizing bus lines and creating prioritized trunk bus lines has been successful in increasing ridership and decreasing operation costs in Jönköping, Sundsvall, Stockholm and Malmö in Sweden and in Kristiansand in Norway. A good report on this issue is "Konkurrensegenskaper hos kollektivtrafiksystem baserade på spårvagnar respektive bussar", VTI Meddelande 948-2004. Download: <http://www.vti.se/2032.epibrw>

Our recommendations are:

- The bus line network should be reassessed.
- The ticketing system has to be improved to ease access and use of public transport for local and regional transport.
- To ease access to PT, information for passengers has to be provided, schedules have to be improved, names and stop timetables should be provided on the bus stops.
- Marketing and advertising of PT should be organized in more attractive and professional way.
- Real time IT system should be developed further ahead to bring public transport to modern and progressive level.
- Coordination of local, regional and long range public transport should be discussed and improved.
- Public transport should be fully accessible for disabled people.
- The municipality has a plan to give its employees a 25 % subsidised bus ticket.
- The bus connections to Kupittaa station should be improved.
- The bus connections to the main railway station should be improved.
- The bus lines between different university sites should be improved.
- There should be information in the buses about upcoming bus stops.
- Direct bus lines to working areas should be considered.
- Traffic lights should give priority to PT

Car traffic

- City traffic planning has to be improved. This includes some especially actual activities, as building the bypass to the port, planning better bus connection to Kupittaa station,
- Special policies should be prepared to deal with employees driving to work.
- Calming of private car usage can enable better PT around market square.

- Problems with drinking and driving should be dealt with.
- A joint delivery system for city shops should be encouraged.

Cycling and walking

- The Sports department has a unit that work to get more people to use bikes and to walk (a way of mobility management). This should be continued, and the health benefits from walking and cycling should be stressed.
- Bicycle roads have to be built and repaired to a better quality, the missing links in lines have to be connected and fixed; cycling connections to schools have to be established, increasing cycling safety.
- Snow and ice maintenance on sidewalks and paths should be improved, cycling lines and streets should be accessible the whole year.
- The cycle connections to Kupittaa station should be improved.
- The bike path on Hämeenkatu should be extended to the Kären student union.
- Cycle paths to schools should be improved.
- More bicycle paths crossing the river should be considered.
- The bicycle connections to the market square should be improved.
- Bike paths along the river should not be closed at events.
- A bicycle path on Itäinen Pitkätatu should be considered.

Parking

The parking garage under the Market Square may be of great symbolic interest. In a broader perspective, though, the issue is not where parking places should be built or not. The main issue is what parking policy the city should adopt.

As with bus passengers, the city must analyse what people they want to have on the parking places. Those who travel by car to and from work should be discouraged from parking in the city centre, while those going by car to shop should be taken care of. The existing number of parking places is more than sufficient for shoppers, if only the people working in the city could be convinced to use other modes of transport, or park further away from the centre. Thus, parking fees and management should aim at reducing the use of cars for going to work but still make it possible to go by car to buy things. The first few hours could be rather cheap and the fee then substantially more expensive for the following hours. The most attractive parking places should be used only for short term parking, not more than one hour. Those employees that benefit from a free or subsidized parking place at their work should pay income tax for the difference between what they pay for their parking and the market price for parking. The city and other public employers should not subsidize parking for their employees and the city should encourage other employers not to do it either. Instead they could offer free or cheap period tickets for public transport and good cycle parking facilities with an opportunity to have a shower at work and a locker room to store your clothes.

Employers could also encourage people to walk or cycle to work by health incentives. One hour per week or so used for exercise (e.g. cycling to work or walking to a bus stop, or even walking from a distant parking place) could be counted as working time.

On the parking garage under the Market Square, our assessment is as follows. If the total number of parking places is the same, and the costs are not considered, it is better to have the cars in a garage than to have them on the streets. But it would be counter-productive to increase the number of parking places, since this would increase car traffic and worsen congestion. On the same time, it must be recognised that good accessibility with car for

customers is essential for the city centre. But there are several other ways to achieve that purpose.

The city claims that the costs for the garage are not relevant, since it is the businesses that pay the garage. But also for the businesses, it should be considered where money would make the city centre most competitive. It is doubtful whether a parking garage with very expensive parking places (at least to build) is the best way to increase the attractiveness of the city centre. Different kinds of activities in the city centre would attract far more customers than a garage.

One other problem is the disturbances during the construction period. The city must be very careful not to kill the goose that lays the golden egg by making the Market Square less attractive while the garage is built.

Our detailed recommendations are:

- Parking policy should be used to reduce demand for car trips to the city centre.
- Strategic evaluation of consequences concerning car parking under the Market square should be performed.
- Parking fees could be increased to discourage car use and reduce the need for parking places (current cost at the hospital is 10 Euro/month).
- Free parking for private cars at workplaces should be discontinued.
- The attitude that there is a lack of parking places in the city should be questioned and the notion that the demand for parking can be affected by the price should be encouraged.

5.14 Developing clean and fair transport systems

The city has a good size for access and travel by cycle and the realisation of the existing bicycle plan and construction of more bicycle paths in order to create an attractive bicycle network would add to this positive image. Now an incomplete network of bicycle lanes discourages citizens from using bicycles for daily commuting.

On a political level, politicians are forced to make unsustainable decisions; they avoid making hard decisions to restrict private cars into city centre.

There seems to be an imbalance between stated objectives in different plans and adequate activities.

In the case of public transport the municipality demands low emission buses (Euro II to V) in procurement, but they haven't used "green vehicles", because there is no bio-gas station in the city. Ethanol, bio diesel and sustainable produced electricity are available, though, but the use of these "green fuels" is very limited. There is rather bad accessibility to regional and long distance buses. Trains are not at all used for regional traffic.

Raising awareness for a change of the mobility culture in the city should be regarded upon as important and integral part of a long-term strategy in the field of SUTP.

Although it is very expensive, the possibility to reintroduce a tram system in Turku is a good challenge to develop clean transport within the city and to make public transport more attractive for the residents. We understand that further studies will be made, but that implementation requires a regional public transport organization and considerable financial commitment from the Finnish state or new financing methods. Our opinion is that the question on what vehicles that should be used in the public transport system is secondary to the urgent need to strengthen the role of public transport in the land use planning and the transport planning. Even if Turku decides to continue with only bus traffic it is necessary to "think tram", i.e. to use the public transport network as a foundation for the land use planning and build the neighbourhoods around the stations for public transport. The major

bus lines should be planned as if they were to be serviced by light rail and the buses should be given the same priority in traffic as trams would be given. With such planning it will be rather easy in the future to change from buses to trams, should further studies show that this is feasible. The concept should be introduced in a pilot project in a more dense living area.

Recommendations

Car traffic

- The City administration should elaborate demands to develop using "green vehicles" and set targets to achieve this.
- Incentives to use alternative fuels should be introduced.
- Incentives for buying cleaner cars should be introduced.
- Cleaner cars should be demanded in the city's procurement of transport.
- A pilot project on electrical powered cars should be continued.

Parking

- Public transport services should be optimised as a part of the sustainable urban transport plan and promoted as the principal form of transport in and around the urban area.
- The system that shops give discount to people so they can use parking places should be discussed. Why should customers going by bus or cycle pay more than customers going by car?

Cycling and walking

- Incomplete network of bicycle lanes discourage citizens to use bicycles for daily commuting.

Sea transport

- The harbour has a quality standard system that should be encouraged.
- Clean ships should be promoted by differentiated harbour dues (as per today).

Public transport

- Land should be reserved for a possible future tramline system.
- Alternative fuels should be used in PT.
- Existing railways could be used for regional traffic.
- Initiate a pilot project with trunk bus lines with high standards to show that public transport can be a success. Design a straight, fast and frequent bus line to the city centre and some major work area. Marketing is a key issue to make it a success.

5.15 Detailed assignment of responsibilities and resources

Issues noted in the peer review

Planners and environmental officers are in one department, Department of Environmental and City Planning. This should guarantee rather good cooperation but it does not seem to be perfect. Environmental issues do not seem to be considered as much as they should be. One reason for that may be a lack of knowledge about sustainable traffic among politicians and the public. Senior officials, with better knowledge, are afraid to take conflicts with politicians. Many senior officials are also politicians and therefore very influential in the decision-making process. But these people are not the most "environment-friendly" ones. Instead, planning is

guided by a strong wish to develop the city economically, which is seen to be contrary to a sustainable development.

Among the spatial planners the understanding of the link between land use planning and transportation planning seems to be weak, or the spatial planners do not consider increased traffic as a problem. It seems that residential areas are planned first and then they try to solve the transport issue. The idea that planning new residential areas with good public transport is crucial to ensure a sustainable travel pattern in the area is not obvious. The traffic planners also have too much to do and cannot check all plans from a transport point of view.

The responsibility division between the planning office and the real estate office also seem to be unclear. The real estate department makes the budget for traffic projects (except small ones), but is not aware of the needs of a sustainable transport system. So the funding for new public transport in new areas is often insufficient.

The lack of coordination between City buses and Regional buses has already been mentioned. The planning of regional public transport traffic is suggested by private companies and decided by the regional government, but the regional authority seems to be very weak in this respect. Regional traffic therefore is based only on private profit.

Another lack of cooperation is between public transport planners and the representatives for accessibility issues. Also street and traffic planning is done with little awareness and few contacts with representatives for the disabled.

The sports department, on the contrary, seems to cooperate well with public transport planners and traffic planners when planning big sport facilities:

- The main ice hockey arena is served with a special bus line during matches.
- The main swimming pool is served by buses.
- The main football stadium is served by several bus lines, but no special match services.

Recommendations

- A general problem is that car traffic does not pay its external costs. This is not particular for Turku or Finland, but a problem all over the world. Since the car drivers do not pay the social costs caused by car traffic (noise, pollution, accidents, congestion) there is an over-demand for car traffic. To meet this demand with new roads has proven futile everywhere. New roads create even more traffic and shift the modal split in favour to car traffic, at the expense of public transport and cycling.
- Still, there may be a need for new roads to divert especially freight traffic from the central parts of the city. But then other measures must be undertaken to decrease the demand for road traffic, e.g. road user charges, strict parking policies, low speed limits in the central city, efficient public transport and a safe and direct system of cycle paths.
- The municipality needs to recognise the need for a transport management responsibility body in order to create and maintain a sustainable urban transport system. This department or responsibility body should be responsible for and coordinate the work with the SUTP in the city and should work with all modes.
- When planning new roads, Turku also needs to do more studies on impacts of traffic projects.

5.16 Monitoring and evaluation arrangements

The monitoring of the Sustainable Development program is done in the Environmental Report that is part of the city's economical yearly report. There is also a set of indicators that are regularly monitored that are the same for larger cities in Finland. The city seems to be preparing noise mapping also for more silent areas of the city.

The city has 27 indicators in four areas that are foremost monitoring the process towards sustainability within the city administration but to some extent also the city as a whole.

The city lacks data about traffic flows and the traffic development. The modal split was estimated in 1997; the changes in modal split should be monitored on a regular basis to be able to see the effect of the actions taken. The police have a good system for monitoring traffic accidents.

The review team got a feeling that a lot of plans and programs exist, for example the bicycle path program, but they are not implemented in a consequent way. If a proper monitoring system would be put in place implementation of planning would be more transparent.

Recommendations

- The indicator system of the city seems to be directed towards the performance of the city of Turku as an administration. Instead the indicators would address the city as a whole. The indicators for transport should be more detailed and targeted to be able to monitor the progress towards a Sustainable transport system.
- The monitoring of traffic flows, development and accidents should be improved and be designed to serve as an adequate tool for the detailed transport plan.
- The noise mapping under preparation, even for silent areas of the city, should be implemented.

5.17 Plan adoption, approval and assessment

Issues to consider

The municipality and the region have appropriate plans and programmes for landscape development, traffic management in the city centre, public transport system. Turku's Transport plans are adopted and approved by the city council

However, the assessment procedures for approved strategies are rather unsatisfactory. The impacts of plans are not routinely assessed and strategic environmental assessment has not been carried out of any plans so far. Also, a long-term vision of sustainable development is missing. The dominating perspective today is the four-year agreements made by the ruling parties

However, the administrative bodies have awareness that the old transport plans should be improved from a SUTP point of view. They are expecting that the adoption and approval procedure of the SUTP will be decided on basis of the result of the BUSTRIP evaluation and administrative and public consultation processes. In this process, cooperation with other communities should be improved

The environmental impacts of major sub-projects can be assessed according to the SEA directive, if necessary.

Recommendations

- Further work on the master plan and the transport plans should be improved from a sustainable development point of view. Principles and procedures of SUTP should be used in a wider scope. The use of basic sustainable development indicators is necessary, also for the monitoring of strategic targets.
- Procedures of cooperation with other communities and between city departments during the plan evaluation should be improved. Especially, it is important in the planning of regional buses, transport information and a ticketing system supporting sustainable development.
- Today many plans are not satisfactory financed, e.g. traffic safety measures are often hard to finance. The coordination between land use planning, transport planning and economic planning should be improved.

6 Pilot actions

The pilot action in Turku is the promoting of walking and cycling with a contact person for walking and cycling.

This project is essentially about five things:

1. Gathering feedback from citizens about walking and cycling (over 120 contacts by e-mail and phone).
2. Organizing participatory activities for citizens: citizen meetings, campaigns on work places, car-free day etc. (several meetings already organized and some in pipeline).
3. Functioning as a PR person for walking and cycling (over 10 articles in local and national press).
4. Preparing, on basis of feedback, a development programme for walking and cycling as a part of the overall Turku SUTP plan.
5. Co-operating with other city organizations, local authorities and NGO organizations to promote walking and cycling.

The pilot action plan will be prepared and possibly changed during the autumn.

The City of Turku needs to have a clear plan on how to monitor the effect of the pilot project. How much will the biking and walking increase due to the pilot action?

Annex 1 Press release

Press notice - for release 25/08/2005 09:00

24/08/2006

Turku at the crossroads of sustainability!

An international team of experts on sustainable transport has spent the past week examining the transport and mobility issues in the City of Turku - assessing the progress the city is making towards sustainable transport. From their interviews with residents, businesses, political leaders and from exploring the city, their headline findings are that

- the city has a high level of ambition in many plans and programmes
- walking and cycling are important modes of transport
- the city center has unique qualities and should develop these
- there is good accessibility with public transport to city center

However the team feels that

- There is a lack of long-term perspective in planning of land use and transportation
- There is an urgent need for better cooperation in land use and public transport planning between municipalities in the region
- Public transport needs better marketing, shortened travel times and improvement of information to the passengers
- The city center should not compete with car accessibility but its' unique qualities
- The city center bike path system should be completed and car speeds reduced to even more increase cycle usage

By early October the team will have completed their report of the review of the city administration to use as it starts to prepare a new sustainable urban transport plan.

Contact :

City of Turku

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Background information

BUSTRIP (Baltic Urban Sustainable Transport Implementation and Planning - www.bustrip-project.net)

Bustrip is a project coordinated by the Union of the Baltic Cities Environment and Agenda 21 Secretariat located in Turku. The project will provide practical solutions and tools for European cities and municipalities to deliver Sustainable Urban Transport. The 12 partner cities in the BUSTRIP project are the first in Europe to start preparing and implementing Sustainable Urban Transport Plans. - SUTP's are advocated in the European Commissions' Thematic Strategy on the Urban Environment (6th Environmental Action Plan). BUSTRIP is uniquely positioned to show European cities how to deliver sustainable transport whilst generating economic growth.

Each of the 12 partner cities will receive a peer review that will assist them in understanding their current progress towards Sustainable Urban Transport. They will use this to prepare their SUTP and revise existing plans; from this they will implement pilot actions that will make tangible progress.

BUSTRIP will produce a SUTP toolbox of techniques, collecting all the learning experiences and best practices from the cities. The toolbox will assist European cities to understand SUTP and the opportunities available to move towards sustainable urban transport.

The project is coordinated by UBC and two other core partners are UBC Commission on Transportation and Chalmers University of Technology (in Gothenburg). These three main partners form the Project Steering Group (PSG). Twelve local and regional authorities from Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden will be receiving the peer reviews and preparing the sustainable urban transport plans

The project is co-funded by the European Union (ERDF- European Regional Development Fund) within the BSR INTERREG III B Neighbourhood Programme, the Finnish Ministry of the Environment and the partner cities. The total project budget is 3,1 MEUR. The project duration is July 2005 - December 2007.

Partnership: UBC Commissions on Environment and Transportation, Chalmers University of Technology, local and regional authorities from Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden.

Approximate total project budget: 3,1 MEUR ERDF: 1,73 MEUR

Duration: July 2005 - December 2007

Lead Partner: Union of the Baltic Cities, Commission on Environment, Finland

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Annex 2 The team

An introduction to the Turku peer review team

Mr. Björn Abelsson - City of Sundsvall, Sweden, Ramboll Sweden AB

Björn has extensive experience of transportation planning and environment assessments of roads and railways. He also works with bicycle planning, noise, air pollution, health aspects on transportation, cost-benefit analysis and traffic safety. Björn is the Turku peer review team leader.

Ms. Anna Granberg – Union of Baltic Cities, Environment Commission

Anna has a Master of Social Science from University of Umeå with Political Science as her major. She has been working with Sustainable Management of Urban areas for the Municipality of Malmö for several years. At the UBC Commission on Environment, in Turku she has been responsible for the Best Practice approach and is now coordinating the BUSTRIP project.

Mr. Per Elvingson – City of Örebro, Sweden

Per works as sustainable transport manager at the directorate for community planning in the city of Örebro.

Mr. Gintaras Stauskis – City of Vilnius, Lithuania

Gintaras is associated professor and PhD at the Department of Urban Design at Vilnius Gediminas Technical University. His research interest and expertise is in humanization of built environment. He has practice in architecture and urban design since 1988. He also has experience in managing EU projects, research on urbanization, health, accessibility, transport and recreation.

Ms. Dace Liepniece-Liepina – City of Liepaja, Latvia

Dace is head of Environment Department of Liepaja City Council and is responsible for environmental policy, air quality and waste management. She also coordinates the implementation of the Environmental Action Plan and Air Quality Improvement Programme for Liepaja City.

Mr. Lech Michalski – City of Gdynia, Poland

Lech works at Gdansk University of Technology and Department of regional development in Pomorskie Voivodeship Office. He has experience in transportation planning, regional and urban land use planning, highway and railway design, traffic safety. Lech actively participates in many Baltic project concerning transport matters.

Mr. Mindaugas Kucinovas – City of Kaunas, Lithuania

Mindaugas works as a Senior Executive for Kaunas City Municipality Urban Development Department, Transport Division, and is responsible for traffic integration systems, pricing structures, easier access to public transport, public transport information and strategic planning.

Mr. Björn Gunnarsson – City of Gothenburg, Sweden

Björn is working with strategic traffic planning for the city of Gothenburg and is involved in Gothenburg's general plan, new public transportation system and other long term projects.