Urban Challenges, Policy and Action in Gothenburg

GAPS project baseline study

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MISTRA
URBAN FUTURES

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Summary

The Mistra Urban Futures international project "Governance and Policy for Sustainability" (GAPS) started in 2011. The project is divided into three phases of which the first, the baseline analysis, was carried out in 2012 by the project components in Cape Town, Greater Manchester, Kisumu and Gothenburg. The baseline analysis examined the main challenges for sustainable urban development in these cities, the content of formal policies for sustainable urban development and how organisations and groups form these policies.

The project aims at comparing governance and policies for sustainable cities in the Mistra Urban Futures local platforms (LIP) to examine what challenges the cities are facing and which factors influence the power and ability to meet these in a coherent and cross-sectional way. To understand the different challenges and possible paths for development within their context, an assessment of the starting point in the different city regions was made. This could also contribute to the development of Mistra Urban Futures as a whole, and the project will also serve as pilot for the cooperation within and between the platforms.

In Gothenburg the primary study area was defined to the 13 municipalities that form the Gothenburg Area Association of Municipalities (GR).

CHALLENGES FOR SUSTAINABLE URBAN DEVELOPMENT

Three main challenges for sustainable urban development in the Gothenburg Region were identified: **increased social polarisation (segregation), poor infrastructure and climate change.**

Increased social polarisation (segregation)

The main threat to a socially sustainable development, according to GR, is the challenge of increased polarisation (segregation). Segregation appears not only in housing, but also on the labour market, in schools and within and between families. The lack of varied types of housing in the different urban districts is one reason. Gothenburg faces comparatively large problems in terms of segregation, and the main reason is segregation between areas. For example, a person born in Sweden has a 16 per cent chance of having a foreign-born neighbour, whereas a person born abroad has a 39 per cent chance of having another foreign-born person as a neighbour. In terms of income, the urban district of Bergsjön has the lowest average income, 143 600 SEK compared to the richest area Linnéstaden with 303 700 SEK.

Similarly, at the workplace a Swedish-born person has a 12 per cent chance of having a foreign-born colleague, whereas foreign-born people have 30 per cent foreign-born colleagues.

Poor infrastructure

Public transportation in Gothenburg is very sensitive to disruptions, slow and has insufficient carrying capacity. The railway system into the city has reached is capacity limit. Air pollution is a further problem. The city also needs to increase the share of travel by bike, which is low compared to e.g. Stockholm and Oslo. The proportion of journeys made by public transportation has to increase, but a problem is the low productivity and low density of the city.

The Port of Gothenburg is the largest port in Scandinavia. The volume of goods coming through the harbour has increased drastically, which means that the transport infrastructure connected to the port becomes more and more insufficient.

Climate change

The national goal is to decrease emissions of greenhouse gases by 40 per cent in 2020, compared to the levels of 1991. In 2020 half of all the energy used should be renewable.

Temperatures along the Swedish West Coast are expected to increase by up to 4–5 degrees until 2100 and precipitation by around 25–30 per cent. This will lead to higher water flows, and an increased risk of flooding, and hence an increased risk of landslides upstream the River Göta. High water flows also increase the risk of salt water contamination of the river, which is also the city's main source of fresh water.

POLICY-FORMING INSTITUTIONS AND ORGANISATIONS

One example of policy-forming bodies beside typical institutions like the municipalities and the Regional Council are the municipal corporations. These companies have a special role since they are profit-driven on the one hand but should still contribute to the common good on the other hand. This can obviously lead to conflicting goals.

Development cooperation projects are another relevant organisational form. One example is "Development North East", a development project for the north-eastern districts of Gothenburg, which is funded by the municipality and EU structural funds, and run as a municipal company.

Furthermore, there are several examples of policy-producing cooperation like *HUR 2050*, *K2020* and the consultation process of municipal council members from all GR municipalities used by GR to draw an outline spatial plan for the Gothenburg metropolitan area. *HUR 2050* focused on how to influence the political process towards a more sustainable regional development. *K2020* produced a strategy (with the same name) on how to increase the number of journeys made by public transportation in the metropolitan area.

Finally, rounds of dialogue with citizens are also used to create policies, which was the case in the consultation process on the urban development project *River City* (Älvstaden).

POLICIES TO MEET THE CHALLENGES

The Good Life

This document contains a set of visions and a strategy formulated by the Regional Council of Västra Götaland (VGR). Its four perspectives should permeate all of their work: integration, a cohesive region, equality and internationalisation. The strategy is

implemented for example through different programmes for regional sustainable development to stimulate innovation, take advantage of human capital and develop infrastructure. The strategy is further developed through public health targets focusing on equal living conditions, lifelong learning, increased participation on the labour market and ageing with a good quality of life. The most significant policy document is the VGR's annual budget, which in itself does not focus on integration but on equal and easy access to healthcare. This could however be seen as a way to target the symptoms of segregation.

Regional infrastructural planning

Sustainable development is a key objective, mostly through increased use of public transportation and with a focus on railways. Sea transportation for goods also has a great potential. *The Good Life* sets a strategy to develop the region into an international hub for logistics in northern Europe, but also covers investments for more sustainable infrastructure and public transportation for a cohesive region. Rail transport is a major problem since the capacity is so insufficient that it would need to be expanded fourfold to meet the demand.

Sustainable Growth – goals and strategies focusing on the regional structure

The strategy document *Sustainable Growth* of GR sets four goals (according to the updated version from 2013:

- Stimulate continued population growth and take advantage of the possibilities for further regional enlargement. The population in the GR area should increase by 10 000 per annum, and in 2030 the Gothenburg local labour market should include 1.75 million people.
- Strengthen the qualities that make people want to live and work in, as well as visit, the Gothenburg region, such as attractive urban areas. Make use of the proximity to the sea and countryside.
- Create a viable and sustainable regional structure. Gothenburg should have a distinct urban core and development areas in corridors from the centre, as well as attractive sub-regional centres.
- Develop a sustainable system for transportation: More capacity, 40 per cent of journeys by public transport, and development projects (harbour railway, the West Link, high-speed rail Gothenburg-Borås, fast connections between major Scandinavian cities).

The "Structural Image"

In relation to *Sustainable Growth* a "structural image" has been developed, an outline spatial plan for the urban area. Each municipality within GR should develop and plan its area according to the overall goals. Spatial planning should focus on strengthening the urban core in Gothenburg as well as "station towns" along existing transportation corridors. The green "wedges" between these corridors should be preserved in order to stop urban sprawl.

Gothenburg city planning

Segregation is considered the most important challenge. There is a need for a more varied supply of housing, especially in the urban core and along existing urban corridors. Barriers to increased integration must be reduced. More publically owned housing should be built,

as well as small flats for young people. A mix of housing, services and small businesses should lead to increased diversity.

Public transport needs to be developed, especially in the core and four local sub-cores. New development projects should be concentrated to the core and areas that already have good access to public transport. The amount of goods that passes through the inner city must not increase.

Comprehensive planning in Härryda

Härryda is a good example of a municipality that has made use of the strategy to place itself in a regional context in the planning process. Härryda focuses on developing already existing urban areas and to plan new developments mainly in areas close to existing public transport hubs, in accordance with the Structure Image.

Regional and local climate policies

According to the budget of VGR for 2012, the region and the municipalities should focus on environmental protection and climate adaption. The operations of VGR should be independent of fossil fuels by 2020, for example through smart buildings. The regional environment programme has several key areas like energy efficient houses, more solar energy, more biogas, more public transportation, reduced consumption of meat etc. Through the Country Administrative Board and other national agencies the government also has an influence on regional climate policies, for example through networks and as support for the municipalities.

The City of Gothenburg has a goal to become a more robust city that can handle climate change and extreme weather. A more robust infrastructure includes more passages over the river. The provision of fresh water also has to be secured.

EXEMPLARY ACTIVITES TO FACE THE CHALLENGES

Social dimension in urban planning – S2020

S2020 is a programme in Gothenburg in which the S stands for social sustainable development, since other programmes, like *K2020,* have not considered the social dimension enough. It should be taken just as serious as economy and ecology in urban planning. The main goal of *S2020* is to make sure that knowledge about social issues is better integrated in the planning process. To achieve this politicians and academics have to have a common knowledge foundation. *S2020* will generate and promote knowledge to be used in day to day work. One of the main tools is the so called Knowledge Matrix, an online interactive tool with six central themes like a cohesive city, interactions and meetings and health and green urban areas. The themes are related to five different scale-levels from the building up to the region. The matrix is a tool to prevent drain-pipe thinking and to promote more cooperation among stakeholders.

River City

Gothenburg has a comparatively low-density with the housing areas of the so called "*million programme*" more or less separated from the rest of the city. The river also acts as a barrier along with the fact that many former industrial areas that today are more or less unused are located along the river in central parts of the city. River City has set a goal to

reconnect the city over the river and also act as a catalyst to face the challenges with increased social segregation and climate change. There is a huge potential since the area to be developed is four times as big as the present inner city, comparable to a middle sized Swedish city. The process stretches until and beyond 2050. Until 2020 more than 30 000 new citizens and 40 000 workplaces should be developed. Development should be green and sustainable. There is a question, however, whether the new areas will be ethnically and socially mixed.

The West Sweden Package

The investment package is aimed to increase the transportation capacity within and around Gothenburg. It includes the West Link (railway tunnel), a new motorway tunnel and a new bridge across the River Göta etc. An important part of the deal is also the congestions fees in Gothenburg, which provide part of the funding.

K2020

How people commute to work has to change. The goal is to increase the number of journeys made by public transportation to 40 per cent in 2050, up from 20 per cent today. The strategy should lead to more sustainability on several levels. The K2020 network consisted of planers from local and regional authorities and started in a more informal way. Later GR made the strategy to a formal one to promote increased public transportation. K2020 is seen as a new way to formulate a strategy since it involved several levels.

Climate change adaptation: Retreat, Defend and Attack

One of Mistra Urban Futures pilot projects is Climate change adaptation . The goal was to develop three strategies for the urban development of the Free Port area in Gothenburg, based on the scenario that climate change leads to higher water levels. The strategy Retreat was based on slowly moving buildings to higher, more secure areas to prevent flooding. The Free Port is developed into parklands. Defend means that the area is secured from flooding through "hard" measures like walls and other defences. Attack means that the city is built out on the water with buildings capable of withstanding flooding. The different scenarios have different impacts on the economical, ecological and social sustainable development of the area.

PROJECT PLAN PHASE 2

Focus will be to examine one specific programme by GR that is important for the development of the entire region.

Sustainable Growth

The programme with goals developed by GR in 2006, the updated version was adopted in June 2013 and the programme and the associated consultation process were deemed a suitable area of study. In 2006 it was noted that economic growth was satisfactory, whereas emissions of greenhouse gases continued to rise, as well as the social segregation. Social sustainability and climate change were not seen as particularly important issues as the strategy was developed, but are now partly represented in the updated version. It is to be noted however that social issues are not party of any of the four main goals. But the strategy is seen as a good example of regional cooperation in urban development. Finally it

is also seen as a way to break down several of the barriers identified for a sustainable urban development.

Concept and research questions

It is easier to agree on the "what", whereas the question of "how" often becomes a political issue. The dominating discourse within the field of sustainable development is sustainable growth, indicating a focus on economic issues. The first step will be to describe the discourses that are formed among stakeholders in relation to sustainable growth. A second step will describe how stakeholders and interest groups dominate discourses and how these challenges are handled.

Chapter 1: The project

According to the approved project plan, the project was composed of four key elements which should shape the content of the work: a) governance and policy b) knowledge and skills c) challenges and transition pathways and d) comparative analysis. In addressing these objectives, the project was to:

- identify present challenges and the extent to which these are reflected in policy formulation, delivery and practice;
- consider the conditions in which responses to urban sustainability can be developed;
- examine the way in which different knowledges and skills are used to inform urban sustainability;
- identify different possible trajectories and transition pathways;
- develop a comparative framework for understanding how different cities and city-regions can address the challenges of urban sustainability.

The project was to take place in three phases, each taking one year. The baseline assessment was designed to understand what is happening in each LIP, examining:

1. The specific challenges of urban sustainability in each LIP context
2. The content of formal policies designed to address urban sustainability
3. The roles of different organizations, groups, communities in formulating these policies
4. The forums and mechanisms for consultation and participation in formal policy making-processes
5. The mechanisms for and barriers to ensuring that policies are implemented and assessing their effectiveness
6. The evidence base for urban sustainability policy
7. Relevant activities and groups that remain outside the formal policy process

To build the above, desk-based documentary reviews drawing on existing academic and policy literatures and websites; interviews with key stakeholders, policy-makers and academics and reviews of existing databases will be used. This will also involve the production, with stakeholders, of five examples of activities that illustrate different approaches to sustainable urban development in the city-region and to explain their selection. In addition, the baseline assessment will include a) a process of stakeholder engagement in each LIP comprising the establishment of the Project Advisory Group (4 practitioners) b) identifying the relevant scale of the project in terms of area covered c) an LIP-specific project plan for Phase 2.

STAKEHOLDER ENGAGEMENT

The project advisory group for Gothenburg consisted of representatives from the consortium and associated partners. The consortium, i.e. the City of Gothenburg, Regional Council, Gothenburg Area Association of Municipalities (GR), IVL Swedish

Environmental Research Institute, Chalmers and Gothenburg University, were represented by its coordinators. The associated partners represented were the National Transport Administration, White Architects and SP Technical Research Institute of Sweden. In addition the group included Björn Malbert, Senior Adviser at Mistra Urban Futures and associate professor at Chalmers/Architecture, and Marie Thynell, associate professor at Global Studies, University of Gothenburg.

The city level is responsible for spatial planning and all other main areas of concern for the inhabitants, such as schooling, social services, culture and public housing. The sub-regional level, i.e. GR, is an association of municipalities that cooperate on planning, education and other areas. At the regional level two bodies operate in parallel, one regional and one national:

The Regional Council (or County Council) is responsible for health care, regional development, infrastructure planning, public transport and culture. The County Administrative Board is the regional Government Office (or Governor's Office) which represents the national level. It is the supervisory and advisory body for the municipal spatial planning. It has a coordinating function for the national agencies that operates in the county, and it also covers areas such as environment and water protection, nature and heritage conservation, civil contingencies and social sustainability.

The baseline assessment largely draws on other work at the Gothenburg platform, both the pilot projects in 2009–2011 and subsequent Mistra Urban Futures projects. Other stakeholders in the city region were involved in these projects. The key stakeholders share the view of what challenges that the city region has to deal with. This common view was shaped throughout the application period to Mistra prior to 2009 and in the process of setting up the centre, the pilot projects, and then the projects that were started in the full scale phase of the centre in 2012 and onwards. This work was the basis for the project group in the production of the report, and hence the choice of policies and exemplary activities was uncontroversial and more a matter of course. As phase 1 was largely descriptive, it did involve a discussion on different options for the future, let alone the need to reach an agreement on those options.

It is however clear that the project did not during this phase cover all relevant stakeholder, for both practical and economic reasons. The official parties, as well as academia, were well represented. Business was less well covered, and the civil society was not directly represented in the project. However, indirectly their views were present through the pilot projects and other Mistra Urban Futures projects. As the project moves on to discussing options and pathways, it will be essential to include more stakeholders, and to focus on exclusion (of groups, knowledge, expertise) and its consequences, as well as the justifications for the inclusions. This we hope to start achieving in phase 2 of the project (report to be published at www.mistraurbanfutures.com).

SCALE OF PROJECT

The primary study area of the project is the Gothenburg metropolitan area, as covered by the association of municipalities of that area (GR). This includes the City of Gothenburg and the 12 surrounding municipalities. The GR is the regional planning body as designated

by the Government, and therefore it is the area covered by the so called Structure Image, an outline regional spatial plan.

Where appropriate, the regional level, i.e. the county (or province), which is the geographic entity covered by both the Regional Council and the Government Office. There is a slight mismatch here; the GR area includes one municipality to the south of Gothenburg (Kungsbacka), which is not part of Västra Götaland County. Within the County there are three more associations of municipalities.

Maps:
(left) the County of Västra Götaland with its four municipal associations and 49 municipalities
(right) the GR area, the Gothenburg city region (Göteborgsregionen) formed by 13 municipalities, one of which (Kungsbacka) in the neighbouring County of Halland.

Gothenburg Region Association of Municipalities

The rationale for selecting the scale of the study is simply that this is the existing area for coordinating the planning of the city region. Geographically, it covers an area that comprises the city and its nearest suburbs. Labour market and commuting patterns, as defined by the National Labour Office support the choice. The parties involved saw no reason to consider other options, as the next administrative level – the county – covers several other main town regions, but unfortunately not the entire Gothenburg city region.

Chapter 2: Sustainability challenges

The challenges and policies selected in this report are those that clearly stand out as the most topical and significant in official documents. The main urban challenges on the city, sub-regional, regional and national levels can be grouped in three main headings; increased social polarisation (or segregation), poor infrastructure and climate change issues. These challenges were identified and described jointly by the parties in the process leading to the Gothenburg bid for Mistra financing of the centre.

The main challenges for sustainable development identified for the Gothenburg metropolitan area are to reduce; carbon emissions from mineral fuels, the dependency on oil and the social gaps in the city (GR, 2006).

The general challenges identified for the County of Västra Götaland are; declining industrial investments, deeper gaps on the labour market, low productivity due to scattered population, deepening gaps in level of education between municipalities and different social groups, declining biological diversity and the effects of climate change (Regional Council 2011). The main challenges that are pointed out in the regional budget document are the effects of the global economy, demographic changes, industrial adjustment and increased inequalities in health (Regional Council 2012a).

The comprehensive plan of the City of Gothenburg states that the city needs to strengthen its built areas, as well as its natural and cultural values to improve its attractiveness. The vision for the region "the Good Life" should be implemented and city has to strengthen its competitiveness as a regional centre. Another major challenge is how to turn segregation into integration. Globalisation and the geographical growth of the region with improved infrastructure are other challenges which are emphasised (City of Gothenburg 2009, p. 34).

The city budget of 2012 singles out social segregation as a major challenge. Policies need to promote equal opportunities and increase social mobility. Another challenge is to achieve an ecologically sustainable development, in order to reduce the effects on the natural environment, as well as to provide citizens with fresh air and a clean living environment. The growth of the population puts pressure on the municipality to provide more housing, public transport and preschools (City of Gothenburg 2011).

SOCIAL POLARISATION

GR describes increased segregation as the largest threat to social sustainable development. The socioeconomic and ethnic segregation in the Gothenburg metropolitan area has increased in past few years. Segregation is often seen as a distinction in housing, but polarisation can also be found on the labour market, in schools and in family formation. It can partly be explained by the lack of variety in housing in different urban districts. Another explanation is that the foreign-born tend to move shorter distances from their primary location. Newly arrived immigrants will therefore be less likely to move from their primary location, and this has an impact on the segregation in housing negatively (GR, 2010).

A comparative study of migration, attractiveness, openness and integration in Gothenburg and twelve other European cities shows that the city has a low level of integration in relation to other cities. The poor level of integration on the labour market is made evident by high levels of unemployment despite the fact that Gothenburg has a relatively high proportion of highly educated immigrants. Most problems seem to be associated with the segregated neighbourhoods which affect other factors, for example school results. The city is doing well in other aspects, such as attracting native and foreign population. Socio-economic factors are the main challenges for Gothenburg, while the anti-discrimination legislation and policies contribute to a fairly good score for migration as a whole (Bakbasel, 2011).

Despite the knowledge available, it seems that policies and authorities in Gothenburg often see segregation as a matter of distinguishing people with foreign and Swedish background as statistics and related discussions are mostly based on that parameter. Reports by the City of Gothenburg (2010b) and Andersson et al. (2009) compare the living situation between these groups and find that a foreign background has a negative effect on living conditions. But this does not necessary imply a high degree of ethnic segregation; diversity is large within the different districts and areas dominated by one single group other than Swedes are rare.

According to Andersson et al. (2009) high-income earners with foreign background seem to live more in low-income areas compared to high-income earners with a Swedish background. According to this analysis, income differences alone cannot explain segregation in Gothenburg. The housing market is one way to study segregation between foreign-born and native individuals. If no segregation was present at all, they would be just as likely to live next to someone born in another country. However, this is not the case; a Swedish-born person has a 16 per cent chance of having a foreign-born neighbour, while the corresponding likelihood for foreign-born is 39 per cent (City of Gothenburg 2010b).

Gothenburg is a very diverse city in terms of income levels, ethnic background, level of education and type of accommodation. Cities tend to attract higher shares of people with foreign background compared to the rest of the country and this is also the case for Gothenburg; one fifth of all its inhabitants have a foreign background. About 15 per cent of the population in the Gothenburg region are foreign-born, compared to 10 per cent of the total population in Sweden. In Gothenburg people from Iran are overrepresented, while immigrants from Denmark, Syria and Finland are underrepresented compared to the rest of the country. Most of the region's foreign population is concentrated to the City of Gothenburg; 70 per cent of the region's foreign-born live within the municipal borders (Andersson et al 2009).

Segregation by foreign background can be studied from several different perspectives in Gothenburg: Twelve per cent of people with Swedish background have foreign colleagues, and 30 per cent of people with foreign background have foreign colleagues. Pupils with at least one native parent have on average 6 per cent foreign-born classmates, and 12 per cent of their classmates were of foreign background. Pupils with foreign-born parents on the other hand showed much higher shares; 19 per cent of their classmates were born abroad and 39 per cent had a one or two parents born abroad.

Segregation can also be explored in terms of family formation by studying with whom the inhabitants get their first child. Those with a Swedish background have a probability of

0.10 to have their first child with someone of foreign background. For people with foreign background this number is much higher, 0.40 (City of Gothenburg 2010b).

One could also study segregation by looking at the type of accommodation offered in different areas. 85 per cent of all the owner-occupiers live in areas where this is the only type of accommodation offered. Gothenburg has a much lower share of owner-occupiers than the surrounding municipalities; 28 per cent of the inhabitants are owner-occupiers in the city, compared to 70 per cent in the rest of the metropolitan area. Generally it can be said that, the higher the share of owner-occupiers, the higher is the average income, the lower is the share of foreign population, and the lower is the rate of unemployment (Andersson et al 2009). The urban district "Bergsjön" has the lowest average income; Skr 143,600 a year, which can be compared to the district with the highest average income Linnéstaden; Skr 303 700 a year). Bergsjön also has the lowest share of population with post-secondary education, 23 per cent. Linnéstaden again tops the league; 65 per cent of the inhabitants have a post-secondary education (City of Gothenburg 2010).

INSUFFICIENT TRANSPORT INFRASTRUCTURE

The public transport system in the Gothenburg area has several weaknesses; it is very sensitive for disruptions, slow and under high pressure. Some central parts of the city, as well as the central bridge over River Göta have insufficient capacity during certain times of the day. The railway system is operating at the limit of its capacity; the railway cannot cope with more traffic, so the system needs to be expanded, especially in the central parts of the city (City of Gothenburg, 2009, pp. 78).

Air pollution from traffic is also a health concern; it shortens many people's lives, by several months on average. The major effects can be seen through the number cases of heart and lung disease, but pollution also causes respiratory problems for many people. Traffic is the most serious source of pollution from a health perspective, because it releases particles and ground-level ozone into the air. One way to reduce it is to limit speed and the use of studded tyres (City of Gothenburg, 2010a).

One challenge for the city is to increase travel by bike from the current 10 per cent, a share that is much lower in comparable cities such as Stockholm and Oslo (even though they have less favourable climate conditions for biking). Biking has many positive aspects; it provides physical exercise, causes no pollution and the costs of the necessary investments are very low. There has been some investment in bike transportation, four "motorways" for bikes are in place and 1,000 bikes for loaning will be in place around the city by 2013 (City of Gothenburg, 2010a).

The Gothenburg area needs to reach the same public transport usage as of other comparable cities such as Stockholm, but it has some major disadvantages compared to other locations. Compared to other similar European regions it has lower productivity (Bakbasel, 2011). It has a low population density which makes establishing and running public transport more expensive. There is no underground or other rapid transport system, despite an obvious need since at least the 50s. There is even a lack of data on the way people travel. It is necessary to improve the incentives to use public transport (K2020, 2009).

Statistics show that travel by public transport increased in 2010 compared to 2009. Travel by bike, on the other hand, decreased by nine per cent. Motor traffic increased in the city region as a whole, but not in the city centre (City of Gothenburg, 2010a).

The west coast area is one of the most significant transportation zones in Sweden. The port of Gothenburg alone deals with 20 million tonnes of goods a year (SOU: 2009:31, p. 37), an important share of the total transportation of 555 million tonnes a year in Sweden (Nationell statistisk analys 2008-09-29, referred in SOU 2009:31). Gothenburg is the largest port of the Nordic countries, making the shipping and trade industry an important source of income (City of Gothenburg, 2010a). The volume of goods that passes through the port each year increases rapidly, and the number of freight containers increases by on average seven per cent a year. The objective of the port is to double the number of roll on/roll off vessels and containers within a period of ten years. This puts pressure on the infrastructure to and from the port, within the city as well as in the region. The objective set by the port is that 50 per cent of all additional transport should be by rail (City of Gothenburg, 2009, pp. 74).

Shipping in combination with rail transportation is positive in a climate perspective, because it allows the transport of large volumes with much less carbon emission than road transport. In the year 2000 the share of transport by rail from the port was 22 per cent, but in 2009 it had increased to 50 per cent (City of Gothenburg, 2010a). However, the rail infrastructure for goods is insufficient even for current volumes. The rail link to the port leaves no room for expansion, as it consists of a single track line and railway bridge.

CLIMATE CHANGE

The national objective for Sweden is to reduce emissions by on average four per cent by 2008–2012 compared to 1990. The long-term objective is to reduce green gas emissions by 40 per cent by 2020 compared to 1990 (Government Bill 2008/09:162). This objective does not concern sectors covered by the trade with carbon credits in the EU. Furthermore, in 2020 half of the energy consumed in Sweden should come from renewable sources and the energy efficiency should increase by 20 per cent (Government of Sweden, 2012).

Boverket estimates that 420,000 buildings in Sweden are located within 100 meters from the coast or inland waters. However, despite the risk of flooding, many municipalities want to offer attractive locations close to the water (Boverket, 2009a).

Different estimations have been made to compare the average climate in 1961–1990 to the average climate in 1961–2100. Along the Swedish west coast, the annual average temperature is expected to increase by four to five degrees Celsius according to scenarios until year 2100. The effects will be unevenly spread across the seasons; generally winter temperature will change more in all scenarios. The annual precipitation will vary greatly from year to year, but the average rainfall is expected to rise by 25–30 per cent. The number of days with snow cover is expected decline considerably, and in the period 2071–2100 there will be years without any snow at all (SMHI 2007)

Climate change in Västra Götaland is not expected to cause any major changes in temperature because of the proximity to the sea, but high water flows and floods can be expected. Problems will arise from increased precipitation and more dry periods, which will increase the risk for landslides in an already sensitive area from Gothenburg and upstream

the River Göta. Roads risk being damaged and motorway tunnels under or near the river are especially at risk of being flooded or lifted because of high water levels or strong winds (SOU 2007:60).

In case of extremely high water levels (above 12.7 metres) central parts of the tram network will be flooded which will have very negative effects on public transport. It is also estimated that approximately 20 per cent of all pedestrian and bicycle paths not will be useable (City of Gothenburg, 2006). A rise in sea level by 0.9 meter will have a great impact on buildings situated close to the river on the lowland, some of which are located in the very central parts of the city. It is therefore of great importance to build and improve barriers which can prevent the city from being flooded (City of Gothenburg, 2006).

Extreme weather conditions also put a lot of pressure on power supplies, but this is not a major concern for Gothenburg since most cables are underground. The most important threat to secure power supplies is ice storms that can damage large parts of the system. The Älvsborg Bridge in Gothenburg is also very sensitive for high wind speed and has to be closed at 25 m/s (City of Gothenburg, 2006).

Fresh water supplies are a large cause of concern today and will be even more so in the future with heavier or more protracted precipitation, high water levels and high water temperatures (City of Gothenburg, 2006). Large quantities of water are needed to support the population, but rising sea levels increase the risk of salt water intrusion in the crude water intake from Göta River. Most people in Gothenburg receive their water supplies from that river; 700,000 people are dependent on water from the river and less than 3,000 people receive their drinking water from their own well (City of Gothenburg, 2010a).

Chapter 3: Policies to meet the challenges

Several different policies intended to meet these challenges are described here: The Regional Growth Policy, "The Good Life", can to a large extent be said to cover areas connected to the first challenge, social polarisation. We also describe national urban development policies, and sub-regional and municipal spatial planning. The Gothenburg city budgeting is also a comprehensive policy set up to meet this challenge.

The second challenge, insufficient infrastructure, has been tackled by the sub-regional "Structural Image" which is an outline spatial plan, as well as by regional infrastructure policy and planning.

The effect of climate change which is the third challenge is addressed at the regional level by both the Regional Council and the Government Office. In addition the city level has its own climate change policies.

Before we describe the selected policies, we give an overview of the policy formulation in the Swedish, and Gothenburg city region, context. The overview of this rather complex system of policies and levels also helped us identify the proposed study area for phase 2 (see last chapter below).

POLICY FORMULATION

Policy formulation in Sweden is dominated by public bodies and the political parties (cf. Larsson & Bäck 2008). It is informed by an institutionalised consultation process ("remiss"), where the organisations and groups concerned are included. Of course, different kinds of lobby groups try to influence the process outside the formal consultation, but they are all also included in that process.

When the cities and towns are built, economic interests come into play mainly when plans and policies are to be implemented. The housing companies and the construction industry are highly influential in this respect. However, several of the main housing operators in a given town are typically owned by the municipality, i.e. they are public utilities. To what degree that these are, or should be, politically influenced is a matter of on-going debate (cf. Magnusson & Turner 2008, Montin & Granberg 2013).

An institutional overview

Sweden is a decentralised welfare state. Constitutionally, the Swedish political system consists of two levels: national and local. The municipalities have a prominent position as responsible for the main part of the welfare state. They have far-reaching authority and can practise a great amount of self-governance, which is connected to the fact that their activities are mainly financed by local income taxes (about 70 per cent of the revenues). Municipalities and county councils have since the 1940s been considered the most important institutions to implement social and educational policies. During the era of expansion (mainly the 1960s and 1970s), the municipalities became strong institutions with substantial financial, legal, political and professional resources. However, local government are not autonomous as an effect of weak central government regulations. The local

government system can be described more or less as an integrative central-local government system.

Since 1995, when Sweden became member of the EU, an additional and overall political level has become increasingly important. EU legislation makes substantial conditions for national, regional and local policy making. Approximately 60 per cent of the Municipal Council agenda is taken up by EU related policy issues. The appearance of EU legislation or EU "soft steering" is not always obvious in day-to-day public policy making and implementation. EU directives are adapted into Swedish legislation and hence become national policies. In other cases, especially concerning projects related to the Regional development fund, EU steering mechanisms are more apparent.

Local government is multi-functional and multi-purpose, with several, but a specific number of, internal political and administrative levels. There are two types of local government; municipalities and county councils (in Västra Götaland and a few other counties called regional councils). These two types cover in the same territory, but have different areas of responsibilities. Municipalities are thus not subordinated the county or regional council. The difference between the regional councils and other county councils, is that they have broader responsibilities. In addition to health care and hospitals, they are also responsible for regional development and infrastructure planning. They also have a regional cultural policy.

At the regional and local level there are branches of national agencies. The most important one related to the formal authority chain from central to local government are the county administrative boards (Government Offices or Governor's Offices), which constitute a link between the municipalities on the one hand, and between the central government, Parliament and other national agencies on the other hand. The mission is to coordinate national policy and supervise municipalities within different subject areas.

A recent development, somewhat related to the EU membership, is the increasing emphasis on the regional level to promote economic growth. This is not particular for Sweden, but put in a historical perspective there has been a shift from the idea of compensating economically weak regions by state funding towards an expectation that each region has to take care of its own development. Within this new frame, access to EU structural funding is of great importance. Broadly speaking, central government has moved from more "hard" measures towards "soft policy". Regional bodies, directly or indirectly elected political bodies, have been given responsibility for national regional policy funding, for so called "growth programmes". These resources, together with transport subsidies and resources from the structural funds, and along with increased inter-governmental collaboration and coordination and public-private collaboration, are intended to promote sustainable growth.

The functional relation between county or regional councils and municipalities is horizontal. Local governments act in mutually exclusive spatial domains. Local governments as well as internal political and administrative organisations have their specific jurisdiction of responsibility. To a large extent the areas of responsibilities (policy domains) and the content of the responsibilities are regulated by national legislation, in most cases "framework legislation". Simply speaking this means that substantial objectives are set in the legislation, but local governments are free to choose the means for reaching the objectives. Additionally, national agencies are continuously "filling up" framework

legislation by recommendations and instructions, and supervise specific sectors and policy areas at local government level. Broadly speaking, although the municipal budget is covered by 70 per cent local income taxes, about 80 per cent of all municipal responsibilities are mandatory.

The municipal level

The municipalities are jurisdictional units (spheres of authority), governed by municipal councils and executive committees. Within each municipality there are a number of standing committees (appointed by the municipal council) and related administrative units with specific responsibilities. Some of them are sector bounded (such as Environmental standing committees) while others have cross-sector responsibilities, such as the District Committees in the city of Gothenburg. All these are political and administrative units responsible and accountable for formal policies, often based on legislation (the municipal organisation in the city of Gothenburg is described in the figure below).
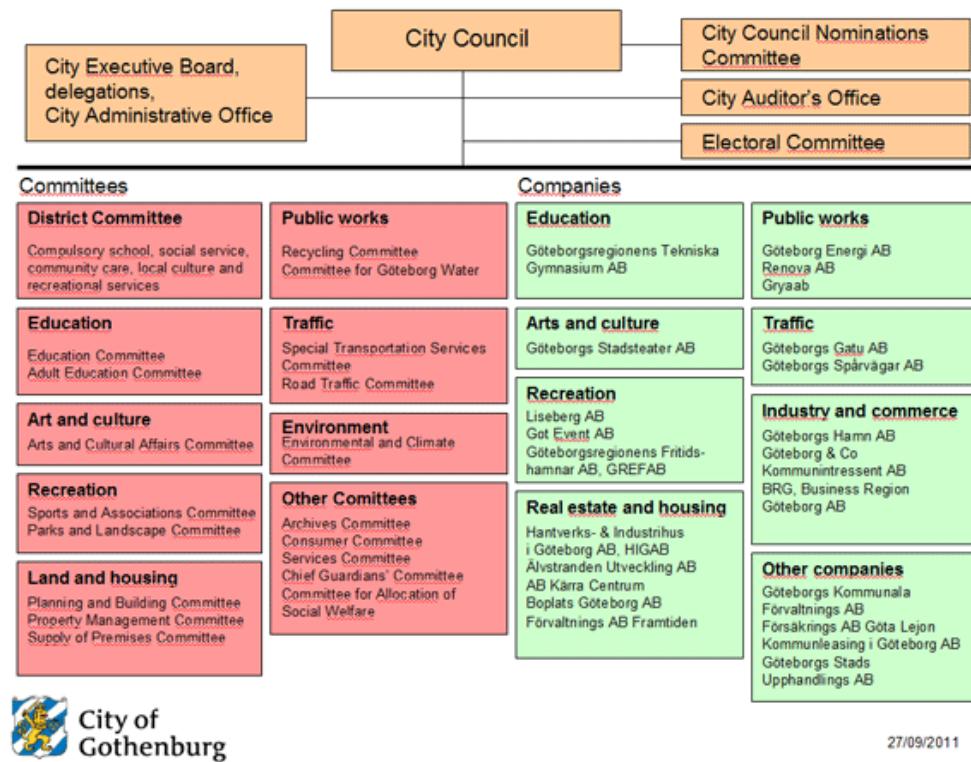
Figure: The municipal organisation in Gothenburg

City of Gothenburg

Furthermore, municipalities can join in associations of various types, covering specific or general areas of cooperation. Therefore, there are broadly speaking three types of strongly interrelated municipal political authorities or institutions (the municipal committee structure, the central municipal level and associations of municipalities).

At the Gothenburg city region level, thirteen municipalities have joined an inter-municipal corporation body, the Gothenburg Region Association of Local Authorities (GR). GR is one of four associations of local authorities in Västra Götaland County. The task of GR is to promote inter-municipal co-operation and provide a forum for the

exchange of ideas and experiences within the urban region. The association focuses on regional planning, environment, traffic, labour market, welfare, and social services and capacity building. Although the association is an important political actor, it is not formally a public authority in its own right. Functions and responsibilities of GR are delegated from the member municipalities. Leadership from each municipality is proportionally brought together in a coalition. The board of directors consist of 22 representatives and 11 deputies, and the chairman and three vice chairmen constitute the presidium of the board. GR works closely with a unit called Business Region Gothenburg (BRG), which is a non-profit association that works to strengthen and develop trade and industry in the Gothenburg region.

These local government institutions all fall within the framework of party controlled representative democracy (except for BRG). In general, structures of political party systems constitute a powerful integrating structure, linking disjoint political bodies. The integrating functions of the political parties at national, regional and local level in Sweden are prominent. Party loyalty is very strong among directly and indirectly elected representatives in regional councils, municipal councils, standing committees and associations of municipalities. In fact, the party system can be considered as the most important channel for mutual access between governmental tiers in the Swedish system (Bäck & Johansson 2010). Furthermore, public managers working in close relation to political leaders seldom take any other direction than what is politically appropriate. Public managers and chief administrators at all levels normally anticipate the will of the political majority and political leaders in planning activities.

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Other "governance" bodies

Along with formal and territorial based ("legal") institutions, organisations and procedures there are other forms of ("extra-legal") governance in the urban region. Several types of public corporations, cross-bounding networks, collaborating structures, projects, institutionalised consultations with civil society organisations etc. have always been important, but we have witnessed a significant increase of both corporations and collaborative governance in Sweden in general and in the Gothenburg urban region in particular. Three types are of special interest in the context of how sustainable development is framed: municipal companies, development collaborations, policy producing public networks and citizen consultations.

Firstly, between in-house provision of public utilities and outsourcing to private companies there are municipal corporations, which are owned and governed by the municipality. When responsibility is transferred to these corporations it is usually called "corporatisation". In Gothenburg there are about 30 companies fully or partly owned by the municipality. The companies have been arranged in five major business areas on the basis of the type of operations they run (see figure above).

Municipal corporations can be seen as "hybrid organisations", in the sense that they are supposed to act business-like in a competitive environment, and simultaneously contribute to societal goals. The double mission often leads to goal conflicts or goal displacement. For example, according legislation from 2010, the housing companies are expected to act in the name of common interest, but also act according to business principles (Act 2010:879). Actually it means that they are not allowed to increase the rent of an apartment above the level of what it is worth (the principle of the utility value), but they are also expected to maximise their profit. For politicians in the company boards there is a tension between representing the public interest on the one hand, and on the other hand being responsible for running the company as a profit-seeking actor.

Because of the autonomy of the companies, they cannot be directly controlled by its owners. Instead, they are more to be regarded as independent actors, which might or might not engage themselves as partners in networks or collaborations for sustainable development. However, most companies have policies related to sustainable development dimensions. For instance, the municipal housing company Poseidon has committed itself to the principle of circulation called "the natural step"[1].

Secondly, there are different kinds of development collaboration in Gothenburg. One example is "Development Northeast"[2], which is described as one of the largest EU funded

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[1] http://poseidon.goteborg.se/sv/Om_Poseidon/Miljo/
[2] http://www.utvecklingnordost.se/

projects in urban development. The goal is to develop entrepreneurship, culture, and attractiveness in the north-eastern district of Gothenburg. A municipal company runs the project, and it is implemented in collaboration with different public authorities. It is thus a public-public collaboration. An example of public-private development collaboration is "Inner City Gothenburg Co"[3], the aim of is to develop the city centre. Inner City Gothenburg Co is owned by the merchants' association and property owners' association, and collaboration partners are different municipal departments. The vision is "in close interaction with other actors strengthen and develop Gothenburg city centre as an attractive meeting and trade location in the region". The owners and the municipality fund the activities of the organisation. The company gives inner-city real estate owners influence on proximate area-development but also regional planning matters (Landzelius 2012).

A third type of "extra-legal" collaborations is policy producing public collaborations. Three examples will be given:

In the Gothenburg region a network of professionals and experts (HUR 2050) was initiated in 2002 and consisted of representatives from 14 organisations and authorities. The overall focus of the network was to influence political decision making towards sustainable regional development (Polk 2010). One of the task groups within the network focused on public transit infrastructure and developed a trademark on its own (K2020). First, it was given a mandate to gather knowledge and collect ideas about how to increase the amount of public transport in the region. Later on (2006) K2020 became a task group with a formal political mission from GR to draw up a public transport strategy. A final example of a policy producing collaboration, which took place during six years (2002–2008), is a consultation process of municipal councillors from all GR municipalities. The process ended up in an agreement on an outline spatial plan for the Gothenburg urban region. BRG was important as a provider of information in the last phases of the process.

These three collaborations (HUR 2050, K2202 and the GR consultation process) can in a modern historical perspective be regarded as innovations in how to produce policies. Especially K2020 and the consultation process can be seen as significantly important collaborations in the context of overall sustainable development policies. HUR 2050 was an overall informal important platform for producing knowledge and understanding of different perspectives on sustainable development, but K2020 and the consultation process formed the bases for agreements and strategies.

A fourth type of "extra-legal" governance are the continuously initiated "citizen dialogues", which are increasingly taking place in several municipalities in the region, especially in the city of Gothenburg. For instance, in the project aiming at producing a vision and strategies for the "River City" in Gothenburg it was clear at the beginning that citizen dialogue should be used. The main rationale behind the dialogue was that citizens in different areas could provide knew knowledge and new perspectives. The dialogue approach was thus defined in contrast to the ordinary "elitist" way of city planning. It was also emphasised that there should be systematic feedback after the dialogue. Selected inhabitants in all ten districts of the city participated in workshops during 2011. Along with these workshops, several other communications activities took place within the overall concept of citizen dialogues, such as "future surveys" within specific areas and activities

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[3] http://www.innerstadengbg.se/

aiming at including children and young people the planning process. Citizen dialogues related to the River City project is just one of several kinds of citizen dialogue arranged in Gothenburg, and several other municipalities within the urban region have arranged or plan to arrange similar dialogues.

The Spatial Planning System in Sweden

The comprehensive planning process and the plans are regarded as strategically important. However, in several cases the comprehensive plans are rather narrowly focused on land use, while in other cases the plans are more strategic, long term and more or less related to regional development plans. The connection (or non-connection) between municipal comprehensive planning and regional development planning has become an important present-day issue (Smas et al. 2012). It is often the case that regional development visions and strategies are vague and general without defined spatial perspectives. On the other hand, municipalities often put themselves at the centre of the region (or sometimes the world), before relating to the wider regional context and regional development plans. Actually, a municipal self-focus is legally based on the Local Government Act, which states that municipalities (and county councils) may attend to matters of general interest which are connected to its geographical area. If municipalities want to put themselves in a regional context, it is on a voluntary basis.

The role of municipal comprehensive plans (MCP) is strategic but not directly binding; it should guide future decisions on the use of land and water areas, and also on the preservation of the built environment. Detailed spatial plans, which are set up for specific areas, should however be based on the MCPs, and more importantly must not be contrary to their objectives. These detailed plans are binding. How the MCP is implemented through detailed plans and subsequent construction permits, hence determinates the success or failure of the planning system and the political and consultative process that it is built on. In general, the importance of MCPs has increased during the past few years, especially in connection to the review process of the PBA in 2002–2010. It is, however an empirical questions to what extent the MCP actually will frame future decisions on building permits.

The MCP is produced by municipal planning officers and decided by the Municipal Council. During the planning process, several actors are involved in consultations. According to the PBA, the plan proposal must be subject for consultation with the Governor's Office (Government Office), which also comments on the plan proposal from the point of view of national interests, environmental quality and other legislation concerning the use of land and water (see annex for further details), affected neighbouring municipalities and regional bodies (such as GR) who are responsible for regional growth planning and transport infrastructure planning. The municipality must also provide the opportunity for citizens in general, other authorities and associations to participate in the consultation. Additionally, the plan proposal must be exhibited for public review during two months. The required detail plans are more operational, and must also be subjected for consultation including authorities and other affected institutions, property owners and other interested actors. All in all, a large number of stakeholders are involved in the planning processes, which means that municipal planning processes are quite open and inclusive as regards consultations on planning proposals. Often the planning process is regarded as democratic, but also problematic due to the possibilities to appeal, which can delay specific developments considerably.

About thirty years ago comprehensive planning or other types of planning was considered as a rather ineffective activity, because of the lack of fulfilment. However, there is a planning renaissance coming up and the trust in the idea of creating the future has increased. Still much can go wrong. Firstly, goal fulfilment requires financial and other resources. In many cases private as well as public resources must be mobilised. Basically, this is subject to global and local economic and financial development. Secondly, there are many interests do deal with, and conflicts on spatial exploitation are rather common. Thirdly, new political majorities might have different priorities than former majorities.

This short list of factors can of course be expanded. However, it is an empirical question for further research.

There are no specified beneficiaries defined in the MCP. Instead, everyone is regarded as winners. However, "sustainable development" is rather complex, and in specific projects related to the municipal plans there are certainly those who do not define themselves as winners. At this stage of the research it is not possible to identify certain winners or losers.

There are several pieces of legislation that concern planning and building in Sweden, the Planning and Building Act (2010:900), the Environmental Code (1998:808) and the Act on Municipal Responsibility for Housing Provision (2000:1383). The Environmental Code also covers the management of land and water areas, and aims to ensure that activities, such as building projects meet certain environmental standards. The Act on Municipal Responsibility for Housing Provision requires the municipality to have sufficient housing in place and to see to it that everyone has a suitable place to live. (The legislation is described in annex).

"THE GOOD LIFE" – REGIONAL GROWTH POLICY

The Regional Council of Västra Götaland sets its vision in the document "The Good Life" which identifies five focus areas and four perspectives that should permeate its work; integration, a cohesive region, equality and internationalisation. Integration is about giving everyone the same opportunities in life. Participation on the labour market and the need for promoting diversity in the region are some of the other key elements in the field of integration (Regional Council 2005, p. 9).

The vision is partly implemented through Regional Sustainable Growth Programmes. The aim of the programmes is to achieve an attractive, coherent and internationally competitive region. This includes cooperation between actors that are important to the long-term development of business in the region. The programmes focus on stimulating innovation, taking advantage of human resources and developing the infrastructure. Taking advantage of human resources can be related to integration, as well as measures to achieve equity on the labour market and in the education system. Connecting newly arrived immigrants to the rest of society by for example supporting new businesses also promotes integration (Regional Council, 2012b)

Another way to implement "The Good Life" is through the Public Health Policy, which identifies six challenges; equal living conditions, life-long learning, increased participation on the labour market, aging with quality and good habits of life as well as safe living conditions. Equal living conditions and social integration affect health and sustainable integration. Lack of participation leads to alienation, but participation and engagement can

be achieved by providing social networks as well as places to meet (Regional Council 2009).

The Regional Council Budget the most significant policy steering document. Five objectives are highlighted as crucial to achieving "The Good Life", but integration is not one of them. However, easy and equal access to public health services is included, which could counteract social polarisation. Social inequality in public health is of great concern, since the health status of the most vulnerable groups is not improving (Regional Council, 2012a).

REGIONAL INFRASTRUCTURE POLICY AND PLANNING

The Swedish Transport Administration is responsible on the national level for the long-term planning of all modes of transport, as well as building and maintaining roads and railways. The Regional Council is responsible for priorities and planning of the infrastructure in the county. Sustainable transportation is one of the key objectives; public transport and railway transportation are prioritised in the 2012 budget. Transportation by sea has great potential, especially via Göta River to Lake Vänern. Another key objective is gender equality, to meet the needs of men and women equally. Public transport must be given priority before car travel (Regional Council 2012a).

The Regional Vision – "The Good Life" sets out regional and local transport policy objectives and strategies. "Infrastructure and high quality public transport" is one of four focus areas. As an important freight hub of the country, Västra Götaland is considered to be a driving force in the Swedish economy. Firstly, the objective is to make the city "an international transport hub" as a logistic centre of Northern Europe and by providing rapid, secure as well as energy efficient transport flows. Secondly, "sustainable and competitive infrastructure" should lead to the positive development of the region. Thirdly, "public transport for a cohesive region" is stated as a key element due to environmental concerns, but also to increase the geographical size of the labour market and uptake for higher education. Fourthly, an "internationally competitive IT region" is stated as an objective to increase the access to broadband and use of IT (Regional Council 2005).

The railway system is a major concern: The capacity has to increase by four times to reach the target level of public transport. Increasing train commuting from nearby towns is important to expand the employment market. This development can be seen in the Stockholm area and in Skåne (the Öresund conurbation, with the major cities and towns Copenhagen, Malmö, Lund and Helsingborg), but travel by train has not been able to play a major role in Gothenburg due to the poor rail infrastructure (K2020, 2009).

SUSTAINABLE REGIONAL GROWTH POLICY AND THE "STRUCTURAL IMAGE", REGIONAL OUTLINE SPATIAL PLANNING

In 2006 the Executive Board of GR (Gothenburg Region Association of Municipalities) adopted the strategy document "Sustainable growth – goals and strategies focusing on a sustainable regional structure", and to make it the basis for GR's work in developing the GR municipalities. The document was the outcome of several rounds of regional consultations (GR 2006).

Goals and Strategies

The first objective is to stimulate further population growth and at the same time make the most of the opportunities presented by further enlargement of the region. The population of the Gothenburg Urban Region should increase by at least 8,000 inhabitants per year. Nearly 1.5 million inhabitants should have access to the regional labour market by 2020.

According to the strategy, an attractive environment, balanced delivery of new housing and improved infrastructure across the region are some of the important factors required to support development. An attractive living environment includes everything from the physical and outdoor environment, access to community-care services, opportunities in education and even the staging of cultural events.

The second objective is to strengthen the qualities that make people want to live and work in the GR area. The strategy is to make use of the proximity to the coast, sea, woods and lakes as a force of attraction, and at the same time ensure that these areas remain widely accessible. The planning and design of the cities and surrounding towns should stimulate a vibrant urban environment and a rich daily life. The everyday environment should be protected from harmful influences, and everyone should be guaranteed clean air and fresh water.

According to the strategy, this requires a holistic approach to planning based on openness and the basic qualities of responsibility and participation. It acknowledges the potential conflicts between what is considered a good solution in the long-term and the strict application of rules in the short term.

The third objective is to create a strong and sustainable regional structure "based on the opportunities of the metropolitan area". The Gothenburg urban area should develop a strong and attractive regional core with corridors to several strong and attractive sub-regional centres. The regional core should be provide a further 40,000 jobs and 30,000 residents by 2020. At the same time, the sub-regional centres should provide at least a further 40,000 jobs and 90,000 residents. This long-term approach is expected to lead to a balance in population between the northern and southern parts of the region, along the central axes of the Göta and Säve rivers.

The strategy presupposes that core and its surrounding areas will be developed in symbiosis. According to its logic, a strong core both needs and contributes to the strength of surrounding areas. The size of the core, and thereby the region, depends on the capacity of the region's transport network. The regional core is made up of the five central districts of Gothenburg (including the North River Bank). This core area hold a third of the region's workplaces and is home to a seventh of the region's population. As well as the balance between north and south, attention needs to be given to the balance between the coastal zone and inland areas.

The fourth objective is to develop a sustainable infrastructure and attractive public transport services. A new motorway connection and the underground railway link (West Link) was to be completed by 2015 and the Götaland railway line (start of a new connection to Stockholm) by 2020. (The railway investments have been seriously delayed, see section 5.3 on the West Sweden package). The K2020 transport strategy should be implemented by 2020 (see section 5.4). By 2025, at least 40 per cent of journeys in the GR area should be made by public transport. The improvements of the harbour industrial

railway connection should be completed by 2020. Landvetter Airport should have at least 6,000,000 passengers per year by 2020.

The strategy underlines that a number of other infrastructure projects also need to be carried out in order to achieve the goals. New housing is needed and businesses must be established, if public transport corridors are to be developed effectively. Transport infrastructure must develop in a way that does not harm the other basic qualities of the region.

The fifth objective is to intensify co-operation between all the players. Growth and structural issues shoulc be given priority in the work of GR and BRG. Existing forms of co-operation between the Regional Councils in Västra Götaland and Halland should be developed further, as well as with other joint associations of local authorities on selected matters. The network of organisations dealing with transport infrastructure should be strengthened. New networks should be established in the areas identified as important for the development of the GR area. Co-operation also needs to take place at a national and international level.

Further dialogue with the other associations of local authorities in Västra Götaland and Halland is needed, according to the strategy, on the question of further regional enlargement. HUR 2050 [4] is one network that seeks to increase knowledge and awareness on the development of a sustainable transport system in the GR area.

Measures pointed out in the strategy to achieve the goals:
- A "structural image", an outline spatial plan, for the GR area
- Coordination and strengthening of infrastructure planning
- Better analysis and a knowledge creation
- Development of the sustainability model

The "Structure Image"

The GR and the Stockholm County Council are the only designated regional spatial planning bodies in Sweden; no other part of the country has a regional planning level. This plan should functions as a guide for the municipalities when they set up their comprehensive and detailed plans, and give building permits (Boverket 2011a).

As a part of the Sustainable Growth Strategy, the municipalities of the Gothenburg urban area (the GR area) agreed on a regional "structure image", an outline spatial plan for the whole urban area.

The GR municipalities agreed that each and every one of them is responsible for developing its own geographical area in line with the regional structural plan. In addition, it the development of the core, the inner city of Gothenburg, is crucial for the development of the rest of the region, since it offers higher education, jobs and cultural activities as well as commercial services.

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[4] The HUR 2050 network consists of representatives of the Swedish Transport Administration, the Government Office (County Adminstration), the Regional Council, the Port of Gothenburg, GR, BRG, the Regional Public Transport Authority (Västtrafik) and some municipalities within the GR area.
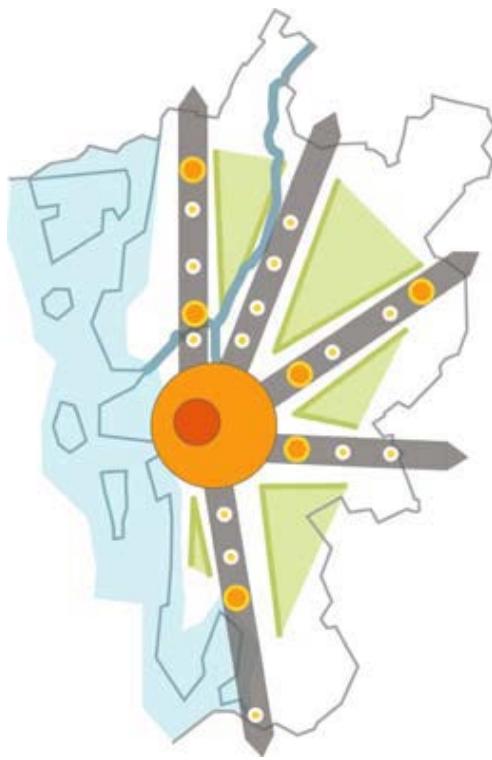
Figure: The "Structure image" of the Gothenburg city-region (GR area)

Urban development activities should be aimed at strengthening the urban areas that already exist and should focus on five centres in Gothenburg; the Inner City and four suburban hubs within the municipality, as well as "station towns" along existing transport corridors. The attractiveness of the region should be preserved by paying particular attention to the coastal areas and "the green wedges", the non-developed areas between the main corridors out of the hub, of the metropolitan region. The need to overcome the risk that the river becomes an obstacle that divides the city in two parts is emphasised, as well as to make the necessary adjustments to the expected future consequences of climate change, such as rising sea levels (Gothenburg region, 2008).

GOTHENBURG CITY PLANNING

Segregation

According to the comprehensive plan for Gothenburg, the municipality and other authorities should consider key factors when developing an area; diversity, participation, accessibility, safety and humaneness (Comprehensive plan for Gothenburg 2009, p.84). Segregation is viewed as the most important challenge according to the comprehensive plan. The plan also highlights 13 strategic issues; building new and different kinds of housing with good physical access is one of them. Construction should focus on the central hub and the main transportation corridors. According to the plan it is possible to develop 2,500 new dwelling per year until 2025 (p. 49). Some segregation is voluntary; e.g. students or rich people that chose to live with people similar to them. However, many poor groups are not segregated by choice and lack contact with other groups through social networks.

This makes it is difficult for them to improve their living conditions. The objective of the plan is to reduce the barriers to integration, in order to improve interaction and mobility of people in the city (pp. 84–87).

The comprehensive plan includes an analysis of its economic, social and environmental consequences. Mainly it is a plan for economic growth to make the city as attractive as possible. The objective of diversity in the cost and type of housing will most likely not be possible to achieve in practice in the centre of the city. The trend of increased transformation of rented flats to tenant-owned threatens diversity in the city centre (Comprehensive plan for Gothenburg, pp. 41-42).

Urban development and integration is also a prioritised objective in the City Council budget for 2013. The public housing sector should be developed by providing more rented housing and by preventing the transformation of rented flats to tenant-owned. Youths should be prioritised for small apartments. Urban spatial planning should promote participation and influence. The aim of diversity in terms of mixing services, small businesses and different forms of housing should be taken into consideration when building new housing, but also diversity in the types of housing offered in different parts of the city (City of Gothenburg 2011, pp. 35–36).

In the 2013 the ruling majority expresses the desire to increase the possibilities for the city inhabitants to move between different city districts. To increase diversity, the social and cultural analyses must be more integrated in the city planning process, and it needs better to take into consideration the condition of children in the built environment. One way that is highlighted to put this into practice is the S2020 project on the social dimension in spatial planning described below (see section 5.1).

Infrastructure

The spatial plan of the City of Gothenburg aims at developing a dense city centre with a mix of housing, businesses and visitors. There should also be a mix of services, culture and recreation. The development of public transport should be in the inner city and four other main hubs. Construction and development is to be concentrated to local hubs which already have a good access to public transport or can be reached by bike. However, some exceptions are allowed if the purpose of the development is to renew and vitalise an area (City of Gothenburg, 2009, pp. 108-109).

Public transport needs to be given priority before road transport in cases where space is limited. A large amount of goods is transported each year to and from the city. According to the comprehensive plan, this flow should not pass through the city centre (which is often the case today). Expansion of the public transport system is prioritised according to for example the "K2020" programme (see section 5.4). The "West Link", an underground railway connection through the city, is also of great importance to the region. The strategy is also to develop both sides of River Göta. Paths for bicycles and pedestrians are another priority, as well as providing incentives for people not to use their own car (City of Gothenburg, 2009, pp. 80-81).

The budget for 2012 of the City of Gothenburg states that the infrastructure for public and bike transport should be expanded. Transportation by car should be limited and dominated by fuel from carbon neutral sources. Sustainable transport is also believed to increase the attractiveness of the city. The focus of the transport work should be to reduce carbon emissions, nitrogenous compounds, hydrocarbons as well as the particle content.

COMPREHENSIVE PLANNING IN HÄRRYDA

The comprehensive spatial plan of the municipality of Härryda is an example of the application of the Sustainable growth programme and "Structural Image" of the Gothenburg metropolitan area (challenge 1, 2). The consultation process in the Gothenburg urban area that resulted in the so-called structural image (an outline regional spatial plan) is in contrast to the general situation in Sweden above. Compared to most other regions in Sweden, it is a rather a success story of connecting regional sustainable development plan with municipal comprehensive planning (e.g. Boverket 2011b).

According to the joint agreement in GR, each municipality should comply with the structural image in their comprehensive planning. Hence, the basic idea of the structural image is that the municipalities first should put themselves in the regional development context. We do not yet know about the degree of compliance in all 13 municipalities, but this case has obviously defined itself within the structure image discourse. In Härryda the emphasis is on implementing the idea of the structure image, that is how it can contribute to the overall vision of "the Good Life" in the region in general, and the strategy of increased public transport and other factors related to the sustainable regional development set up in the joint agreement in particular.

Here we focus on the plan as it relates to overall regional visions and strategies ("Sustainable growth" and "Structural Image"). Three overall objectives are stated in the Härryda MCP: develop existing built-up areas, develop close to infrastructure and public transport, a careful balancing between exploitation and protection. These three directions for land use are very close to the overall idea of integrating the Gothenburg region by achieving a more dense structure and reducing urban sprawl.

Evaluations of Effects (Success or Not)

The objectives or directions for land and water use in Härryda are rather concrete and thus in principle possible to be a basis for evaluation. Hence, in a few years it will be possible to assess if there mainly existing densely built-up areas are developed, instead of other areas, if estates are build close to infrastructure and public transport, and if there is a careful balancing between exploitation and protection. In addition to making such assessment along the way, the MCP should be followed up every four years.

There are several factors and conditions that might contribute to success. Among others, the following may be important:

- Knowledge and acceptance of the objectives and directions of the MCP among all interested authorities, and among private companies and local economic agents in general.
- Citizen confidence that the municipal will to contribute to the "good life".
- Financing and investment issues are acknowledged early in different projects.
- It might be necessary to acquire real estate.

REGIONAL AND LOCAL CLIMATE POLICIES

Since the municipalities are responsible for spatial planning and building permits, they are also primarily burdened with the task to handle the consequences of climate change. The

Government Office in the County informs, supervises and advices municipal planning. The Regional Council is responsible for infrastructure planning and public transport.

The Regional Council

According to the 2012 budget decision (Regional Council 2012a) the Regional Council is to take the lead, in collaboration with the municipalities, in a transition to sustainability with a focus on environment protection and climate adaption. Its own operations should be free from fossil fuels by the year 2020. This requires the Regional Council to convert to "smart buildings". It must also increase the use of public transport and carry out all public procurement in a way that meets social, ethical and ecological objectives. The transition must be made in collaboration with the municipalities, but at the same time there is room for large improvements in the operations of the Regional Council itself, as the largest employer in Sweden. Environment and climate action increases the chances of achieving national health objectives.

Within the framework of the climate strategy, the Regional Council intends to join forces with many different actors. This requires collaboration between individuals, businesses and politics at local, national and global level.

The activities and operations of the Regional Council should have a clear environmental profile, and they should engage actively in environmental work. The potential for creating new jobs in the conversion process should be taken advantage of.

With regard to reducing energy use and climate effects, several key areas of action are described in the regional environmental programme:

- energy efficient buildings; requirements for new construction and renovation,
- increased deployment of solar power installations,
- continued expansion of production and distribution facilities for biogas,
- expansion of public transport,
- support the expansion of wind power,
- efficient and sustainable freight transport,
- "green public procurement",
- promote locally produced and organic food, and
- reduced consumption of meat.

The food chain generates both direct and indirect emissions of greenhouse gases. The Regional Council intends to support locally produced food through public procurement. A sustainable food industry should be stimulated.

The regional programme for biogas is an important investment to increase production and consumption of biogas for vehicles. Continued support for research should be a high priority.

The Regional Council aims at contributing to biological diversity. The situation in the oceans ecosystem is serious and requires cooperation with municipalities, the County Administrative Board (Government Office) and industry in order to make knowledge sharing, promotion and protection of vulnerable areas possible.

Government action on the regional level

The County Administrative Boards ("Government Offices") are responsible, in collaboration with other national agencies, to promote the adaption to climate change in

their respective areas. To this end, a number of networks have been formed between the different Governor's Offices to deal with common challenges. However, the municipalities are directly responsible for spatial planning, preparedness and rescue services, but also to some extent for the technical provision (Swedish Meteorological and Hydrological Institute. 2011).

The objective is to coordinate municipalities and to contribute with knowledge provision on climate adjustment. The work is based on a common view of climate changes and it is also going to evaluate the overall effect of actions undertaken (County Administrative Board of Västra Götaland, 2012a). The role of the Governor's Office is advisory and to support the municipalities. The report "Sweden Facing Climate Change – Threats and Opportunities" (SOU 2007:60) concludes that its role will become more important in order to deal with climate change, since it has to be proactive in the spatial planning process, and since it is responsible for providing the municipalities with data and information for spatial planning, as well as knowhow (SOU 2007:60, p. 565).

Local climate policies

The PBA requires the municipalities to consider risks areas such as flooding caused by either a rise in sea level or increased water flow in the river systems and lakes. There are two different ways of looking at the risk of flooding; the most obvious one is to prevent new development in exposed areas. However, in some cases the construction of more houses in these areas could also make it more economical to build protective barriers.

Another aim of the comprehensive plan is to adapt to climate change by estimating the effect on tourism by studying the change in the number of visitors. Some places might attract more or less visitors due to the change in climate. The delimitation of nature reserves (protected areas) might also have to be reconsidered. The demand for larger squares and wider streets could increase, since a warmer climate makes it more attractive to stay outside. Municipalities can also adapt to the consequences by imposing restrictions on where a house can be placed on a piece of land or require the roof to have a certain gradient (Swedish National Board of Housing, Building and Planning, 2012)

The comprehensive plan of the City of Gothenburg states that it should become a robust city, a secure place that can manage unexpected events and extreme weather situations. Special consideration should be taken when building in areas that are sensitive to landslides. The central parts of the city and other low-lying places have to adhere to certain restrictions set out by the municipality. The water provision has to be secured, which implies that the dependency on River Göta in this respect needs to be reduced. Protected areas have to be established around farm lands and sewage treatment plants to improve the drainage of water. Alternative ways to improve the robustness of the infrastructure have to be elaborated. This can be done by increasing the number of passages over the river, but also by building more access roads. Another objective is to secure the provision of electronic communication including the internet, for example by installing underground electronic cables, instead of relying on overhead lines (City of Gothenburg, 2009, pp. 60).

Chapter 4: Five exemplary activities

The exemplary activities were chosen, in discussions with the project reference group, to illustrate action that is taken to meet the three challenges. An important basis for the choice of activities was the pilot projects that were carried out in the initial stage of Mistra Urban Futures in Gothenburg. These projects were defined in the extensive process leading up to the bid to Mistra, which included the main concerned parties in this region.

The activities are related to one challenge or more. Introducing the social dimension in spatial planning, obviously answers to the challenge of social polarisation. The "Gothenburg River City" project does too, but it is also essential to meet the effects of climate changes. "The West Sweden Package" was set up radically to improve infrastructure, and to reduce effects on the climate. It is partially financed by a Congestion fee in central Gothenburg, the single most contested of all activities to meet the challenges. Related to the West Sweden Package is the Public transport development programme for the Gothenburg Region, which also aims at reducing CO2 emissions. To some extent, it also could also mitigate the effects of the sprawling and segregated structure in Gothenburg. A further activity related to climate change is the Mistra Urban Futres project on Climate change adaptation: "Visualising Retreat, Defend and Attack".

THE SOCIAL DIMENSION IN SPATIAL PLANNING (S2020)[5]

The "S2020" programme in the City of Gothenburg (challenge 1), where the "S" stands for socially sustainable development, was the result of at the city council commission to its own administration in 2007. On-going processes (K2020 and Consultation process) were mainly oriented towards infrastructure, and a shift towards the social dimension was necessary. The aim was to "ensure that social issues are taken seriously in municipal planning in the same way as the economy and ecology" and to create a vision of a socially sustainable Gothenburg (Svensson 2011). The background was a concern about social development, especially segregated housing in Gothenburg which had also been thoroughly presented by researchers in ethno-geography (Andersson et al. 2009).

Another more general problem was the feeling that the opportunities to engage in policy-driven development of society had lessened over the years. This can also be put in a different way: When hierarchical control no longer is considered as a viable option, then you turn to network management and persuasion. According to this view, it was not a traditional assignment, where officials themselves would implement objectives, but where they would work in a strategic network.

A steering group with directors from the city administration was created in order to give legitimacy to the process. Under the management of this group, a number of "loose" collaborations were created; this was optimal since the groups changed over time. The steering group was given "process ownership" in order to promote networking in the

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[5] Based on Elias et al. (2012)

different sub-groups. With this set-up, S2020 can be seen more as a hybrid between a formal organisation and an informal one, rather than a network.

The most important tool to reinforce the social dimension in municipal planning was presented as the ability of officials and researchers to create mutual knowledge on how to take into consideration different social dimensions in operations and planning. Mainly, this is about "describing the social factors that prevent or enable desirable developments".

> *S2020 can be seen as a "mind-set" that should be disseminated in the organisation, which to a large extent has taken place. It is all about convincing directors and politicians that they should use different tools in order to assess the social consequences of various decisions and actions.*
>
> (Notes from a process workshop about S2020)

An important objective for S2020 is to provide a creative forum for knowledge and ideas where different solutions to social problems in the planning process are sorted out in a dialogue between the administration and research. The relationship between officials and researchers, central to this approach, is promoted in different ways. Several researchers have presented empirical studies and problematized various issues at seminars. They also work together, for example in a series of seminars and in a pilot project on the development of an existing suburban square. There officials and researchers collaborate in order to "give the social dimension the right amount of leverage when the layout is planned". The objective was to show how to substantiate the influence of the social dimension on urban development. S2020 consists of several organisational parts:

- The task to create a network for social sustainability and common objectives within the City of Gothenburg; this has been realised primarily by way of information, but also by collecting knowledge from the different parts of the city.
- A network with the primary purpose to support the administration and public utilities in their efforts to achieve sustainable urban development.
- The core of the project, the "S2020 office" placed in the regular administrative organisation, which informs the responsible political committee, initiates pilot projects and research, and participates in consultations on urban planning and construction projects. In addition, the S2020 office provides progress reports.

One of the main activities is capacity building among City officials. S2020 is a generator and distributor of knowledge to be used in regular operations. Consultations are emphasised in particular, and the overarching objective is to promote the social dimension. By building capacities in the City's social affairs department and in the City District administrations, the responses to consultations from the City Planning Committee will become more relevant and more effective. Other examples is work to create an understanding of how to handle complex conflicts in the city space by spreading knowledge and how to cooperate with the citizens in order to promote participation in the political process.

S2020 tools: the "Knowledge Matrix", Social Impact and Child Impact Analyses[6]

The "Knowledge Matrix" and impact analyses se are tools used within the "S2020" programme. In October 2011, S2020 launched its Knowledge matrix, a web-based interactive tool to support officials and decision-makers, by clarifying and giving examples of the links between social sustainability and the built environment in the city.[7] The Knowledge matrix was developed in parallel with two other processes; the creation of Social Impact Assessment (SIA) by the City Planning Office, and the development of Child Impact Assessment (CIA) within the network for children and young people in planning in the city of Gothenburg. Officials at the S2020 Office took part in this work which also aims at supporting spatial planning (Grahn, 2012). The matrix includes six themes which are considered important for the creation of socially sustainable environments:

- a coherent city,
- interaction and encounters,
- making everyday life work,
- identity and experience,
- health and green urban spaces, and
- trust and openness.

These themes are related to five different scale-levels, adjusted to different activities within the planning process, to do with construction, location, local environment, neighbourhood, city, and, finally, the region. These themes are presented in fairly extensively research-based descriptions, and specific terms are defined and exemplified.

At each scale-level examples are given on how each theme could be understood through an inventory of knowledge. How measures can be carried out is shown by examples of previous activities. Reflections are given on how the planned changes can be evaluated in terms of their impact. The interactive feature is that each user can fill the matrix with past experiences, examples of completed activities and evaluations of these.

The Knowledge matrix is intended to provide research-related knowledge to officials who want to incorporate the social perspective in decision process, and to creating an understanding of how the current case is linked to other contexts and levels. The main obstacles to socially sustainable development are perceived to be the inability to take a comprehensive or holistic view, and the "drain pipe thinking" within the various administrative areas. This is seen to counteract the cooperation and synergy needed to create socially sustainable development. Above all, this is all about creating interfaces between the City District administrations, which are responsible for social services to citizens, and the central City administration which deal with planning and the physical investment projects.

Furthermore, there is a potential risk that there is not enough recorded knowledge and experience of working with sustainability within the organisation. This knowledge is shared verbally, especially by officials with years of experience in municipal work. The City administration is facing a "generation shift" and hence risks losing a lot of knowledge,

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[6] Interviews with Vanja Larberg, planning leader S2020, and Anna Fridén, process leader S2020
[7] http://www.kunskapsmatris-s2020.se/

since there is no system for documenting these experiences. Therefore, there is a need to collect this knowledge.

The Knowledge Matrix, SIA and CIA have so far been run as pilot projects with the objective of creating new structures for promoting sustainable development. Resources have been relatively small. Work on these three tools has involved a few officials part time, plus discussions with other officials, workshops and work in different networks. Activities have still had political leverage, since the City Council still sees this work as central to the future urban development processes. Also the politicians in the City Planning Committee have been part of the process.

During spring 2012, a training programme on the knowledge matrix was offered to officials in the municipal administration. The training was mandatory for the City Planning Office and optional for other municipal officials. The experiences from the approximately 200 people who participated pointed towards a relatively high interest and a need for the tool. Views from the Planning Office were split, as some officials argued that the regular handling of planning matters already is time-pressed as it is; there is no room to integrate additional operations.

However, a preliminary evaluation of SIA, CIA and the experiences from officials using the knowledge matrix indicate that there is good potential for the tools to bridge the gap between the central and district administrations in the planning process. The evaluation shows that the tools function both as conceptual models and practical implements that play an important role in integrating the social aspects of the various planning projects. The success of the knowledge matrix in the long term is measured through changes in the city council's "score card for integration" which measures the integration of immigrants in the city. Otherwise concrete performance measures for the activity are difficult to define, as it is all about changing attitudes and networking. The S2020 Office identifies a number of outcome targets that can be measured by group interviews, questionnaires to staff or website statistics:

- Does the knowledge matrix promote networking?
- Does the knowledge matrix facilitate the work for officials working in urban development processes? Is it perceived as a reliable source?
- Does the knowledge matrix increase awareness about the S2020 and on-going projects?
- Does the use of the interactive features of the knowledge matrix increase? Do administrators provide their own examples and projects?
- Does the knowledge matrix inspire operators not already working with social sustainability issues to start doing so?

In the long term, the knowledge matrix aims at paving the way for the development of a sustainable city for the benefit of all the city's inhabitants, especially future generations and the most vulnerable and marginalised. In the short term, the tool should benefit the organisations and neighbourhoods that are disadvantaged by the current planning process, in which social values are disregarded due to economic and ecologic considerations. It is too early to determine how successful the tool is. Experience so far points toward that some factors need to be changed in order to strengthen the knowledge matrix in the

administrative processes. Too few are involved and responsible for the development of the tool, making vulnerable as the work is concentrated to a few dedicated officials.

Administrators generally lack time and resources to add a further step in a planning process which is already under pressure. They have little time to digest long texts and contribute examples of activities in the interactive functions. The strict division of responsibilities between the strategic level and the executing level ("principal–agent") could also counteract the knowledge matrix and other tools designed to develop new ways of working. Time and resources must therefore be added in order to influence the decision process.

THE "GOTHENBURG RIVER CITY" PROJECT[8]

This project aims at developing the comprehensive spatial planning of several central city districts, with the purpose of finding new solutions to build a sustainable city in the brownfield areas in central Gothenburg on both side of the river (challenges 1, 3)

Aims, objectives and importance

Segregation has a physical background in the lay-out of the city. The structure of Gothenburg is very sparse compared to most other Swedish and European cities. The housing areas of the "million programme" are mostly more or less remote satellites to the inner city. In these areas poor people are concentrated, and often both economically and culturally isolated, especially as these groups tend to have a weak status on the labour market.

As a result of the industrial transformation, especially since the shipyards closed down in the 1980s, a large part of central Gothenburg along the river is mainly unused. In order to accommodate a growing population and to promote "sustainable growth" as formulated in the city-region (GR) strategy, the city council in 2010 decided to analyse how these centrally located "brownfield" areas could be developed to create a new, sustainable inner city. The intention is that the new inner city should contribute to solving many of the challenges in the city. The City budget decision for 2013 (City of Gothenburg 2012b) expresses the hope that the River City should "reconnect the city" and thus counteract segregation, by taking into account cultural and social objectives. The project should contribute to the densification of the city, reconnect the city to the river and form the basis for neighbourhoods that, unlike the attractive areas in the inner city, are characterized by diversity.

The council appointed a specific project group for the area with the following aims:

- Develop visions and strategies with the holistic perspective of the city, with a trans-disciplinary view of the three dimensions of sustainability.
- Conduct a dialogue with the citizens, characterized by transparency.
- Exchange ideas and experiences nationally and internationally.
- Establish a "River City Centre" drawing competence from the municipal administrations and companies and set up working methods that can stand as a symbol for cross sector cooperation.[9]

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[8] Interview with Mr Björn Johansson at the River City Project

The potential for urban sustainable development of this development area cannot be overestimated. The area is four times larger than the present inner city. The aim is to make room for 30,000 new inhabitants and 40,000 workplaces by 2020 (Sustainable growth, 2006). The project is to realise the City of Gothenburg programme for green building through a partnership with builders. Therefore, it stands out as an important showcase, nationally and locally, as a "resource-efficient, sustainable and ultra-low energy area" (Delegation for Sustainable Cities, 2012b). The River City Project is also a showcase for the realisation of socially sustainable "diverse" and "inclusive" city open to all its inhabitants. It is should also tear down the "mental barriers" between the mainland and the island of Hisingen (the north shore) (Brorström 2012).

Important tools for the formulation of this inclusive vision was the "citizen dialogue" where input from around 2,000 inhabitants all over the city were gathered (Åström & Brorström, 2012), and the international workshop at which delegates were invited to formulate ideas and thoughts for the future Gothenburg.

Scale and scope

The River City planning and building process is a "mega-project". The area to be developed is as large as a medium-sized Swedish town, and it will take somewhere between 30 to 50 years to accomplish. The total costs for the chain of enterprises involved can hardly be estimated.

The River City Project, which ended in October 2012 after about two years of work, with the Vision and Strategy documents, cost about Skr. 20m. The city provided 18 million of the budget and the rest was contributions from the national governmental "Delegation for sustainable cities". The funding has mainly covered expenses for personnel (15 employees according to website), the website and information material, an international workshop and the citizen dialogue.

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[9] River City website, http://www.centralaalvstaden.nu/, http://alvstaden.goteborg.se/, Reports by the project available at http://www.centralaalvstaden.nu/utredningar
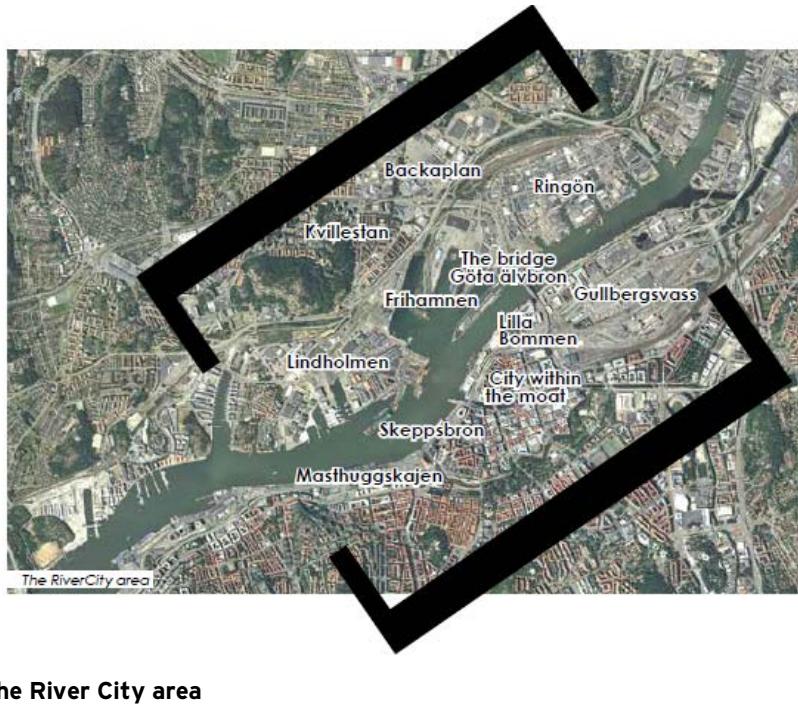
The River City area

The Ricer City project was appointed by the city council 2009. The project leadership included members of the city board, with the mayor in the lead. The project collaborators were drawn from various departments within the city administration, with an emphasis on the city planning office. It also included researchers from academia, business representatives and representatives from various organisations in the city.

The activity is designed to benefit the growth of the city-region and provide housing and work-spaces in attractive parts of the inner city. It will thus benefit the city-region, the inhabitants and the business community. The development of the district will also benefit construction and housing companies and in the private sector. Which parts of the city's population will benefit from the River City area, depends on how well the aims of a socially inclusive and diverse neighbourhood are implemented.

The resulting strategy and vision document was approved by the City Assembly in October 2012 (City of Gothenburg 2012a). In order to strengthen the implementation of the Vision and Strategy document the city council also asked for a time schedule specifying which areas will be developed first, and a communication plan. At the moment, a coordinating group reviewing the future planning process, which will involve several departments and committees of the municipality.

The success of this activity depends on how well the Vision and Strategy document for the River City is applied in the planning and building process. This involves many institutions, but a key player seems to be the municipal company created to manage the development of the area: Älvstaden utveckling AB.[10]

There seems to be some concern whether the future process will be successful in achieving an ethnically and socially mixed district. Recent planning processes of districts

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[10] River City website, http://www.centralaalvstaden.nu/, http://alvstaden.goteborg.se/, Reports by the project available at http://www.centralaalvstaden.nu/utredningar

nearby this area did not succeed in accommodating social and ethnic integration (Brorström, 2012).

An academic report that analysed the River City project shows that there are some concerns within the project group about the future process (Ibid.):

- A dedicated political leadership that participates in the process is needed.
- The most important activities need to be more consistent.
- The vision and strategy document is open to diverging interpretation.
- Expectations on the importance of the citizen dialogue needs to be more clearly defined.

"THE WEST SWEDEN PACKAGE" – IMPROVING INFRASTRUCTURE

To create a growth region that attracts both residents and businesses requires major investment in public transport, railways and roads. Starting now and over the next few decades, a number of planned infrastructure investments will be made in Western Sweden (challenges 2, 3).[11] The so-called West Sweden Package aims at creating an "attractive and accessible core" and development along the five main corridors in and out of Gothenburg, so that people can live and work throughout the region.

The infrastructure investments are will intended to reduce the negative impact on the environment, as well as the current vulnerability of the infrastructure. The West Sweden Package contains a series of projects. Above all, it is aims at a sharp increase in public transport, a more efficient railway system, new motorway links, and better conditions for cyclists.

The Package is estimated to cost Skr 34bn over nearly 15 years. Half is financed by national budget funding, and half by municipal and regional funds. The regional co-financing includes the revenues from a congestion tax (see below), which is deemed necessary to finance the package. Without the tax had, it would not have been possible to make these investments during this period. The tax, which is introduced on 1 January 2013, is also expected to reduce congestion in Gothenburg and improve the better environment.

Before the introduction of the congestion tax, a number of measures were taken to improve public transport, such as extended platforms at stations to allow for increased capacity on commuter trains, new bus lanes in and outside Gothenburg, new bus lines, revised and expanded timetables. The aim is to shorten travel times, improve reliability, and increase capacity and frequency.

In addition, the whole trip will is to be facilitated by expanded public transport hubs, more bicycle parking, greater accessibility for cyclists and improved information about timetables and other disruptions to travellers.

Different measures are also taken on existing road and street network, in order to make the traffic flow smoother and to improve usage. The projecting of the underground railway link through Gothenburg, the "Westlink", started in 2011.

More investments will be made in the public transport system. In addition the large infrastructure projects of the West Sweden Package will start, such as a new motorway

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[11] http://www.trafikverket.se/Privat/I-ditt-lan/Vastra-gotaland/Vastsvenska-paketet/

tunnel under the river, a new bridge to replace the old central road and tramline connection across the river and, eventually, the construction of the West Link including three underground railway stations.

Congestion Fees in Gothenburg

On 1 January 2013 congestion fees were introduced in Gothenburg, in order to reduce traffic in the city centre, and to finance investments in infrastructure.[12] For constitutional reasons, the fee is actually a tax levied by the national level, but the revenues are directly channelled back to this region.

The congestion tax relates to the infrastructure challenge (as well as climate change) and the policy to double the share of public transport. It is regarded as fundamental for reaching the public transport objective by nearly all the political parties in Gothenburg, the surrounding municipalities and in the Regional Council. The introduction is based on the same legislation as the corresponding fee in Stockholm (Act 2004:629).

Several activities are related to the "doubling public transport" policy. It is strongly related to the "West Sweden Package", a series of investments in public transport to cope with increased travel and transport. In the City of Gothenburg new rail infrastructure is planned, "The West Link", an underground railway connection through the city. The planning is expected to take 7–8 years, and another 9–10 years are needed for the construction. Furthermore, a new bridge is planned to replace the present one across River Göta in the city centre, the only tram connection across the river. It should be in place by 2020. The river is critical to the transport system in Gothenburg, since approximately 230 000 vehicles pass it every day (Swedish Transport Administration 2012). A new tunnel under the river is another part of the package, which will reduce the dependence on the existing central bridge and tunnel. This tunnel is a part of a large project in the area, with a number of road and railway investments. The aim is to reduce congestion, but also to improve environment in terms of air quality and noise in the area.

The aim of the tax is multiple:

1. Reduce the impact of car traffic on the environment. Road traffic accounts for a large part of the climate-damaging carbon dioxide emissions. As an economic incentive the tax is supposed to reduce vehicle traffic and divert to public transport.
2. In a dense urban core, more road space is needed to increase usage of other modes (public transport, cycling and walking).
3. Enable the Gothenburg region to pay for major investments in public transport, rail and road (West Sweden Package), in order to build costly infrastructure earlier than would otherwise have possible through "regular" tax funding.

The total cost for the West Sweden Package is estimated to Skr. 34bn, half of which is paid by the national budget. The rest is partly financed by the Regional Council and the municipalities. Another important part of the financing is the congestion tax in a zone around central Gothenburg in January 2013. There will be a charge for all vehicles entering in the congestion zone from Monday to Friday between 6.30 am and 6.30 pm.

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[12] Congestion Tax Act (2004:629, lag om trängselskatt)

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The congestion tax is charged for Swedish-registered vehicles going into and out of central Gothenburg (see map below). Vehicles will automatically be registered at check points during the periods when congestion tax is charged. The maximum amount per vehicle per day will be Skr. 60. The tax is levied by the Swedish Transport Agency.
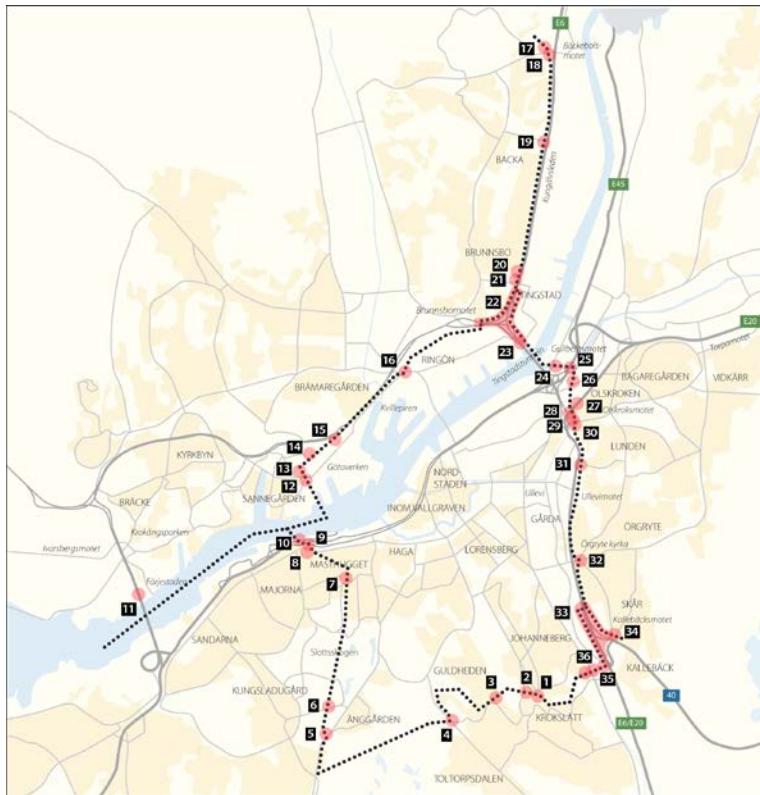
Map: The congestion tax zone in the City of Gothenburg.

The political majority for congestion charges among is very strong. However, resistance to the congestion tax has been, and still is, significant. A new local political party was established before the election in 2010 (called "Vägvalet", meaning the choice of paths), with the sole purpose to resist the congestion tax, and several other "creators of public opinion" such as a local newspaper, strongly argued for a local referendum, after the relevant political decisions had been taken. Even if the conflicts related to the congestion tax will not be further elaborated in this context, we must note that they are a clear example of how action to implement policies often need to affect behaviour and of how the resistance to this can be very strong.

The success or failure of the congestion tax will be measured in terms of fulfilling the purpose, especially to contribute to infrastructure investments. But there is also an accessibility objective, which might be harder to evaluate. One critical remark is whether the accessibility aim actually will be fulfilled, or if that aim is serves to justify the most important aim: to provide financing.

Several factors will contribute to the success of the congestion tax and the overall objective to increase of the share of public transport: When it is introduced in 2013, more people than now are expected to make other travel arrangements than to go by car. It has been estimated that travel by public transport will increase by 5–7 per cent as an

immediately effect of the congestion tax. However, lack of public transport capacity can be an obstacle for handling this increase in the short run (Västtrafik 2012). Also in the long run, lack of public transport capacity (trains and busses) might be an impediment to success. To some extent there is a (at least potential) tension between two goals; one aiming at reducing car traffic and one aiming at contributing to infrastructure investment. If the congestion tax and accessibility of public transport become "too" successful, the revenues from the drivers might be lower than expected.

According to the overall objective of infrastructure investment, which the congestion tax is a part of, those who prefer public transport and have relatively easy access to public transport will be the obvious beneficiaries. On the other hand, those who find themselves in a situation where the cost of using their own car increases, but where there is no easy access to public transport, will most likely find the situation not so favourable.

PUBLIC TRANSPORT DEVELOPMENT PROGRAMME FOR GOTHENBURG ("K2020")

The municipalities in GR have used the "Good Life" vision as a point of departure for a joint project called K2020, which aims at increasing the use of public transport from 20 per cent to 40 per cent of all journeys by 2025 (challenges 2, 3). The purpose is to bring different areas closer to each other by building a transportation network between and around the five centres, and by providing frequent travel opportunities along these passages. Quality and service as well as fast travel should be provided to improve the customer satisfaction (K2020, 2009).

The trend is still increased travel by car, which goes completely against to the adopted climate goals. It is therefore crucial to increase travel by public transport. Today about 20 per cent of all travel is by public transport, or by bike and foot in the Gothenburg region. This is expected to increase to 30 per cent in 2025, but this will not be sufficient to manage the increased demand for infrastructure and the increased pressure on the environment. The objective is therefore to increase the share to 40 per cent. One major challenge to achieve this is to change the way people travel to work. The current share of car in commuting is 65 per cent, but it has to be reduced to 35 per cent in order to reach the target (K2020, 2009).

A combination of all three dimensions of sustainable development has become the basis for suggesting a significant increase in public transport (trains, busses and trams). Hence, the policy of doubling public transport in 2025 from 2009 can be regarded as meeting sustainability challenges and thus connecting to the overall vision of "The Good Life" in the region as a whole.

The policy of doubling public transport and a programme for making this happen was an outcome of six years of public cross-sector collaboration labelled K2020 (GR 2009). K2020 was a network that developed out of another large network of public sector managers and professional planners that was formerly active in the Gothenburg metropolitan region (Polk 2010). K2020 was set up in 2002 and became an official GR project in 2006 (K2020). The K2020 network did not initially have a formal political function. The project organisation consisted of a steering group and a cooperation group with all in all 28 managers and professional planners representing more than ten regional

and local public authorities and organisations involved in infrastructure and transport. No private companies participated, nor did any civil society organisations.

At the outset, there was no clear picture of how the problem of insufficient infrastructure had emerged, let alone any clear-cut suggestions for how a solution could be formulated. The problem was consequently highly complex in character, and harnessing this complexity was one reason why a cross-border network was put in place. The network consisted of professional planners from various regional and local government organisations who gradually shared knowledge, experiences and ideas. According to interviews with a number of the participants in the network, the aim was not so much to produce new knowledge as to create insights and credibility around various possible solutions. Informal talks between members of the network and the political leadership in GR took place during the process, but there was no formal political calibration of the mission and there were no decision points during the initial years for which the work of the network could serve as a basis.

After four years or so, in which time experiences were collected and ideas developed, the network felt that it was time to formally place the issue on the political agenda. In December 2006, the GR Board decided on the "sustainable growth" strategy, and this was twinned with an overarching goal that the share public transport would increase to 40 % by 2025, compared to the approximately 20 % of the population that currently use public transport. As this was a formal target, GR's Board of Directors gave K2020 the formal commission to formulate a vision and an action plan to develop regional public transport. After a number of pilot studies and reports, it presented a proposal in 2008 that was adopted in April 2009 by the GR Steering Board as well as by all of the Municipal Councils and Municipal Boards within the GR area. K2020 has been identified as a flagship for multi-level, cross-border cooperation and reflects a paradigm shift in the way that public transport is viewed in relation to vehicular traffic (Polk 2010). There are of course challenges to achieve the objective of doubling, mainly it a question of changing the way people travel to and from work. The current share of car in commuting is 65 %, but it has to be reduced to 35 % in order to reach the target (GR 2009).

In sum, only public sector organisations were involved in formulating the policies around doubling public transport. However, the collaboration took place across sectors and across administrative levels (local and regional, municipalities and national agencies) in novel way. From an international perspective, it might be noticed that no private actors (private companies or NGOs) where direct involved in the policy process. In a Swedish context this is not remarkable, because all investments in public transport infrastructure are public. Planning and decision-making are also within the public domain. Policies and strategies where, however, discussed in a numerous forums at local and regional level, as well as on a national and international level. For instance, K2020 was identified as "best practice" in a national campaign for doubling public transport (x2, the Swedish Doubling Project 2011). The information used in making the policy was mainly produced within smaller task forces of experts. Over a period of a couple of years, the network gathered a range of information relevant to the issue of public transport. As this process of compiling knowledge proceeded, meetings occasionally took place with political leaders at GR. However, there was no hands-on political interference.

CLIMATE CHANGE ADAPTATION: VISUALISING RETREAT, DEFEND AND ATTACK[13]

The old Free Port area ("Frihamnen") is attractively located by the river, and is about to undergo a transformation from industrial usage to a residential and commercial area.

In order to reduce the risks and take advantage of the opportunities linked to climate change, climate change adaptation must be integrated into urban planning and water management (SOU 2007:60). The expected impact of global warming, such as flooding in low land areas with damages on infrastructure and buildings, mean that cities will have to be built for resistance and resilience. Rising sea levels are likely to become an important aspect of water management and are particularly significant for the many European cities that are located near the sea and other water bodies.

The Mistra Urban Futures Pilot project no 2 demonstrated how climate change adaptation can be integrated into city planning. It illustrates the three different strategies to meet rising sea levels in urban areas. These concepts were originally developed by the Royal Institute of British Architects, Building Futures and Institution of Civil Engineers (RIBA, Building Futures and ICE, 2010). The project demonstrates the applicability in urban planning outside the United Kingdom through a case study of the old Free Port area.

Three Strategies for Climate Change Adaptation

The three strategies visualise each strategy in its extreme form, in order to provoke creative thinking on ways to meet the climate change challenge. The three strategies can be summarised as follows (illustrations by SWECO Architects):


"Retreat"

A "retreat" strategy means that infrastructure and buildings gradually, i.e. through a long term planned and managed process, are moved to safer ground. The city is in essence gradually reallocated, i.e. it retreats, in order to avoid flooding.

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[13] Based on Thörn et al. (2012)

"Defend"

The "defend" strategy is the traditional way to protect an urban district from flooding via flood defences, e.g. walls or other "hard" measures. A defence strategy saves the city from reallocation and protects existing infrastructure, but can be extremely costly depending on how much protection is needed and the level of risk.
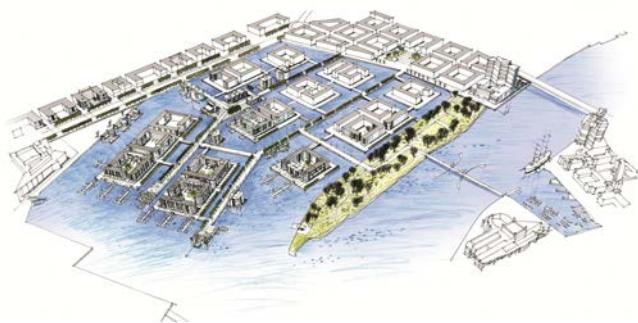
Attack

The "attack" strategy means that the city advances and builds out onto the water. This necessitates using both modern technology, and traditional construction methods and designs adapted to flood risks that are made flexible to handle rising sea levels.

Implications for sustainability

The project reflected on how the results could be used as guidelines for planners and decision-makers, in the Free Port case, as well as in similar urban areas where future rising sea levels must be taken into consideration.

The results from the focus groups showed that the three adaption strategies all have advantages and disadvantages. Depending on the priorities and preconditions in a particular urban setting, and from the point of view of ecological, economic or social sustainability, different strategies were found to more or less suitable as a source of inspiration. At the same time it if preferable to promote sustainable development in all respects in a town or urban district; the challenge is then to find the right balance.

Naturally, priorities and conditions can differ within a single area, which means that more than one adaption strategy could be suitable. The table below presents the recommendations and guidelines that the project concluded. The table shows the ecological, economic and social consequences that were most prominent and debated in the

focus groups. The purpose is to point to which strategy that could be suitable as an inspiration depending on the priorities and the context. A green box means that the focus group mainly found that the adaption strategy implied advantages, from the point of view of ecological, economic or social sustainability. Red means the opposite, that the participants interpreted the strategy as mainly negative. A yellow box illustrates that the discussions resulted in both advantages and disadvantages without a clear balance for one or the other.

Table: Adaption strategy based on priorities and specific context

City priorities / Conditions in the area		Retreat	Defend	Attack
Ecological sustainability	Contaminated soil	🟩 Green	🟥 Red	🟥 Red
	Biodiversity	🟩 Green	🟥 Red	🟨 Yellow
	Effects on fauna	🟩 Green	🟥 Red	🟩 Green
	Air and water quality	🟩 Green	🟥 Red	🟨 Yellow
Economic sustainability	Economic benefits	🟥 Red	🟩 Green	🟩 Green
	Business	🟥 Red	🟨 Yellow	🟨 Yellow
	Construction & maintenance costs	🟩 Green	🟥 Red	🟥 Red
Social sustainability	Accessibility	🟨 Yellow	🟨 Yellow	🟥 Red
	Integration & segregation	🟨 Yellow	🟨 Yellow	🟥 Red
	Recreation areas	🟩 Green	🟨 Yellow	🟥 Red
	Security	🟥 Red	🟨 Yellow	🟥 Red

Ecological Sustainability

The focus groups mainly described *Retreat* as a suitable strategy, if the priority is a sound ecological development. In the specific context of the Free Port area, there is a major risk of spreading contaminated soil and material, if construction takes place in the area. This could be a problem if *Defence* or *Attack* were chosen as strategies. If maintaining or promoting biodiversity is a priority, then *Retreat* is also more suitable than the two other strategies. The *Attack* strategy could also be useful, if creating wetlands is a priority.

Attack could also be interesting to promote a balance of wetlands and built areas. To protect the fauna, both *Retreat* and *Attack* could be suitable. *Retreat* provides space for birds, and *Attack* would give suitable habitats for fish. The aquatic biodiversity would not be promoted by *Defence*, since it would reduce opportunities for mobility.

From the point of view of air and water quality in the area, *Retreat* is suitable. Green spaces and less construction in the area would enhance both air and water quality. *Defence* would not be advisable, since it would involve high-density building and less ventilation. From that point of view *Attack* is better than *Defence* in this respect, since it prescribes more scattered construction. Water quality in the area, however, could be negatively affected by *Attack*.

Economically Sustainable Development

In order to increase economic benefits, both *Defence* and *Attack* could be suitable. The objective of increased density is fulfilled through *Defence*. Attack also provides good economic opportunities, as the urban area could become a forerunner in developing innovative solutions for how to tackle effects of climate change. Retreat would not be a suitable strategy in this respect, compared to the two others. The focus groups concluded that the city would risk missing out on potential economic benefits.

Furthermore, *Retreat* would obviously not benefit business in the area. The fear was that this could negatively affect the whole inner city. *Attack*, on the other hand, could both be have negative and positive effects on business. An attractive sea-front would be created, but at the same time accessibility could be reduced. *Defence* could also give rise to both advantages and disadvantages; the strategy has great business potential, but the structure and design would be traditional with no particular power of attraction.

If the city wants to minimise construction and maintenance costs, neither *Retreat* nor *Attack* would be suitable. Flood defences would be very expensive; Attack could also be costly as new technology would have to be developed and maintenance of floating structures would be costly. Retreat would also require important investments, but there would not be the direct cost of protection against rising sea levels. Existing piers could be used at a low cost. Even when sea levels rise, the area will be accessible for outdoor activities and recreation.

Socially Sustainable Development

If Gothenburg will develop accessibility, there are advantages in choosing *Retreat*. This facilitates the creation of an accessible public space, but at the same time the built areas and the piers risk becoming isolated. *Defence* could provide a connection between the different areas along the river, but the area risks becoming a "gated community" not accessible for non-residents. The focus groups were also inclined to believe that the area would become isolated if *Attack* was to be the choice strategy. If stimulating social integration is an objective, *Retreat* would provide a meeting place for people of different origin, but the area would still risk becoming upmarket. If the objective is to connect the northern river bank with the inner city, *Defence* could be an option, but this would risk alienating inhabitants in other areas north of the river. The downside of Attack is that the area would not be perceived as inviting by outsiders, and that it would become homogenous, which would not further social integration.

Several participants in the focus groups pointed out that Gothenburg needs more green areas in its central parts. To achieve this, *Retreat* would be the best option. Defence would not particularly favour this, but it could allow for several small green spots suitable for children and shorter walks. Attack is the least suitable strategy in this respect.

If security is a priority, Retreat would in several respects not be preferable. De abandoned areas would during most of the year, be perceived as unsafe and insecure. The *Defence* option was also described by some as creating an insecure area, due to the fear that the barriers might burst. On the other hand the barrier could give a sense of security that the other strategies would not. Attack would also not be suitable, if a sense of security is to be promoted, especially due to the floating structures and a lay-out that could be seen as unsafe for children.

The Significance for Other Areas

The results of the project are based on the specific context of the Free Port area, and the objectives in the city of Gothenburg. However, the methods used and the results of the discussions could shed *light* on what approaches to use for other brownfield urban areas that are valuable for urban expansion but exposed to the risks of rising sea levels.

De three different strategies for adaption turned out to give different advantages and disadvantages. In urban areas where the objective is ecological sustainability, there are several advantages in choosing *Retreat*, compared to the other strategies. If the main objective is social development through security, recreation and social integration, then *Retreat* could also be a viable solution. If the context requires increased economic benefits, however, the other two strategies would be more appropriate.

Chapter 5: Project plan for phase 2

As was shown in the Baseline Assessment, the challenges for sustainable development are met by several policies and activities in the Gothenburg urban region. However, the actual development within many policy areas is moving in a sustainable direction. For instance, social polarisation is increasing and the level of CO_2 emissions is not decreasing. These and other challenges have triggered further action by policy-makers and experts within different policy areas and across policy areas to deal with these "wicked" problems.

In the next phase we will deepen the understanding of how different issues of sustainability are actually handled by strategic actors in forums and processes. The aim is critically to examine ideas and actions related to three dimensions: economic, ecologic and social.

According to the IPP plan, the project should "consider the conditions in which responses to urban sustainability can be developed", "examine the way in which different knowledge and skills are used to inform urban sustainability" and "identify different possible trajectories and transition pathways".

More specifically, a number of questions should guide the second phase of IPP (see IPP project plan). There are broadly speaking three options for selecting cases for the second phase. One way is to select some of the specific activities, which are shortly described in the Baseline Assessment. However, this would mean analysing implementation rather than policies. A rather different way is to try to grasp the overall complexity of interrelated policies in the Gothenburg urban region, but such a project would be too demanding. Instead, we would like to opt for a third possibility, which is to focus on a limited case but a case that is significant for the development in the region.

SELECTING THE CASE

A programme called "Sustainable Growth" ("Uthållig tillväxt"), was adopted by the Gothenburg Regional Association (GR) in 2006 (see section 4.5). The programme was discussed and approved in each of the thirteen municipal councils in one of the four consultations (Rådslag) within the overall process of consultations (Rådslagsprocess) during the years 2002 to 2008. The programme states that "a development in balance between economic, social and environmental dimensions" should be promoted. However, it does not describe how this "balancing" should take place. The following goals were set, mainly oriented towards the economic dimension (www.gr.se):

- stimulate further population growth and at the same time make the most of the opportunities presented by further enlargement of the region,
- strengthen the qualities that make people want to live and work in the Gothenburg Region,
- create a strong and sustainable regional structure based on the opportunities of the metropolitan area,
- develop long-term sustainable infrastructure and attractive public transport services, and
- intensify co-operation between all the players.

In 2012 a revision of the program started; a fifth consultation process is held with all thirteen municipal councils in the urban region. As a basis for this process, a follow-up of the programme was made. Generally speaking, it showed that in terms of economic growth the development had been rather positive. On the other hand, CO_2 emissions were increasing and a future threat of flooding and other effects of global warming was recognised. As for the social dimension, the follow up concluded that: "The largest threat to social sustainability is the accelerated segregation with increasing gaps and spatial polarisation" (http://uthalligtillvaxt.com/). Thus, in terms of the three dimensions of sustainability, it was clear that only one was showed development in the right direction.

The social dimension and the issue of global warming were not high on the agenda when the programme was formed some ten years ago. In relation to the original programme, two amendments have been made for the consultation. The first is to include the objective of a "socially cohesive" region, and the second deals with the implications of climate issues (mitigation and adaptation).

There are several reasons for selecting this consultation and the programme as a case for further analysis. Firstly, it reflects an increased awareness of climate change and social issues at the regional level. Social welfare, such as social services and support to individuals and families, is according to the legislation a municipal responsibility, not a regional one. However, due to an increased awareness of the regional dimension of social polarisation, it has increasingly become an inter-municipal issue. As for climate change, it seems that the awareness of the vulnerability to rising sea levels has increased, but also that the region is lagging behind the other two large city regions in Sweden (Stockholm and Malmö) in mitigating CO_2 emissions.

Secondly, it can be seen as a continuing effort of regional urban collaboration. When the first rounds of consultations ended up in mutual agreements, it was regarded as unique in its context. However, the programme for "sustainable growth" and other outcomes of the consultation process could also be seen as rather traditional in the perspective of the three dimensions of sustainability. Due to the recent widening scope, it is of interest to find out if and how this actually represents new responses to urban sustainability, if new knowledge and skills are used and what kind of transition pathway that can be identified.

Thirdly, this case can be seen as a response to several of the barriers to sustainable urban development identified by the Delegation for Sustainable Cities, which are referred to in the Baseline Assessment (section 4.2). The revision of the programme for Sustainable Development can be seen as a response to the lack of integration of the sustainability dimensions in regional development policies. Hence, it is of interest to analyse policy and action in terms of competing or integrating dimensions of sustainability. Furthermore, the revision of the programme addresses social polarisation in a way that is new to the urban regional level. Hence, it would be interesting to find out if the new programme will promote measures against further social segregation at the regional level. Lastly, the revision addresses the general and rather classical problem of "drainpipe thinking". By analysing ideas and action in and between sectors, we can deepen the understanding of what mechanisms are drivers and barriers for cross-sector collaboration. This research issue corresponds to an earlier study on "multi-level governance", which was conducted during 2010–2012 in a Mistra Urban Futures pilot project (Elias et al 2012; Montin, Johansson &

Forsemalm, forthcoming). It will therefore be possible to follow up some of the results from this study.

CONCEPTS AND RESEARCH QUESTIONS

A thorough conceptual framework for the study will be developed. Here we would like to sort out some overall concepts that will be used in order or organise the empirical study and the analysis.

The policies and activities described in the baseline assessment are not in general surrounded by overt conflict. However, when these are put into practice, the activities may very well lead to conflict, especially effective and visible action such as the congestion fee and more bus lanes. For instance, referring to the Baseline Assessment, it is hard to find anyone who is against the development of the River City, the idea of integrating the social dimension in planning, doubling public transport or coordinating regional and municipal development plans. The main reason for the consensus might be that the policies are abstract enough and related to good values to an extent that hides potential underlying conflicts. It is a common expression in politics that it is rather easy to decide on "what", but when it comes to "how" it becomes political. Taking an example, everyone seems to want to fight segregation, but there is no agreement on how to do it.

Policies, such as "sustainable growth" can hence be seen as broad frameworks in which several political issues have to be dealt with, as the policy process continues and materialises in concrete decisions. Policies are more or less strongly related to distinct ways of viewing reality, what is regarded as problems and how these problems should be handled, in an overall sense. Different actors construct different meanings of problems and actions. In general, relevant actors in processes aiming at making a difference in sustainability terms operate within, or in relation to, different discourses. Within the large frame of "sustainable development policies" there are several discourses of which some dominate (are more powerful) than others. Different rhetoric strategies can be used in order to make conflicting interests compatible (for an example, see Griggs & Howarth 2012). During the last decades "ecological modernisation" was a dominating discourse, but now it seems that it has been somewhat transferred into "sustainable growth". This indicates that the economic dimension has become even more important, especially after the latest global economic crisis. On the other hand, critical perspectives on the relationship between the current economic model and sustainability have become more prominent. Thus, different discourses are formatted, in terms of organised and manifested systems of ideas and "world views" on what the problem is and what the solutions are.

The first step in the next phase would thus be to conceptualise discourse formations among different organised interests in relation to the programme of "sustainable growth".

By organised interest we mean articulated positions that can be connected to specific collectives. In the case of the "sustainable growth" programme, these interests mainly consist of political parties, municipalities, the organisation Business Region Gothenburg, private enterprise, consultants and policy communities. In short, the legitimacy and efficiency of policy and action depends on how successfully different interests are integrated into the dominating discourse, which means handling conflicts or at least potential conflicts. Different needs and interests among actors in or outside the policy process might be formed into competing discourses, or at least challenging dominating figures of thought. It might be the case that there are interests and needs, which are

articulated but "outside" dominating discourses. An example would be the dominating "compact city" (or the "dense and diversified city") discourse, which might cause rising prices for apartments (gentrification). Hence, this is not in the interest of low-income groups. An example of trying to challenge dominating policies is the idea of "social housing", a sensitive issue in Sweden, in order to handle the segregation problem.

Certain discourses might have inherently different and somewhat hidden conflicting interests. One such discourse is "regional enlargement", which dominates in most Swedish regions. However, there are several measures related to this discourse that could stand against articulated values of municipal self-government. An especially interesting tension, which has been discussed in several forums and in research, is between the values and practices of party based representative democracy and the municipal professional and expert based planning on the one hand, and the efforts of bringing citizens into policy processes (referred to as "citizen dialogues"), on the other hand.

In a second step we will conceptualise how different organised interests challenge dominating discourses and how these challenges are handled.

The review of the 2006 version of the "sustainable growth" programme started in October 2012 and will be finished in February–March 2013. The consultations are documented, which will be important. However, we do also plan to participate (passive observation) in some of the consultation activities. As for interviews, we can select the most important and relevant actors beforehand, but we will also use "snowballing" in order to find other relevant actors.

1. *Observations:*
   Passive observation in five municipalities during the consultation in the first quarter of 2013.
2. *Interviews:*
   Political leaders, party representatives, and planners in municipalities, politicians and professionals in GR, Business Region Göteborg (BRG) and private enterprise and consultants. Other relevant actors will be selected by using a "snowball" technique.
3. *Focus Groups:*
   A series of focus groups, representing four municipalities in the region (Gothenburg and three others). The interviews and focus groups will result in a draft 'challenges and pathways' report.
4. *Workshop:*
   A final workshop in the fourth quarter of 2013 in order to bring different stakeholders together to discuss and refine the report.

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