

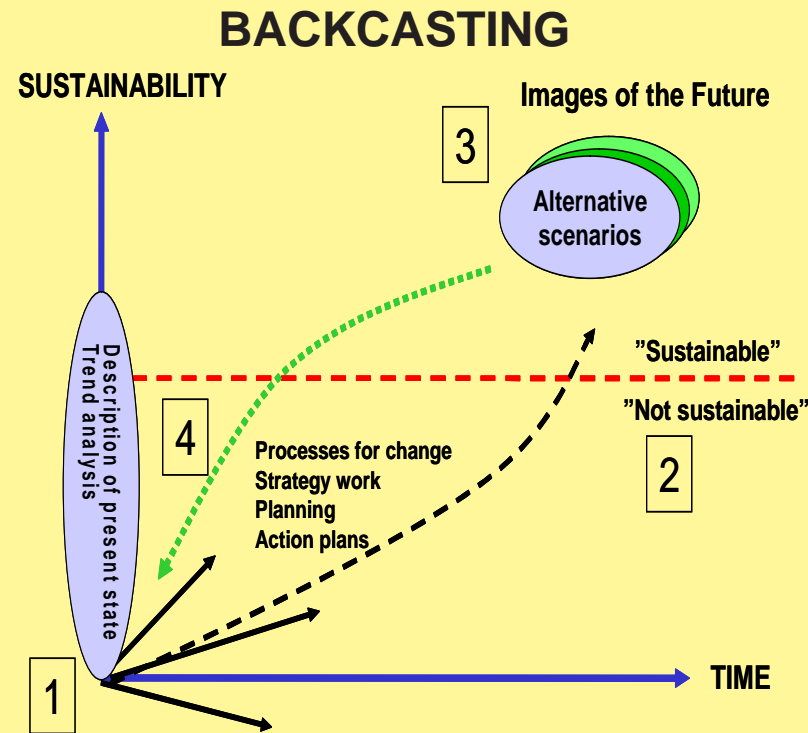
Transportation Göteborg 2050

Transporter Göteborg 2050

Using visions and images of the future for strategic transportation planning

The use of visions and images of the future can be an important tool for developing a long-term sustainable transport system. In the project Göteborg 2050 we apply this tool to Göteborg and the surrounding regions. The project supports regional projects that are developing a sustainable transport system in the Göteborg region.

The Transportation Göteborg 2050 vision has been developed in the spirit of a methodology called backcasting. In the first step of this method an analysis is made of the present state and trends in the society. Secondly, criteria for a sustainable city in a sustainable society are developed. The third step involves the developing and visualizing of images of the future, using workshops and other input. The visions are finally compared to the present state and trends and are used for strategic planning, as input to strategic and action plans and to speed up processes of change.



The project Göteborg 2050

The visionary project Göteborg 2050, aiming to speed up the development towards sustainability, was carried out in co-operation between the Chalmers University of Technology and Göteborg University, Göteborg Energi AB, and The City of Göteborg. Additional support was received from The Swedish National Energy Administration (STEM) and The Swedish Research Council for Environment, Agricultural Science and Spatial Planning (Formas), The Region of Västra Götaland and Renova. The project was concluded in December 2004, but the work towards sustainability will continue in Göteborg and the surrounding regions. For further information about the project contact:

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Visions and Scenarios for a Sustainable Transport system in the Göteborg Region



A sustainable transport system with:

- Closeness to daily activities facilitates short-range transportation on foot or by bike
- High accessibility to the regional and the global
- Purpose-oriented and energy-efficient vehicles in pools
- Fewer and more fully loaded goods transportation
- Fuels from the sun

Transportation Göteborg 2050

Closeness to daily activities facilitates short-range transportation on foot or by bike. In a future sustainable Göteborg, people will not need to travel as much in their daily life. Housing will be more concentrated around local squares with a full range of facilities for health care, shops and other services, tele-offices, restaurants and entertainment. When most inhabitants live closer to the daily activities, the daily use of cars will be reduced.

High accessibility to the regional and the global. There are very good possibilities to travel within the region, the country and abroad. Buses, trams and commuter trains provide effective means of communication between the local squares as well as between the cities in the region. More travellers, new technical solutions and infrastructural changes make the departures more frequent and keep the fees low. More free time and less energy use for short distance travel allows more, but slower long distance leisure travel. The travel time on high-speed trains can be used for rest and entertainment. Energy efficient aircraft are used for intercontinental flights and it is possible to be a passenger on one of the many freight ships or sailing vessels that leave the city's harbour.

Purpose-oriented and energy-efficient vehicles in pools. A future sustainable transportation system involves fewer vehicles per capita than today. Most of the people have access to cars and other vehicles in pools. The vehicles are always available at a place nearby and can be booked on the internet or just picked up directly in the parking lot. The vehicles in the pools are up-to-date and energy-efficient and use renewable fuels and include electric bicycles, scooters and small cars as well as family cars and trucks. The membership in a vehicle pool can also be used at other places within the country as well as abroad.

Fewer and more fully loaded goods transportation. The sustainable society is more dematerialised which means more trade with services, knowledge and experiences instead of with goods. Longer product life, increase in collective use of seldom bought goods, local production and reuse of products lowers the total volume of goods. The transportation of goods is mainly by sea and on railway and is co-ordinated among different logistic and forwarding agents.

Fuels from the sun. In a sustainable Göteborg the threat of climate change has been taken seriously and all fuels are renewable and carbon dioxide neutral. Electricity generation is based on solar, wind and hydropower and fuels come from biomass. Hydrogen is produced either from renewable electricity or from biofuels.



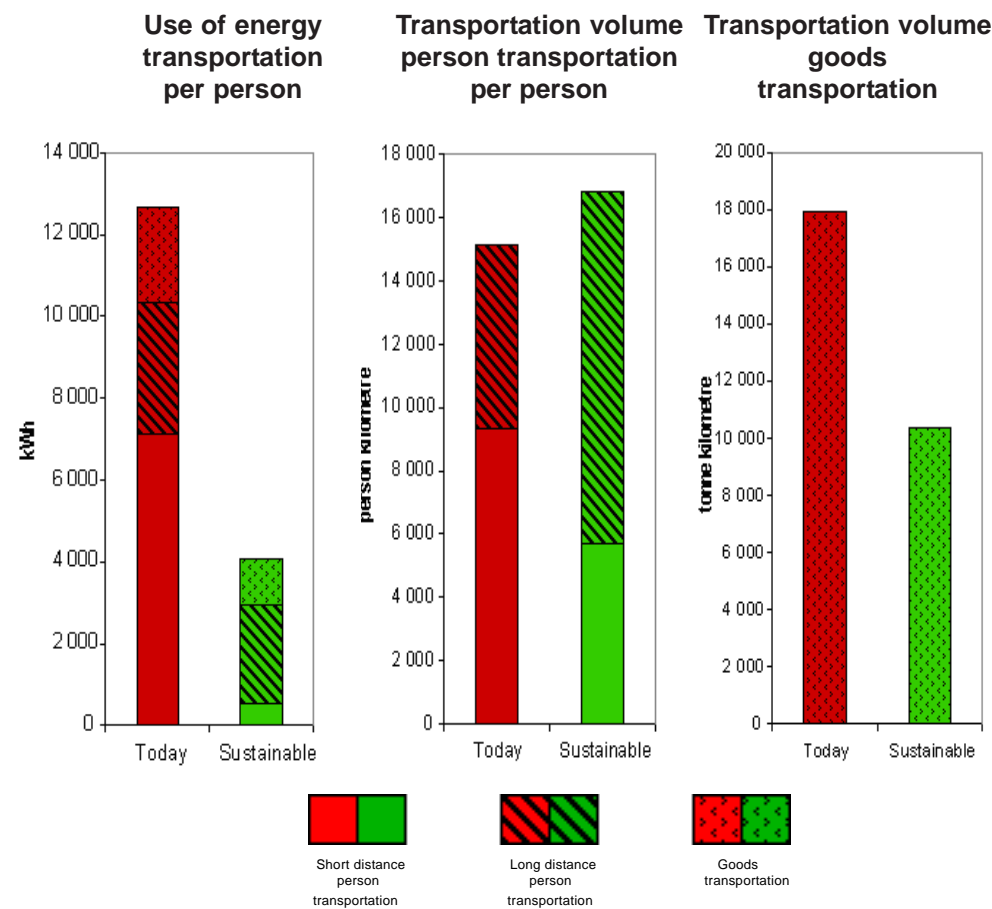
The harbour of Göteborg today. In a sustainable future modern large cruising sailing ships for long distance recreational travel and the transportation of goods by boat has increased heavily.

For further reading see "Transporter Göteborg 2050" (in Swedish), available at www.goteborg2050.nu



In a future sustainable transportation system more transport, of both people and goods, is done by rail. In Göteborg trams will be even more common.

Sustainable Transportation Scenarios



The use of energy for transportation by the inhabitants of the Göteborg region is today about 12 600 kWh per capita. The corresponding per world citizen is 3 700 kWh and is assumed to increase to 6 250 kWh in the vision of an equitable world. A global population growth from 6 to 10 billion inhabitants would then lead to a doubling of the total global energy use for transportation. The figure to the left shows that it is possible to decrease the energy use for transportation per capita in the Göteborg region to approximately 4000 kWh. The decrease is mainly due to a reduction in short distance personal transportation. With a population growth from 850 000 to 1.2 million inhabitants in the Göteborg region the total energy use for transportation could be halved.

The transportation volume per capita in an equitable world would increase in a sustainable future. The two bars in the figure to the right shows that the short distance person transportation and goods transportation would decrease while the long distance person transportation volume would increase.

Sustainable Travel

It's a Wednesday morning in April. Even after three days off- Sunday until Tuesday this week- I'm a bit tired. Fortunately I took the electrically assisted bike which woke me up during the trip. Since I'd rather see Petra in reality than on the screen I went to the main office in Gårda instead of going to my tele-office at the local square. At the Olskroken local square I pass Theodore's shop and service centre to fill the tyres. I leave the square and just as I get on the bike elevator for a ride up a steeper hill the rain starts to fall. I am happy that the last kilometre of the ride is wind- and rain sheltered.

After work I go to the centre of Göteborg to meet up with some friends. As I am riding my bike to the tram stop I quickly check the timetable on my mobile and discover that I am not in a hurry. Before getting on the tram I put the bicycle in the stand on the back. As I enter I pay automatically with my smart card without having to take the card out of my pocket.

I get off in the centre of the city where I notice that feeling of spring is all around. Pubs and cafés seem to be more crowded than usual and several street musicians and acrobats perform along the street. Many people are seated on the benches. Bicyclists pass, most of them in the slow lane to be able to enjoy the pleasant street atmosphere. Laughter, talk and music are heard above the dull sound from the trams rapidly passing by.

My friends and I gather around the candles at a table outside a tapas restaurant. I get the opportunity to tell them all about my recent yearly long holiday trip. I recall with joy the journey to Central America during October and November. My friend and I had booked a room on a goods ship. During the two weeks, the trip across the Atlantic took, we had plenty of time to talk, plan the journey and read both novels and information about the countries we were about to visit. I also tell them how much I learned during the visit overseas, both about myself and about the world. It's hard to understand the formerly huge economical differences between Nicaragua and Sweden. Nowadays the people of these two countries enjoy the same living standards.

Visions in Words

Smart Goods Logistics

In Kållerød where there was a large external shopping centre was situated in the beginning of the century one can now find "Kålload", one of the four large re-loading centres in the Göteborg region. Here a number of logistic companies are co-located and together manage goods flows to and from the region.

During the visit at the re-loading centre Olga Broby, who has been working at Kålload for five years, is our guide for a tour of the facilities. She shows us through the huge halls. All loading work is mechanised. Besides a few technicians we meet in the halls there are hundreds of robots taking care off the on-, off- and re-loading of all kind of goods from train cars and containers. From Kålload goods is transported to distribution centres around the city. For this both light lorries and the tram lines are used. After the re-loading at these centres the goods is transported together with local goods to production plants, companies, and to the local squares where it reaches shops and households. Olga concludes the tour and gives us a tip about a sale at a furniture store show-room in the city centre. She surprises us by saying that there used to be an IKEA furniture store at the exact spot where we are standing. That was at a time when individual cars were used for shopping and before delivery to the local square was included in the price of all large-sized products.