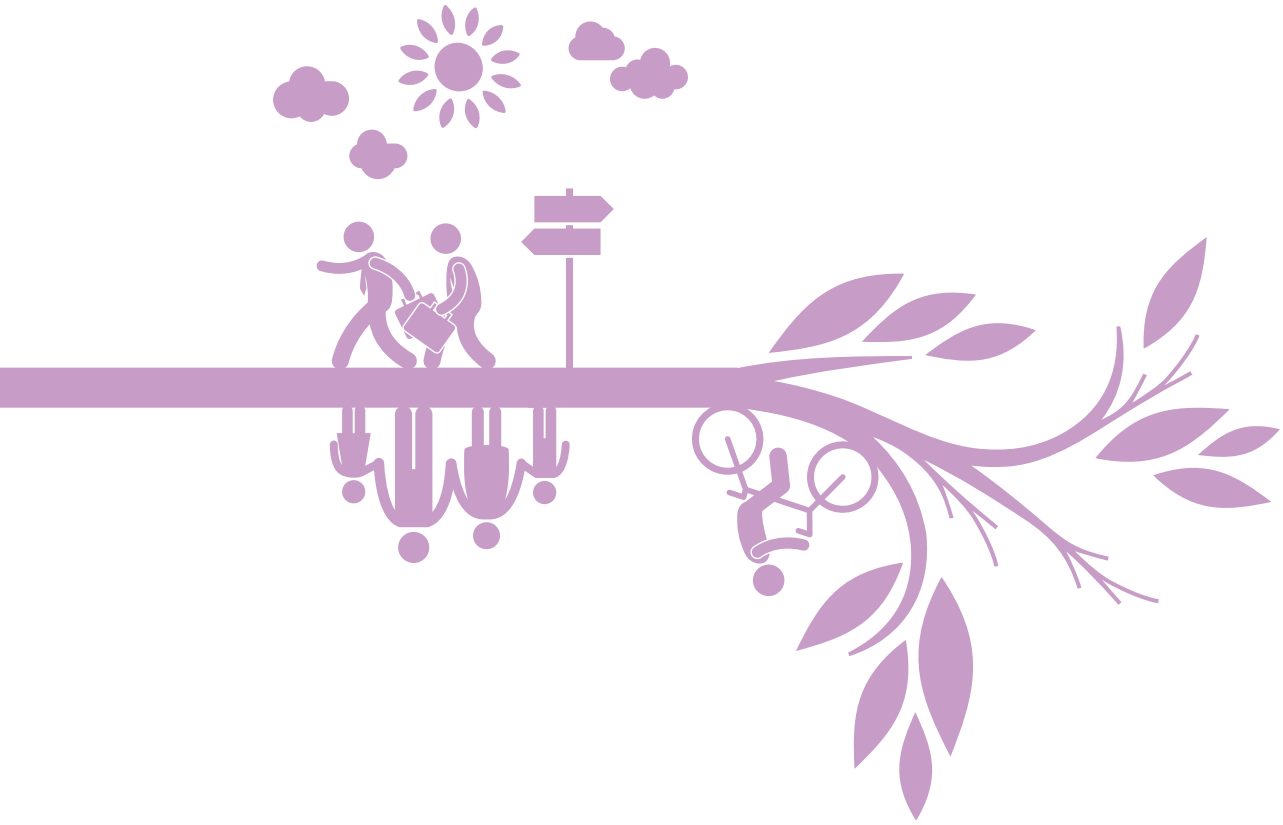
SUSTAINABLE URBAN MOBILITY PLAN

CREATING A MORE ACCESSIBLE MALMÖ

Politically adopted in city council, March 2016

Malmö stad



Winner of:

4th SUMP Award

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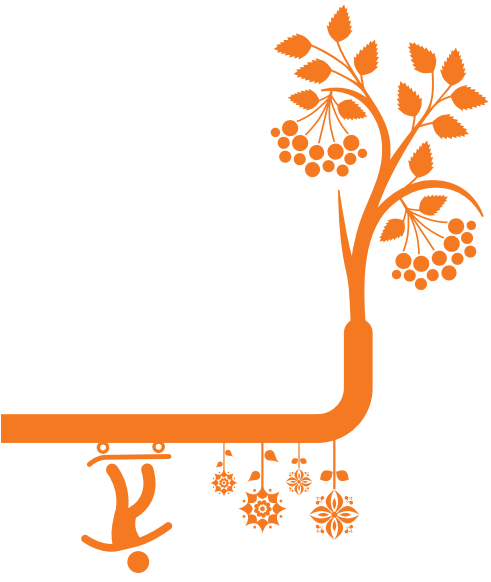


PROJECT INFORMATION

Politically adopted in citycouncil 3/3 2016.

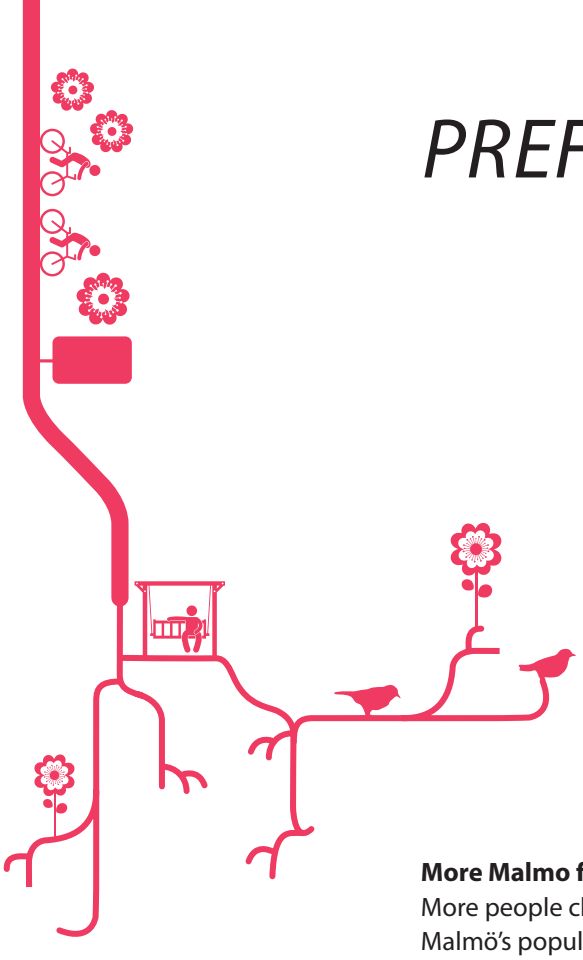
Steering group, constituted by the heads of service:
Andreas Ekberg (GK), Bo Andersson (GK), Ola Melin (GK), Josephine Nellerup (SBK), Ingmar Gråhamn (SBK), Johan Emanuelsson (SBK), Per-Arne Nilsson (MF), Dave Borg (MF), Håkan Thulin (FK), Jan Haak (SK), Pehr Andersson (SK), Benny Thell (SF), Henrik Aspegren (VA SYD), Maya Söndergaard (Rsyd)

Andreas Ekberg (GK) is replacing Stina Nilsson (GK) since January 2014.

Project group
Andreas Nordin, project leader (GK), Peter Håkansson, project leader (GK),
Anna Stjärnkvist (SBK) och Christoffer Hedberg (GK).

Division between women and men
Leading positions (7 women, 19 men)
Project leadership (2 men)
Project group (1 woman, 3 men)
Group leaders thematic project groups (5 women, 2 men)
Thematic work groups (11 women, 21 men)
Workshops/discussion meetings/information meetings (ca 400 women, ca 440 men)

GK = Streets and Parks Department, SK= City Office, SBK = City Planning Office, MF= Environment Department, FK = Real Estate Office, SF = Department of Internal Services, Rsyd = Räddningstjänsten Syd (Fire and Rescue Service of Burlöv, Eslöv, Kävlinge, Lund and Malmö), SoF = City District Administrations, GSF = School Administration



PREFACE

More Malmo for more people
More people choose to live in cities and more people choose to stay in Malmö. Malmö's population has increased over the past thirty years and the city continues to grow.

The fact that more people choose to settle in Malmo is positive and increases the demands on new solutions and approaches to create a sustainable city. Good solutions to traffic and movements in the city are important due to the increased population.

Malmö´s first traffic and mobility plan takes a holistic approach to the link between urban development and sustainable transport based on economic, social and environmental sustainability.

Malmö needs to become a more accessible city for more people. People should be able to take part of the city and its schools, leisure facilities, public spaces, workplaces, parks, range of services and entertainment - regardless of age, gender and income. To link the city together, accessibility is an important key.

Malmö´s traffic and mobility plan is based on the idea of what kind of city we want to create.

The plan is an important key in the process of creating a sustainable and well-connected Malmö.

Milan Obradovic
Local Government Commissioner responsible for
technology and environment
Chair of the Technical Committee, the City of Malmö

ABSTRACT / SUMMARY

"Walking, cycling and public transport are the first choice for all who work, live or visit in Malmö. These travel choices, together with efficient and environmentally friendly freight and car traffic, are the basis of the transport system in our dense and sustainable city - a transport system designed for the city, and for its people."

The City of Malmö's Traffic and mobility plan describes how a holistic planning approach can achieve improved quality of life for more of Malmö´s residents, visitors and other stakeholders. Malmö is growing and the city´s challenge is that traditional methods require supplementation with new strategies. Malmö´s Traffic and mobility plan takes a grasp on planning and clarifies how the work should progress towards a more functionally mixed, dense, green and short distance city. The fundamental point of the plan is to achieve the kind of dense and green city we think that Malmö can become.

During a long time the City of Malmö has successfully been working separately with each mode of transport. Malmö´s Traffic and mobility plan has taken a more holistic approach and addressed new challenges by creating a vision and goals for all modes of transport and has incorporated social, environmental and economic sustainability.

The accessibility in the city will increase by creating conditions for a more balanced modal split. It is about creating a city and a transport system that more people, regardless of age, gender and socio-economic background, have access to. This provides more Malmö to more people who then create a lively urban space and a better foundation for commerce and services. Such a development will also lead to linking Malmö together and creating better living conditions for residents in the city.

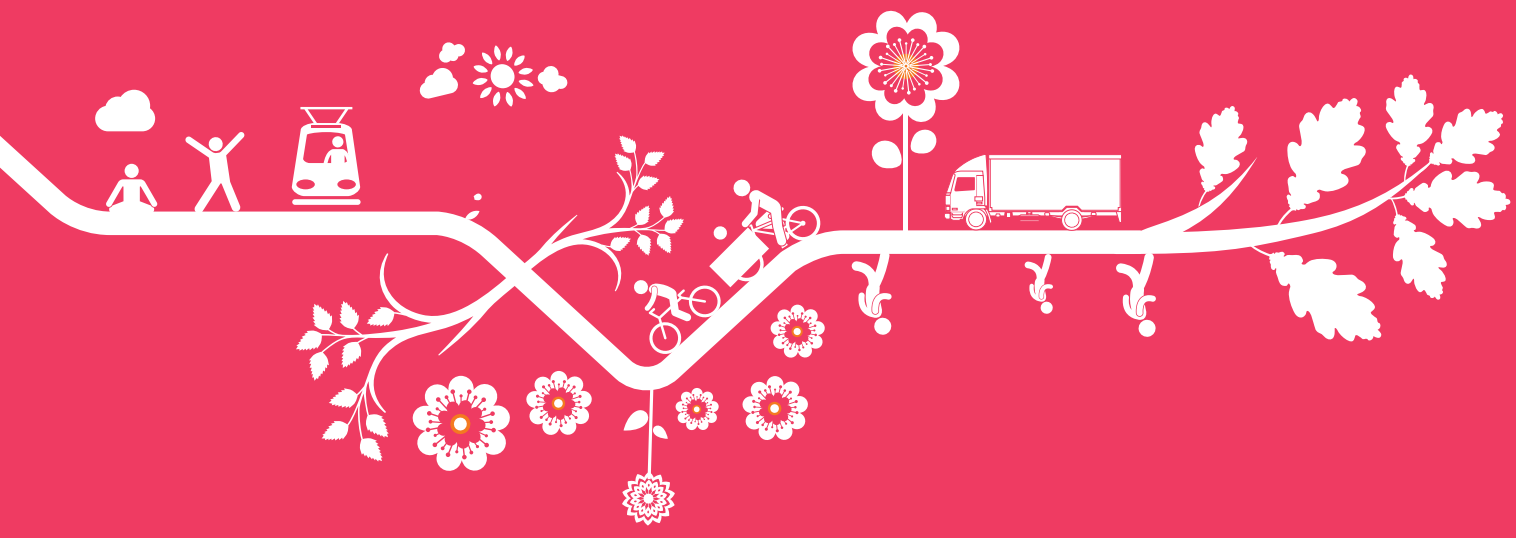
These four main areas will summarize the content of the plan:

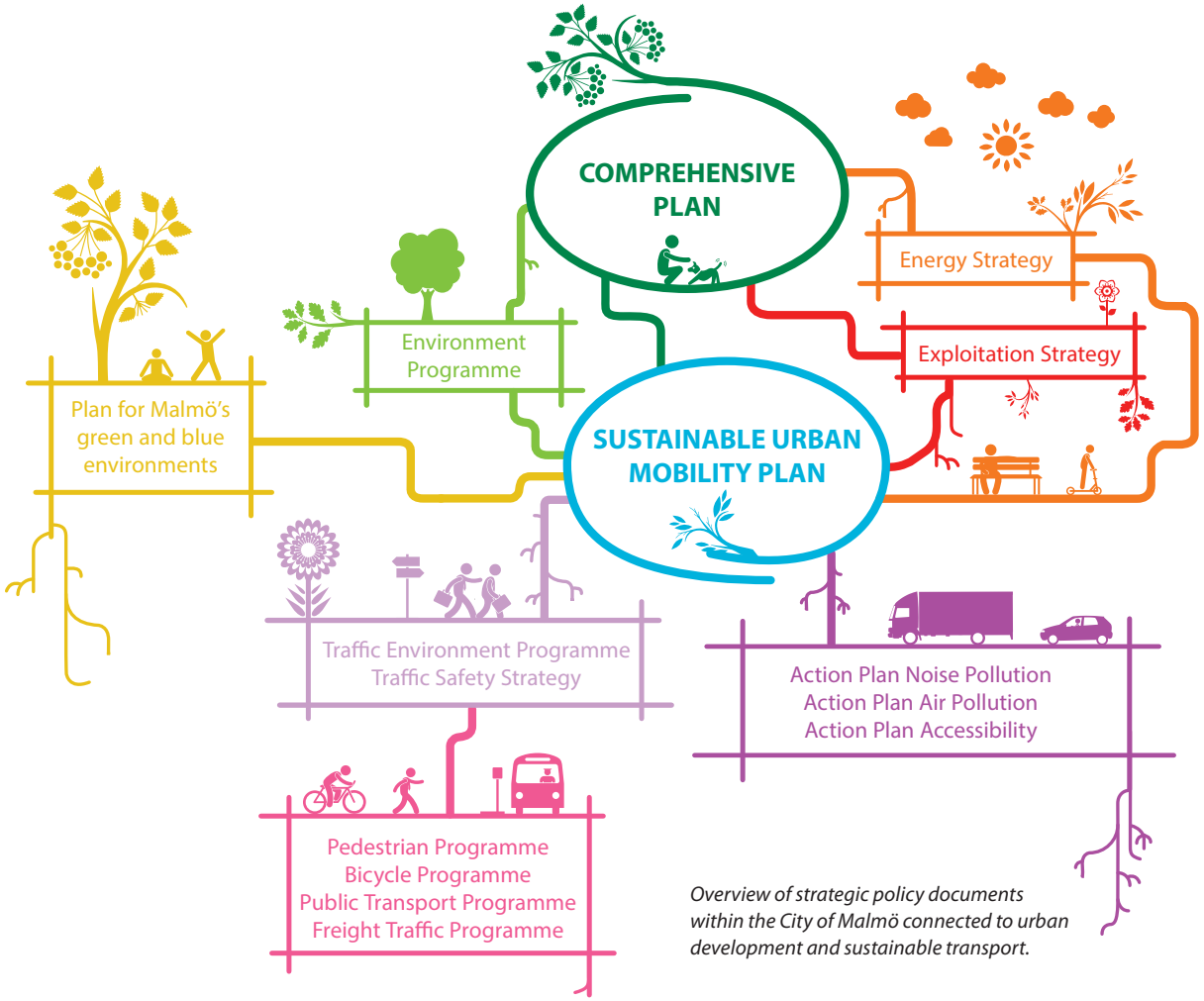
- Holistic approach - with links to all aspects of sustainability, socially, environmentally and economically, and how planning of the city's movements and traffic can contribute to a more accessible and attractive Malmö.
- Targeted planning - a change of approach on future traffic that is based on what we want to create in the city.
- Commuting - emphasize Malmö's role in the region and how a more robust and sustainable commu ting can be developed in coope ration with regional actors and the neighboring municipalities.
- Urbanized Main Roads – discusses how city streets will gather interests, movement and stay and contribute to a good city life.

The ultimate goal is a more accessible and attractive Malmö for more people.

1 INTRODUCTION

- PURPOSE OF THE SUSTAINABLE URBAN MOBILITY PLAN
- BACKGROUND AND CHALLENGES





Overview of strategic policy documents within the City of Malmö connected to urban development and sustainable transport.

PURPOSE OF THE SUSTAINABLE URBAN MOBILITY PLAN

The purpose of the Sustainable Urban Mobility Plan (SUMP) is to establish strategies for sustainable urban development that gather, develop, clarify and concretize the traffic related aims of the Comprehensive Plan and other strategic documents.

The Sustainable Urban Mobility Plan takes a holistic approach to traffic and mobility, and clarifies how a more environmentally, economically and socially sustainable city can be created. In Malmö, the SUMP-project has been carried out under the name Traffic and Mobility Plan (TROMP).

The Sustainable Urban Mobility Plan should be guiding in future planning and budgeting at administrations responsible for urban development and sustainable transport. The plan is addressed to politicians, officials and professionals at a national, regional and municipal level as well as to Malmö's inhabitants, people working in the city and other stakeholders..

Decision-making bodies

The Management group (see page 3) has constituted a steering group in the development of the plan. This steering group made the decision to dispatch the proposal for the SUMP on internal as well as external consultation. The Political Technical Board will agree to the plan, after which the City Council will decide on its adoption.

Validity period for the Sustainable Urban Mobility Plan

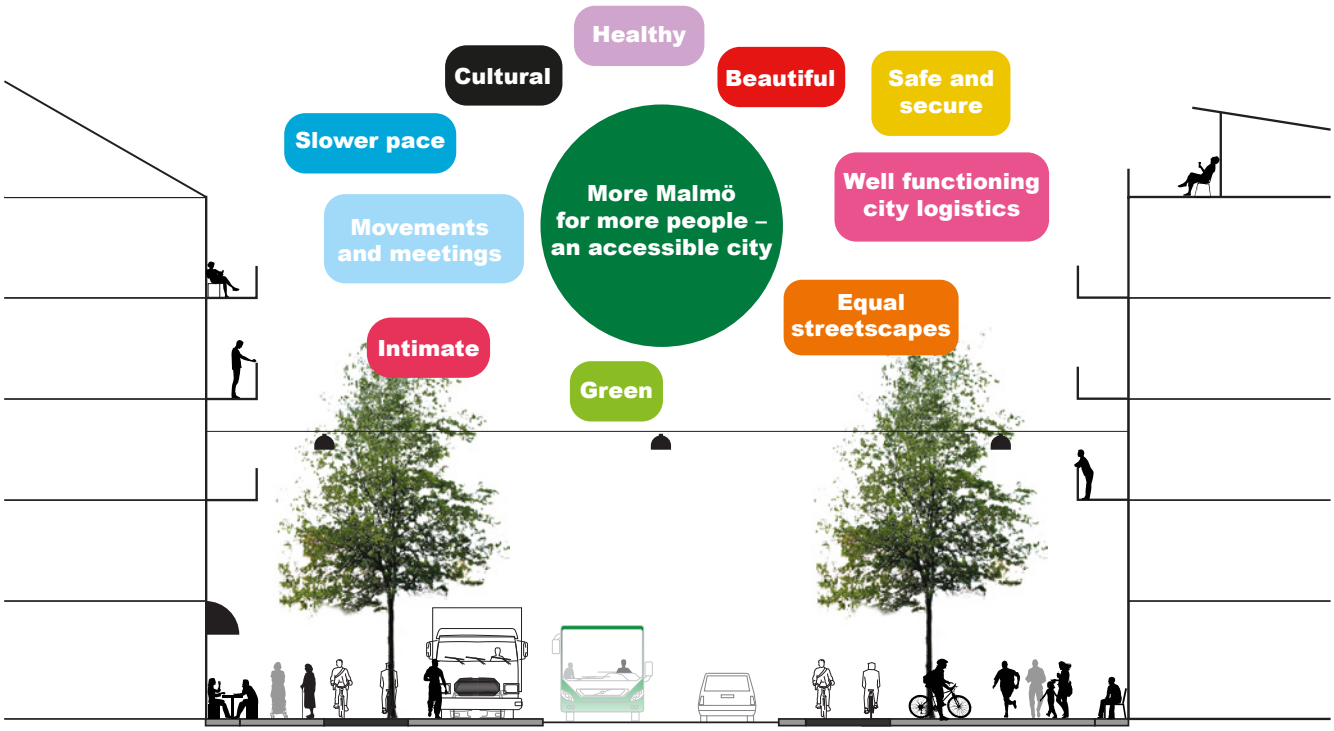
The Sustainable Urban Mobility Plan should be updated when the Comprehensive Plan is updated, or when required due to major changes. The Sustainable Urban Mobility Plan should be updated every four years.

The SUMP's connection to other policy documents

The figure above illustrates the guiding programmes and strategies for how the City Administration works with sustainable transport. The figure also shows how the Sustainable Urban Mobility Plan connects the overarching visions of the Comprehensive Plan to sector programmes for each transport mode and to thematic action programmes. In each sector programme and thematic action programme, planned actions are described on object level with specification of costs and time table for realization.

VISION

Walking, cycling and public transport are the first choice for all who work, live or visit in Malmö. These travel choices, together with efficient and environmentally friendly freight and car traffic, are the basis of the transport system in our dense and sustainable city - a transport system designed for the city, and for its people.

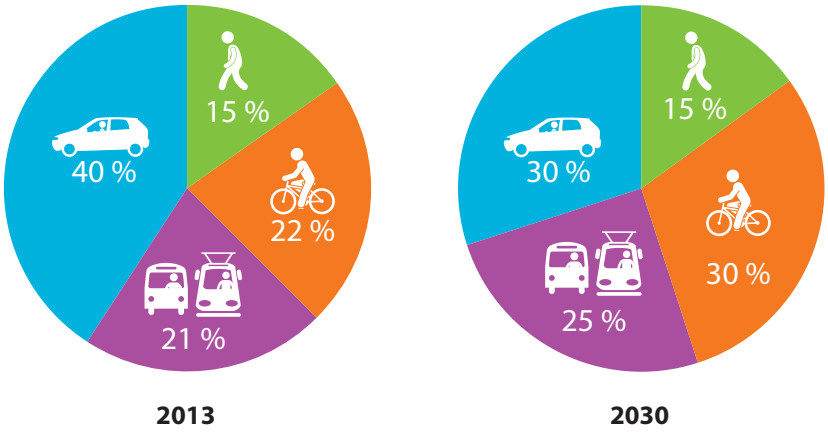


Malmö's traffic system and urban environments should contribute to creating an accessible city for a greater number of people. Better accessibility and increased sustainable mobility give more people access to qualitative urban environments where people meet, and where urban life, innovation and culture prosper. This contributes to Malmö's development as a city, meeting point and labour market, which provides a basis for the SUMP vision.

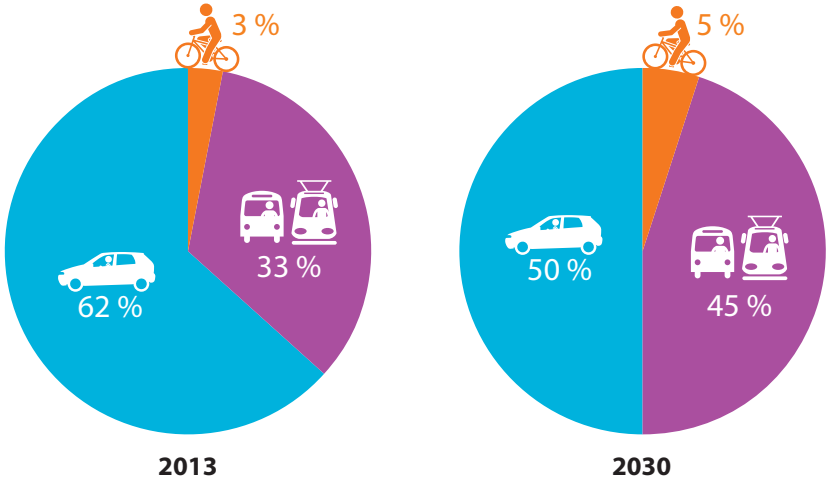
Malmö's overall goal is reached...
Malmö's overall goal is to become a socially, environmentally and economically sustainable city to visit, live and work in. The three sustainability aspects are interlaced and interdependent. Social sustainability creates favourable conditions and opportunities for present and future inhabitants to create a good life for themselves. Environmental sustainability creates a framework for a resource efficient society and ecological endurance. Economical sustainability allows the city and its economy to develop over the long term and to generate income and provision for Malmö's inhabitants.

... through Malmö's traffic goals
In order to reach Malmö's overarching goal, actions leading to changed modal shares for inhabitants' trips and commuting, as well as for freight traffic, must be taken. For passenger transport, the modal split is the single most important indicator of a socially, environmentally and economically sustainable traffic system.

Objective for inhabitants' trips*
The major change required in order to create a more balanced modal split in a growing city is increased shares of cycling and public transport at the expense of car traffic. This creates opportunities for a development towards a more socially, environmentally and economically sustainable city.



Objective for commuting to Malmö*
Malmö is dependent on functioning mobility, both within the city and the region. Freedom of movement throughout the region functionally connects cities and enables a regional labour market. Increased commuting is not a target in itself; the target is to make commuting more economically, socially and environmentally sustainable. Above all, strong measures targeting public transport and cycling are necessary in order to ensure robust, reliable and more sustainable commuting.



Objective for freight traffic in Malmö*
Freight traffic in Malmö should develop so that it works in concordance with the city's conditions and generates growth in Malmö and the Öresund region. Freight traffic should contribute to turning Malmö into a more attractive, secure and traffic safe city. This should be realized with minimal effect on environment and health, throughout both the city and the region, and with reduced effect on climate on a global scale.

** The objectives for 2030 have been defined departing from a balanced mix of the Pedestrian Programme, the Bicycle Programme, a listing of the targets in the Network of Public transport (Koll2020), the Traffic Environment Programme and the Freight Traffic Programme. The modal split describes the main mode of transport used with regards to the number of trips made.*

Photo: Åsa Svensson

BACKGROUND AND CHALLENGES

A holistic approach – Traffic contributes to something bigger
A city consists of many different components, physical as well as mental, and one of the most important components is the people and the way they move within, to and from the city. These movements and transports, constituting the city's traffic, is a direct requirement for cities to originate and develop.

The word *traffic* is defined as "*movement of people, goods and information*" – no matter what mode of transport that is used or how the infrastructure is organized. Transport of both people and ideas is a strong motive force for Malmö's further development, and promotes a city more compatible for networks. In Malmö as a networking city, it is easy to reach a diversity of destinations, cultural expressions, ideas and people.

Traffic for human beings and environment
The possibility to move within Malmö opens up for encounters. This means that children and youths can get to school, that professionals can get to their workplaces and that companies can transport their goods. It also contributes to populating the city's playgrounds, squares, streets and parks. The way Malmö's traffic system and urban environments are designed influences the accessibility to the city's selections. Making the city more accessible for a greater number of people contributes to a more democratic and socially balanced city with favourable conditions for everyone.

The traffic in Malmö has an impact on local environment, climate and the inhabitants' everyday lives. Air quality, noise levels – both indoors and outdoors – as well as accident risk for children and elderly and everyone in between, are factors dependent on how the traffic system and urban environments are planned and designed. Traffic also produces visible and invisible barriers, giving persons of different gender, physical and mental capability, income and age different chances to access their city. On a global scale, the traffic in Malmö contributes to emissions of green house gases and exploitation of non-renewable energy resources.

Within the SUMP project, questions regarding more accessible urban spaces and an accessible city for a greater number of people are raised. How can the city be designed in order to reduce environmental impact of traffic? How can traffic contribute to improved public health? How can traffic, and work with traffic, support the city as a cultural and democratic arena?

A growing city – a dense, integrated and green city with shorter distances – an attractive Malmö
Malmö is growing and becoming denser – this means that more people live, work and spend time in the city, which in turn implies more movement and transport of humans, freight and waste. Malmö's aim to mainly grow inwards, inside of the outer ring road, and to become a denser city, creates both possibilities and challenges for the city and its traffic system. A dense, green and integrated city with shorter distances between destinations makes it possible to create a city and a traffic system that are more environmentally, economically and socially sustainable.

A GROWING CITY – INCREASED DEMAND FOR TRANSPORT

Malmö's Comprehensive Plan allows for the city to grow. Through creating a dense city with shorter distances, Malmö is estimated to manage a strong population growth and an increase in the number of jobs until 2032. A more attractive Malmö, with more inhabitants, companies, employment opportunities, visitors and tourists, implies an increase in transport – more people will move and spend time on the city's pavements, parks, cycle lanes, streets and squares. The flow of goods and waste will also change.

A DENSER CITY – HIGHER CONCENTRATION OF PEOPLE AND FUNCTIONS

Urban development can imply engaging unused or badly used spaces in ways that create surplus value. New buildings can make the city denser and the concentration of people and interests will increase. How can urban space be used in a more efficient way? Can urban space be used in a more integrated way?

AN INTEGRATED CITY

When urban planning is focused on condensing the city, it is easier to supplement with what is missing and demanded in different parts of the city. This means that the selection of various service functions such as retail, child care etc. can be improved. Seen in a long term perspective, a growing service selection makes it possible for urban life to develop, due to a growing number of people moving in the public sphere. A denser and more integrated city improves accessibility and reduces demand for person miles travelled (PMT). How can traffic planning and localisation of functions, activities and destinations create a more integrated city? How can the City Administration plan for more efficient freight traffic and a denser and more integrated city?

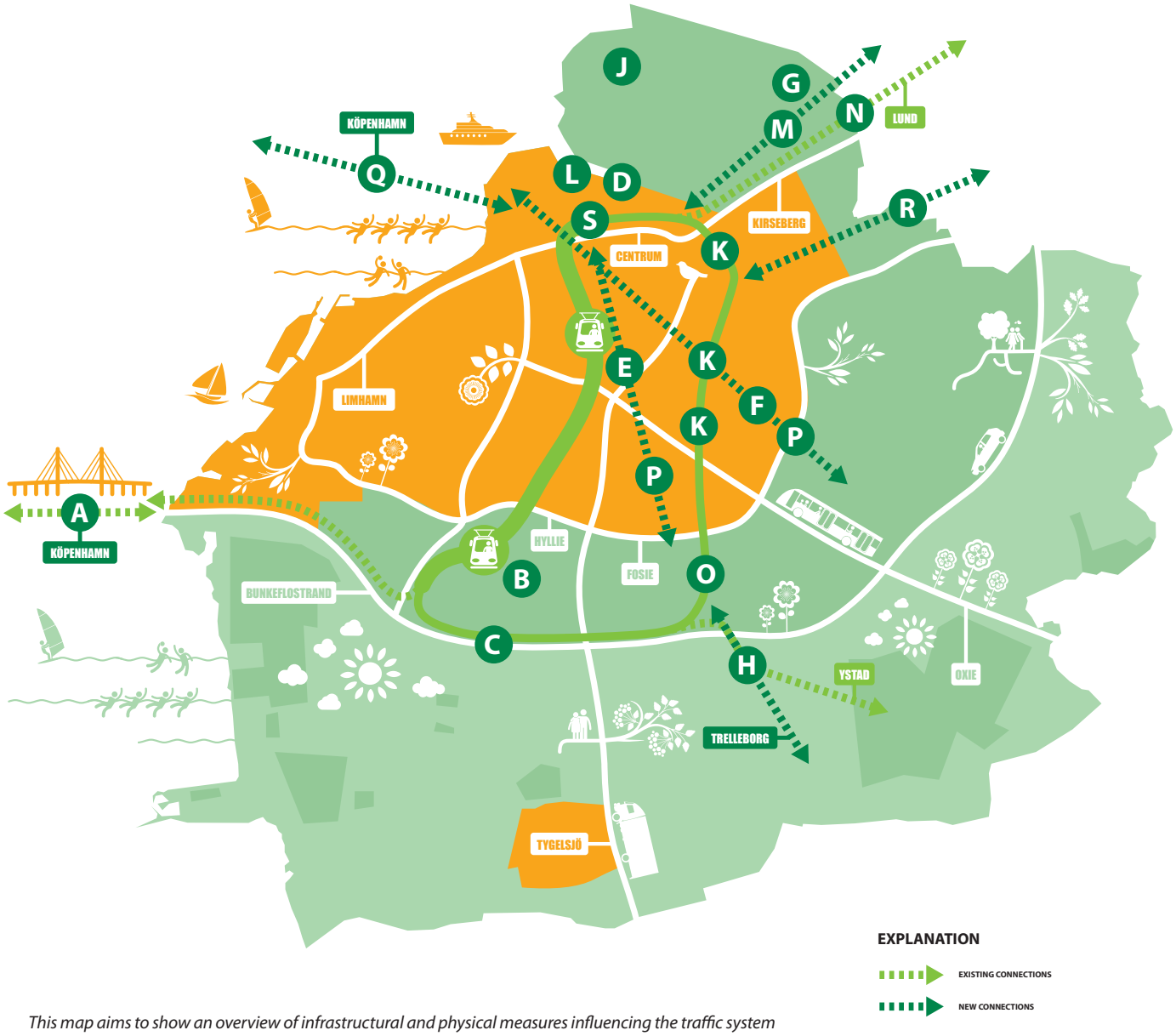
A CITY WITH SHORT DISTANCES – AN ACCESSIBLE CITY

A denser city is a city where distances between different urban zones and destinations decrease, both physically and perceived. A city with shorter distances between destinations leads to a city with better accessibility for a greater number of inhabitants and visitors.

In order to create a city that is perceived as having short distances, barriers between different urban zones need to be bridged. This interconnects the city, both socially and physically, and creates new mobility patterns that open up for encounters between people from different parts of the city. How can Malmö become more interlinked and more accessible for a greater number of people?

A GREENER CITY

Green environments are important for recreation and as meeting places and have great impact on well-being and health. They also have favourable impact on the ecosystem in terms of pollination, air quality and handling of run-off water. Trees and plantations give shade, increase air humidity and are important for the biological diversity in a city. How can the traffic system and urban environment become greener? How can parks be interlinked with green urbanized main roads in order to create a green network for plants, birds and insects?



This map aims to show an overview of infrastructural and physical measures influencing the traffic system and sustainable travelling throughout Malmö and the region (2000-2015). With a degree of incertitude regarding realization, the map also shows planned projects, considered to be in process until 2030

A
2000
The Öresund Bridge is trafficked by passenger trains, freight trains and motor vehicle traffic. The Öresund Line is connected to the Continental Line, and Yttre Ringvägen is first trafficked.

2009
The demo bicycle lane between Heleneholmsstigen and Slottsgatan is opened. Different innovations are tested and evaluated.

B
2010
Bike & Ride is opened in Hyllie.

2010
The City Tunnel is opened, connecting Malmö C to two new stations – Hyllie and Triangeln.

C
2012
Trafikplats Naffentorp började trafikeras.

2013
40 km/h is expanded in Malmö within Inre Ringvägen and in Tygelsjö. In 2007, a test is conducted in central Malmö and in 2010, it is made permanent.

D
2013
Östra Centralplan is reconstructed with a new public transport bridge over the canal as well as improved infrastructure for bicycles.

2014
Bike & Ride is opened at Malmö C.

E
2014
The city bus traffic starts to traffic Rådmansgatan at the station Triangeln.

F
2014
Malmöexpressen starts to traffick the stretch Stenkällan to Västra Hamnen via Rosengård and Malmö C.

G
2015
The new traffic interchange Spillepengen is trafficked.

H
2015
The Trelleborg Line is trafficked with local trains. 30 minutes between Trelleborg and Malmö C.

J
2015–2025
Expansion of a logistical centre for freight traffic in Norra Hamnen. New bridges and improved accessibility for all transport modes.

2016

2016 –
Bike sharing system introduced in Malmö.

K
2017 –
Trafficking of the Malmö Ring with passenger traffic. Opening of the stations Persborg, Rosengård and Östervärn.

L
2020 –
A new bascule bridge as well as new bridges over Södra Varvsbassängen for walking, cycling and public transport.

M
2020 –
The Lomma Line – Improved capacity in order to enable passenger trains with new stations in Furulund and Lomma.

N
2020 –
Expansion of railway in Flackarp – Arlöv from two to four rails in order to improve capacity between Malmö and Lund. In Arlöv, the station should expand into a commuting station with both local and regional trains.

O
2020 –
Opening of the Fosie station.

P
2021 –
First stage of introduction of trams in Malmö.

Q
2030 –
The Öresund metro as a new connection for passenger traffic between Malmö and Copenhagen.

R
2030 –
The Simrishamn Line – 60 minutes by train between Malmö and Simrishamn, new stations in Staffanstorp, Dalby, Veberöd, Sjöbo, Tomelilla, Simrishamn.

S
2035 –
Station for high speed trains.

A regional node for green growth, occupation and as a destination
Malmö is an attractive destination in the region, serving as a meeting point for residents, entrepreneurs, professionals, cultural practitioners, tourists and visitors from all over the world. Every day, 62 000 people commute to Malmö, and 31 000 people commute from Malmö. Every year, around 6 million tourists and visitors come to the city. The more attractive Malmö becomes for its residents and companies and as a city for events and commerce, the more passenger and freight traffic will increase.

How can commuting, within as well as to and from the city, reduce its influence on human beings and environment? How can commuting become more reliable? How can the collaboration with business and organisations make both commuting and freight traffic more sustainable?

The transformation of main roads into urbanized main roads
Attractive streetscapes and urban environments are important aspects of urban life and quality of life in a city. Existing main roads in Malmö constitute important cityscapes and are at the same time important links for interconnecting the city. The main part of all person miles travelled (PMT) is carried out on our main roads, and they gather several of the city's interests: movement, experience and commercial trade. In a denser city, the interest to and amount of functions will increase along our main roads, which leads to higher claims for what should be prioritised, and thus also on what should not be prioritised.

Environmental impact of traffic has to decrease on a local and global scale. In a denser city where more people are able to move, and where more interests claming space, the design of urbanized main roads is an important success factor. In the transformation of existing main roads into urbanized main roads, there are great possibilities to change travel behaviour towards a more sustainable society. What functions should Malmö's urbanized main roads contain? What transport modes should be prioritised where, and how? How does the future urbanized main road look, with more interconnected urban life and movements, where people can spend time in green environments?

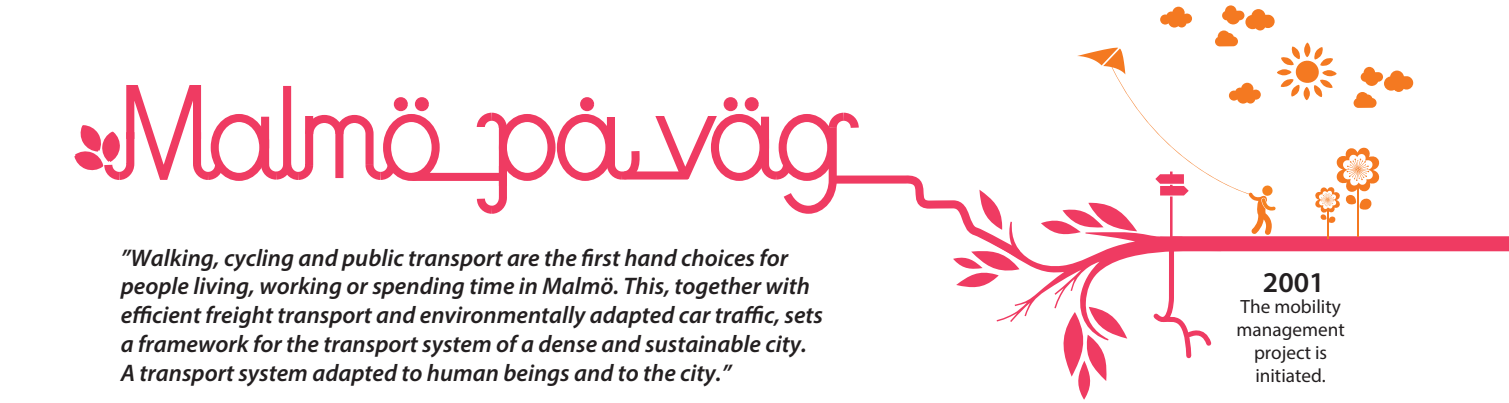
Holistic and integrated methods
In order to enable a development of Malmö's urban environments and traffic system, work procedures and methods must constantly evolve. In order to reach new and more challenging goals, e.g. regarding changed modal shares, clarity about what traffic contributes to and how, is needed.

In terms of priorities, the City of Malmö should work with actions that are favourable to everyone, but most favourable to the ones who need it the most. Measures for promoting pedestrian traffic is a clear example of prioritising for more people – regardless of age, gender and income.

How can an interdepartmental approach that combines competences, contribute to creating holistic solutions? How can target oriented planning contribute to the development of Malmö's traffic system? How can traffic contribute to reaching the city's overarching goals?

Malmö på väg

"Walking, cycling and public transport are the first hand choices for people living, working or spending time in Malmö. This, together with efficient freight transport and environmentally adapted car traffic, sets a framework for the transport system of a dense and sustainable city. A transport system adapted to human beings and to the city."



2001
The mobility management project is initiated.

2008
Travel Survey 2008 – The inhabitants' trips: Walking 20%, Bicycle 23%, Public transport 14%; Car 41%.

Adoption of the Traffic Safety Programme (2008-2012) in the Political Technical Board. The goals are based on the national Vision Zero.

Adoption of the report Traffic of the Future by the City Executive Board.

2009
Adoption of the Energy Strategy by the City Council.

Adoption of the Environment Programme (2009-2013) by the City Council.

The City Executive Board decides on a Strategy for implementation of a railway in the city.

2010
Adoption of the Parking Policy and the Parking Norm by the City Council.

The City Council decided to enter the cooperation project *Spårvagnar i Skåne* (Trams in Skåne) with the City Administrations in Helsingborg and Lund, as well as Region Skåne.

2014
Adoption of the Comprehensive Plan ÖP2012 by the City Council.

Adoption of the Freight Traffic Programme by the Political Technical Board.

Adoption of the Walking Lane Plan by the Political Technical Board.

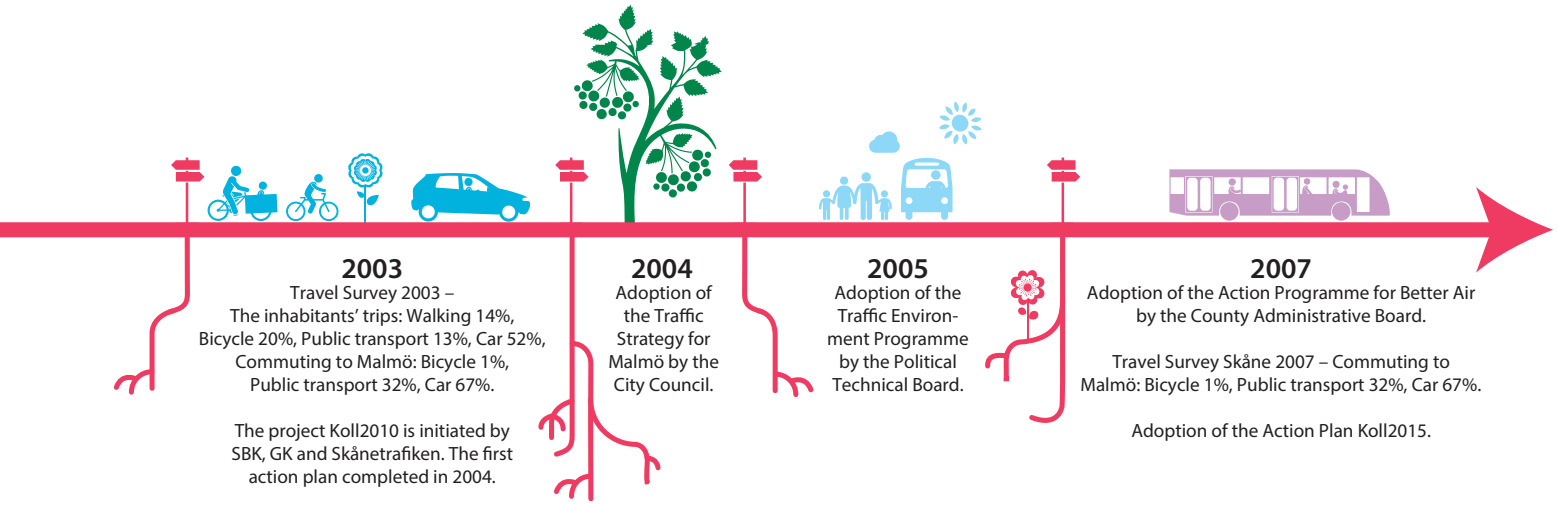
2015
Adoption of the Traffic Safety Strategy in the Political Technical Board.

2016
Adoption of The Sustainable Urban Mobility Plan by the Political Technical Board and the City Council.

2018
The Pedestrian Programme (2012-2018) fulfilled.

2019
The Bicycle Programme (2012-2019) fulfilled.

This timeline (2001-2032) aims to give a historical retrospect of strategic measures, decisions, activities, documents, programmes and targets that influence sustainable transport in Malmö. It also points out visions and target years for important policy documents regarding sustainable transport and urban development.



2003
Travel Survey 2003 – The inhabitants' trips: Walking 14%, Bicycle 20%, Public transport 13%, Car 52%, Commuting to Malmö: Bicycle 1%, Public transport 32%, Car 67%.

The project Koll2010 is initiated by SBK, GK and Skånetrafiken. The first action plan completed in 2004.

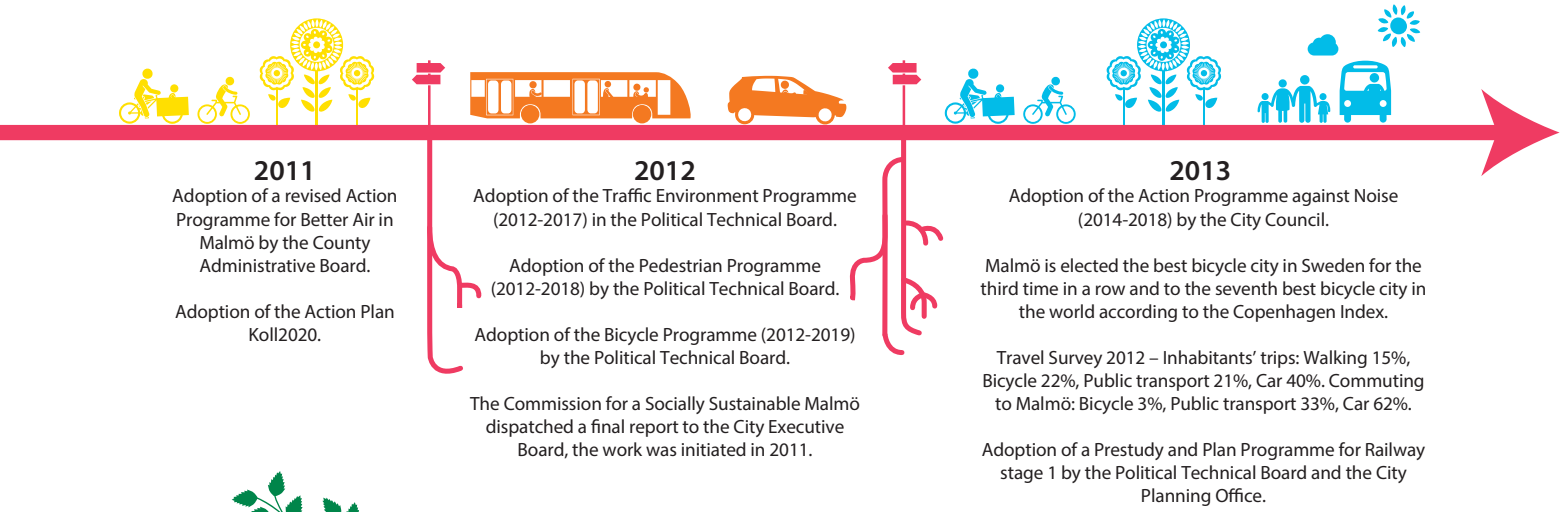
2004
Adoption of the Traffic Strategy for Malmö by the City Council.

2005
Adoption of the Traffic Environment Programme by the Political Technical Board.

2007
Adoption of the Action Programme for Better Air by the County Administrative Board.

Travel Survey Skåne 2007 – Commuting to Malmö: Bicycle 1%, Public transport 32%, Car 67%.

Adoption of the Action Plan Koll2015.



2011
Adoption of a revised Action Programme for Better Air in Malmö by the County Administrative Board.

Adoption of the Action Plan Koll2020.

2012
Adoption of the Traffic Environment Programme (2012-2017) in the Political Technical Board.

Adoption of the Pedestrian Programme (2012-2018) by the Political Technical Board.

Adoption of the Bicycle Programme (2012-2019) by the Political Technical Board.

The Commission for a Socially Sustainable Malmö dispatched a final report to the City Executive Board, the work was initiated in 2011.

2013
Adoption of the Action Programme against Noise (2014-2018) by the City Council.

Malmö is elected the best bicycle city in Sweden for the third time in a row and to the seventh best bicycle city in the world according to the Copenhagen Index.

Travel Survey 2012 – Inhabitants' trips: Walking 15%, Bicycle 22%, Public transport 21%, Car 40%. Commuting to Malmö: Bicycle 3%, Public transport 33%, Car 62%.

Adoption of a Prestudy and Plan Programme for Railway stage 1 by the Political Technical Board and the City Planning Office.

2020
The Energy Strategy – 20% reduction of energy use. 50% of all used energy should be renewable. The energy use of the City of Malmö's departments should decrease with 30%, and the share of renewable energy should be 100%.

The Environment Programme – The City Administration's organisation should be neutral in terms of climate. The emissions of green house gases in Malmö should decrease with at least 40%, compared to the levels in 1990. People spending time in Malmö should experience a nice urban environment with low noise levels and clean air. It should be simple to make sustainable travel choices for business, organisations, inhabitants and employees at the City Administration.

The SUMP goals concerning transport modes (intermediate goals) – The inhabitants' trips: Walking 15%, Bicycle 26%, Public transport 23%, Car 36%. Commuting to Malmö: Bicycle 4%, Public transport 39%, Car 57%.

2030
The Energy Strategy – Malmö should be supplied renewable energy to 100%.

The goals in the SUMP and the Traffic Environment Programme concerning transport modes (intermediate goals) – The inhabitants' trips: Walking 15%, Bicycle 30%, Public transport 25%, Car 30%. Commuting to Malmö: Bicycle 5%, Public transport 45%, Car 50%.

The Environment Programme - Malmö should be supplied by renewable energy to 100%.

2032
Comprehensive Plan 2012 – A city that dares. An enterprising city on solid ground. A city with good life conditions for everyone. A city by the water. A dense and green city.

2 HUMAN BEINGS

Movement is an important part of human everyday life and enables Malmö's citizens, professionals and visitors to reach important destinations such as school, leisure activities, workplaces, meeting points and events. The traffic system's design influences the accessibility to the city's supply.

This chapter focuses on human beings as a fundamental part of the traffic system. The chapter describes how traffic influences human beings and environment, and how traffic in turn can be influenced by people living and spending time in a city.

- ACCESS TO ONE'S CITY – A MORE EQUAL CITY
- INVOLVING PEOPLE AND PLANNING TRAFFIC FOR IMPROVED PUBLIC HEALTH
- SLOWER PACE AND HIGHER TRAFFIC SAFETY
- MOBILITY MANAGEMENT

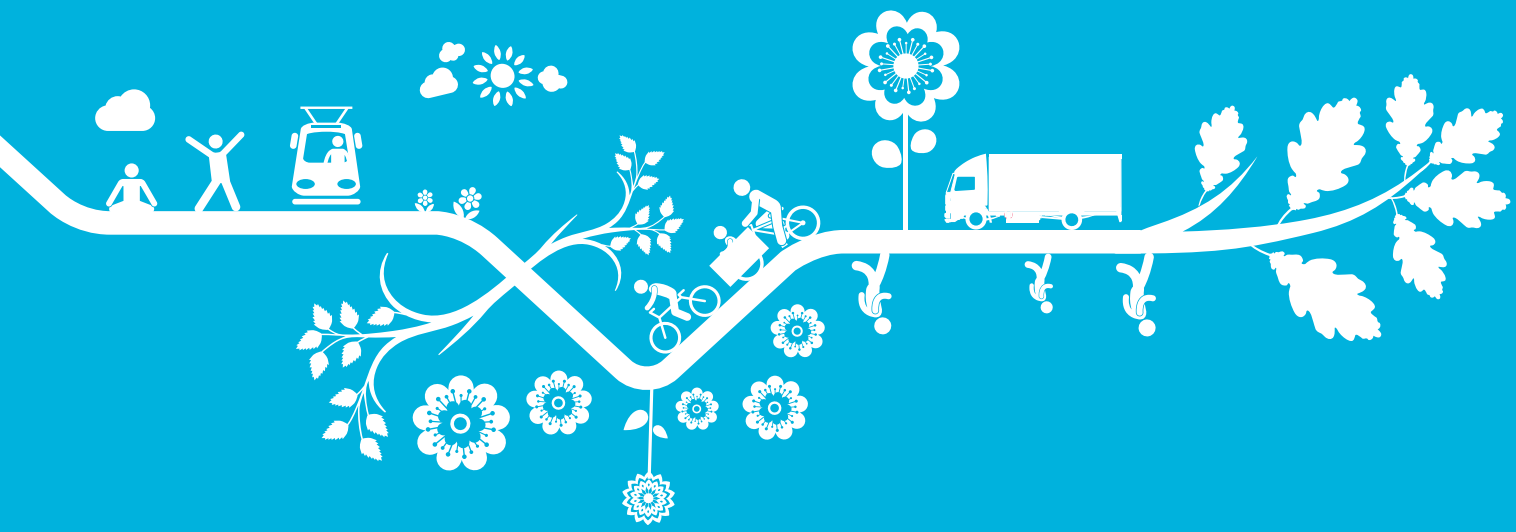


Photo: Åsa Svensson

ACCESS TO ONE'S CITY – A MORE EQUAL CITY

The public space, with its streets, parks and squares, is made for everyone. The planning of Malmö's future urban environment and traffic system should strive towards making the city an attractive environment to live in. The traffic system enables people to move and access the supply existing in different parts of the city, e.g. school, work, culture, events and leisure activities. Access to high standard public transport, and accessible cycle and walking lanes, sets a framework for sustainable and healthy travelling.

Traffic influences the inhabitants' situation in terms of accessibility, safety and security. Traffic and infrastructure also directly influence public health through, e.g., noise pollution, air quality, barrier effects and accident risks. Especially children, elderly and disabled persons are highly influenced by the negative effects of traffic, both in terms of moving safely in the city and having access to calm and relaxing environments without noise pollution or impaired air quality.

Socioeconomics, income and travelling

Socioeconomic conditions, mainly income, is one of many factors that influence how much and in what way people travel. The higher the income per household, the more trips per day are carried out, and the more of these trips are carried out by car. Good accessibility for Malmö's inhabitants is desirable, and in order to create this, measures targeting walking, cycling and public transport is an important strategy. These transport modes have lower thresholds regarding costs for the individual, and they enable for all inhabitants, regardless of income, to access the city's supply more easily, as well as to contribute to urban life, the labour market and economically sustainable growth.

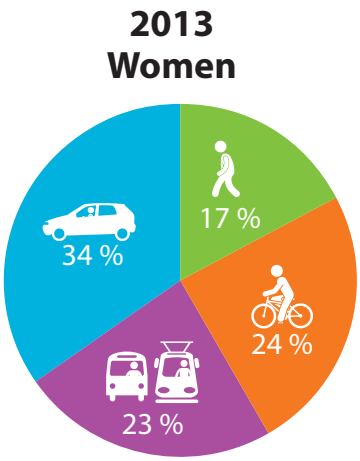
*Definition of **traffic***
Transport of people, goods and information regardless of means and infrastructure.

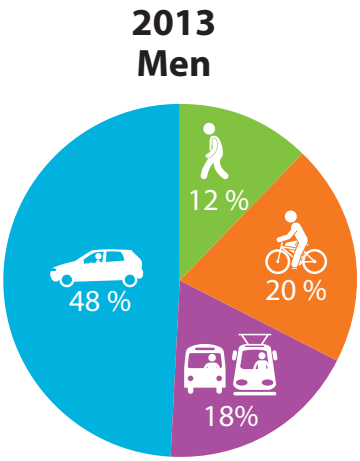
*Definition of **mobility***
The possibility for people and goods to move from one place to another. In the Sustainable Urban Mobility Plan, the mobility notion bear reference to that a growing population should be given possibilities to travel sustainably in everyday life and that goods should can be transported efficiently on the city's terms

ONGOING
Identifying and bridging physical and mental barriers in the inter-departmental work within the project Levande Malmö (Living Malmö) (SBK, GK).

NEXT STEP
Further develop Malmö departing from the action plan developed by the Commission for a socially sustainable Malmö, and more clearly connect this project to traffic and freedom of movement in the city (GK, SBK, SK).

Develop a Safety Strategy for public places (GK, SBK, SK, SoF





Modal split for the inhabitants' trips, divided between men and women in 2013.

Gender equality leads to accessibility for a greater number of people

Women and men should have the same power to shape society and their own lives. In order to increase knowledge about travel conditions in society, and to create a more equal transport system, it is important to incorporate a perspective grounded in equality in the work with transport. In 2020, Malmö should be a city with equal activities reaching to all women and men, girls and boys, regardless of background and belonging. Design, function and use of the traffic system and urban environments should give everyone fundamental access to their city.

Prioritising certain transport modes is an important factor for increased equality. A city and a traffic system with an imbalanced modal split, where car traffic is the dominating mode of transport, limits citizens' empowerment and their possibility to move in everyday life. In the current situation, where men own cars and drive cars to a greater extent than women, men's accessibility to the city and the region is generally higher than women's. The proximity to high standard public transport and possibilities to move on foot and by bicycle can compensate for this. Planning that strives towards a denser and more integrated city with greater accessibility makes travelling on foot, by bicycle and with public transport more rational and the city more equal.

Increased possibilities for children and youths to move

Malmö's population is younger than the average for Swedish cities, and according to demographic projections, the 6-15 age group will grow the most until 2020. The perspective of children and youths should be illuminated and taken into consideration in all decisions within urban planning. Children's and youths' participation and influence in questions regarding the city, and themselves, should be seen as a resource in the planning procedure, and special forms of participation for children and youths must be developed.

Traffic planning should always take the needs of children and other unprotected road-users into consideration, and a traffic system that sees to children's need for movement and security should be a key priority. Malmö should work towards a well developed network of cycle and walking lanes that provides for children's need to move throughout the whole city.

There is a gradual and general change among children and youths and their demand for leisure activities; it moves from organized activity in clubs to spontaneous activity without demand for regular practice or competition. This development should be taken into consideration when planning for increased accessibility, in order to offer Malmö's inhabitants the possibility to be active regardless of time or organisation.

ONGOING

Increasing and spreading knowledge of the connection between gender equality and traffic. (GK)

NEXT STEP

Define an equal traffic system for Malmö. Clarify measurable targets and indicators (GK, SBK, SK).

ONGOING

Developing the work in the Street and Parks Department's School Traffic Group with the aim to increase knowledge of children's needs in traffic, and to increase parents' awareness of how the traffic situation around schools can be improved when more people use alternatives to cars. (GK).

Developing the work on and connection to sustainable transport within the Plan for public services' land need (PLASMA). (SBK, GK).

NEXT STEP

Develop and try out a concept of car free schools both regarding parents taking their children to school and freight traffic (GK, SBK, FK, MF, FSF, GSF

Photo: Åsa Svensson

Safe routes to school should be in focus in order to make it possible for school children to safely get to school and leisure activities without adult company. This increases children's empowerment, freedom of movement and public health; it strengthens school results, promotes integration and enhances the environment around schools. Thereby, traffic planning can contribute to children's development as active and independent citizens.

Big problems with traffic safety, and safety in general, can occur when parents drive their children to school and leisure activities. The size and localisation of preschools, schools and other institutions aiming at children and youths are important factors for sustainable travelling.

A holistic approach must be the starting point for school related traffic topics with the goal to achieve high traffic safety and a good traffic environment, both real and experienced. The number of cars outside of schools should decrease, and awareness and knowledge of public health and traffic should increase among children, parents and staff. Furthermore, traffic safety and environmental impact connected to the delivery of goods to schools and preschools must be improved.

Improve accessibility for elderly and disabled people

The goal of increased accessibility for more inhabitants places greater demands on the way urban environments and streets are laid out. Everyone should be able to move safely throughout the city, regardless of age, gender or physical and mental abilities. The urban environment must be laid out in a way that makes it possible for elderly and disabled people to orientate themselves and keep an independent mobility for a better quality of life. Access to all modes of transport, including community transport and special public transport, is important when it comes to making it possible for disabled people and elderly to take part of the city and enrich urban life.

Definition of ***community transport***

Service function for persons with a non temporal disability who due to their infirmity face considerable difficulties when moving on their own or when using general public transport.

Definition of

special public transport

A publicly funded traffic that requires a certain permission to use. The notion contains, among other things, community transport, national community transport, some emergency trips as well as school and special school transport. Special public transport can be scheduled or called upon, and should be carried out with specially adapted vehicles (normally taxi vehicles).

ONGOING

Implement the Accessibility Programme 2008 for Malmö and the Action plan for easily removed obstacles (GK).

NEXT STEP

Develop a concept for coordinated dialogue and mobility management measures in order to create higher participation among inhabitants, departing from increased sustainable travelling in each SUMP area. The visions for each area should serve as a basis for this project (GK, SoF).

Regementsgatan, an example of an existing main road with more space for walking, cycling, trees and activities. (Photo: Åsa Svensson).

INVOLVING PEOPLE AND PLANNING TRAFFIC FOR IMPROVED PUBLIC HEALTH

Enabling people to influence how the city and traffic system are designed is a basic requirement in order to create participation among citizens. This also leads to improved physical and mental health. Transparency in how the City Administration works with traffic reduces the distance between the organisation and the citizens – explaining and simplifying the complex urban development process are measures that in themselves contribute to increased social sustainability.

The impression of having good accessibility, regardless of gender, age, socioeconomic conditions or physical and mental ability, is a democratic right increasing the citizens' empowerment and mobility. The possibility to easier being able to choose between different modes of transport strengthens the inhabitants' mobility and leads to changed modal shares.

What do Malmö's citizens wish for?

In conjunction with the travel survey conducted in autumn 2013, 2 500 persons from all over Malmö (40% response rate) were asked what kind of traffic environment they wished for in the inner city. The method is developed by VTI (Swedish Transport Research Institute), and similar surveys have been carried out in, e.g., Norrköping and Helsingborg. The consulted citizens were asked to consider the three different scenarios briefly described below.

The result showed that nearly half (47%) of the respondents consider the scenario of *"an inner city with more space for walking, cycling and public transport"* most desirable. This scenario implies that visitors who arrive in cars are directed to car parks, and that transit traffic is directed to streets outside of the city centre. Service vehicles, such as community transport, taxi, vehicles for disabled, transport of goods and city logistic, can use certain streets on pedestrians' and cyclists' terms.

The option of an inner city with *"a slower pace in traffic"* was chosen by more than a third (34%) of the respondents. In this scenario, cars are given less space on bigger streets in the inner city in favour of pedestrians and cyclists.
Nearly 18% of the respondents find that the inner city, to a greater extent than today, should be adapted to car traffic according to the option *"better level-of-service and more street space for cars"*. In this scenario, streets are designed mainly with cars in mind: good accessibility for cars and good parking possibilities to low costs.

In the report based on the questionnaire survey, the following conclusions were drawn:

"The results show that 80% of the inhabitants are in favour of an inner city traffic that is more restrictive towards car traffic and parking than today. Close to half of the inhabitants support far-reaching changes where pedestrians, cyclists and public transport are high priorities. The other group, constituting one third, is in favour of somewhat more careful actions where restricted space for cars is used to prioritise pedestrians and cyclists."

"An interesting result that follows the analysis, and that in a clear way is signalled by the total outcome of the main question, is that a majority of the inhabitants that drive and park in the city centre prefer a diversion of the inner city traffic towards more space for walking, cycling and public transport."

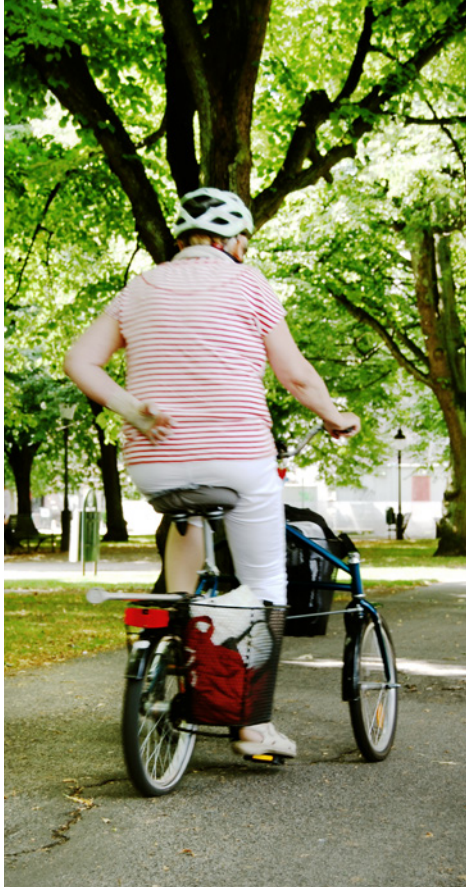


Photo: Åsa Svensson

ONGOING
Strengthening and developing the inter-departmental local working group for "Healthy cities" that works with public health in planning. www.healthycities.se (SBK, GK).

"A large majority of the inhabitants are supporters of less car traffic and parking in the city centre, under the condition that the decreased accessibility for cars leads to direct positive consequences for walking, cycling and public transport in the same area. Most inhabitants regard such a traffic diversion as contributing to a better and more attractive city centre."

These results show that a vast majority of the inhabitants wish for a development towards a slower pace in traffic and limitations for car traffic, which will benefit walking, cycling and public transport in the inner city. This supports the Sustainable Urban Mobility Plan's goal of a more balanced modal split. How Malmö's future urbanized roads can be designed will be presented in the forthcoming chapter about urbanized main roads.

Increased physical activity and public health

There is a strong connection between physical activity and reduced risk of overweight and obesity. Overweight and obesity in turn influence the risk of other diseases such as diabetes, high blood pressure, cardiovascular diseases, some forms of cancer and joint pain. These diseases bring suffering for the individual as well as high costs for society.

The way we choose to activate ourselves in our everyday lives also influences how happy we are. By choosing active transport modes, such as walking and cycling, we contribute to our own physical and mental well-being.

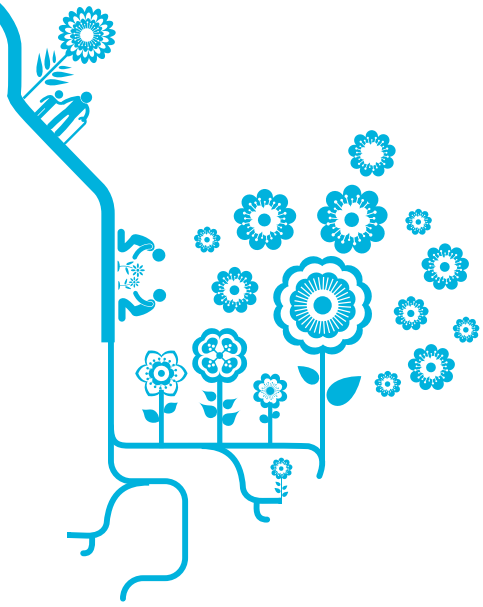
When targeting measures on traffic, it is important to bear in mind who the effort will reach. Besides the socioeconomic benefits, health effects for the individual must be valued. The greatest effect will be reached when people who otherwise do not move at all start to go for walks or use more active ways of travelling.

A higher share of trips on foot and by bicycle, so called active trips, would improve the physical and mental public health for people living in and commuting to Malmö. The more people living in Malmö, the greater impact the goals of changed modal shares
will have on public health.

An increase in the number and modal share of public transport trips has positive impacts on public health, if the majority of public transport trips are moved from car traffic instead of from walking or cycling. Studies carried out on behalf of the Swedish Transport Administration (Trafikverket) have shown that urban areas with well functioning public transport have lower levels of chronic illness. BMI (Body Mass Index), obesity and high blood pressure are also proved to be lower in cities with higher population density and well functioning public transport. The way travelling changes with developed public transport is crucial to public health. Consequently, it is important that increased travelling with public transport does not imply reduced walking and cycling, which would be negative from a public health perspective.

EXAMPLE

Public health benefits through increased travelling on foot and by bicycle
In order to throw light upon public health benefits deriving from changed modal shares, with the objective of more active transport modes (cycling and walking) as a starting point, an example departing from the World Health Organization's (WHO) Health Economic Assessment Tool (HEAT) is presented. This calculation model is based upon established research results and estimates the socioeconomic value of better public health through increased shares of trips on foot or by bicycle. For more information about the calculation model, see: http://www.euro.who.int/



Baseline

Current population:	310 000 inhabitants
Current modal shares:	15% walking, 22% cycling (only main mode of transport)
Number of trips per day:	2.6 trips/person
Average travel length on foot:	1.4 km
Average travel length by bicycle:	3.0 km
Reduced cycling during 3 months/year:	20%
Population projection 2030:	400 000 inhabitants
Objective for modal shares:	15% walking, 30% cycling (only main mode of transport)

Number of trips per day and average travel length per trip and mode of transport are in this example assumed to be the same in 2030.

Public health benefits through increased trips on foot	**505 millions/year**
Public health benefits through an increased amount of trips by bicycle and a higher share of cycling:	**1,120 millions/year**

A greener city and possibility to recreation
Proximity to parks and green areas, and the possibility of getting there, are factors influencing public health. Spending time in green environments has a positive impact on physical as well as mental well-being. Physical activity increases, the body recovers and stress levels sink. Green areas also benefit social participation and interaction between people. In a denser city, it is important to take advantage of and develop green environments. It is important that the development of Malmö's urban environments and traffic system embraces green values.

SLOWER PACE AND HIGHER TRAFFIC SAFETY

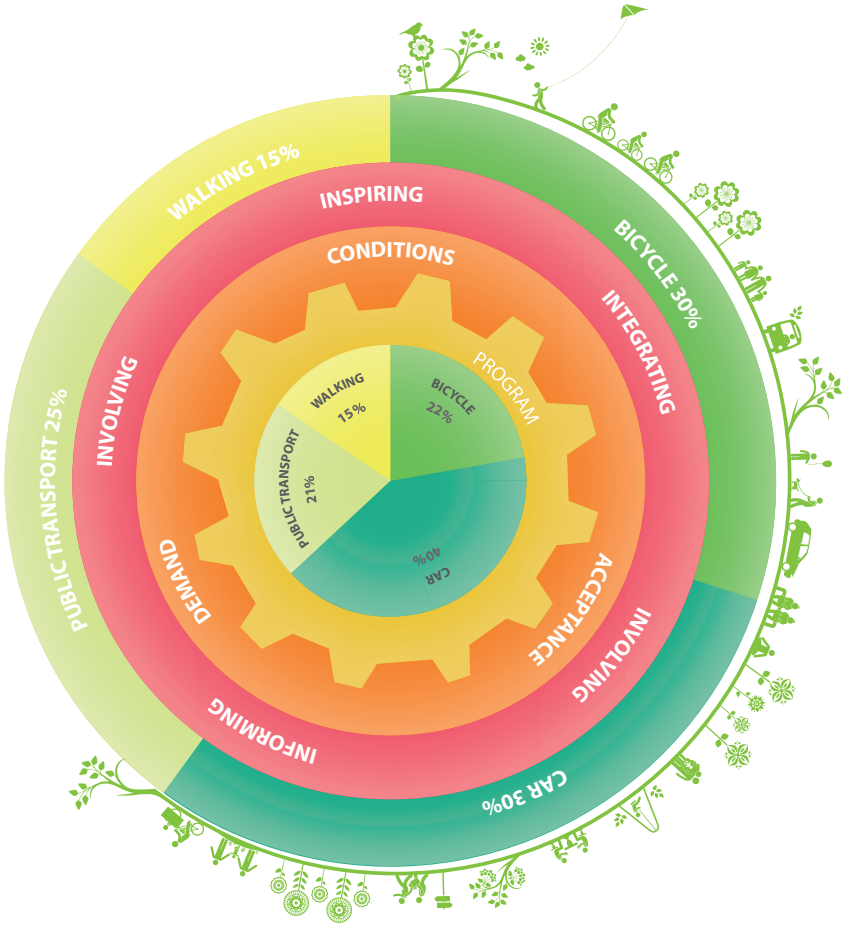
A safe traffic environment is a natural part of sustainable urban development. Malmö should be a city where everyone can travel safely both in general and in terms of traffic. Traffic safety and experienced safety go hand in hand and are important for the city's attractiveness and equality. Malmö works according to the Swedish Traffic Administration's Vision Zero with the goal that no one should be killed or severely injured in traffic.

The speed of motor vehicles is the single most important factor for traffic safety. Speed influences the probability for traffic accidents to occur and their consequences. Studies on fatal accidents in urban areas have shown that speed limits, in many cases, are not adjusted to the demands of Vision Zero. Correctly signposted speed limits, physical actions and behavioural influence are factors estimated to have great potential to save lives in urban areas. Even small changes in actual speed can have positive effects on traffic safety. A slower pace on streets leads to a better environment for the inhabitants and to fewer accidents. This is important in order to reduce the barriers created by motor traffic.

ONGOING
Implementing recreational cycle lanes according to the Bicycle programme (GK).

Lifting the perspective of sustainable transport in the development of a new Plan for green and blue environments in Malmö (GK).

ONGOING
A new traffic safety strategy for 2015-2020 have been developed. During the process, problems have been identified and important strategies and measures pointed out with the goal of reducing the number of injured and killed in traffic (GK).



Model for mobility management within the City of Malmö. The inner modal split circle shows the result of the travel survey from 2013, and the outer one represents the objective for the inhabitants' trips in 2030.

In order to design safe, attractive and vivid urbanized main roads, the pace along them needs to be slower. Traffic safety regarding traffic collisions is strengthened when more pedestrians and cyclists are claming space in traffic. Single accidents, e.g. where pedestrians stumble on slippery roads in winter or when cyclists fall over, is one of the great challenges that the City of Malmö is facing when it comes to increased traffic safety.

MOBILITY MANAGEMENT

Traffic consists of human and goods in movement. Mobility management is a method aiming to promote sustainable transport through changing attitudes and behaviours. This is an important part of creating a sustainable and attractive urban life in an expanding city. The work with mobility management includes creating demand, acceptance and possibilities for sustainable transport modes. It is easier to accomplish this if citizens accept that walking, cycling and public transport are prioritised at the expense of reduced level-of-service for cars, which in turn has a positive impact on the demand for sustainable solutions. Reversed, the City Administration must be aware of the citizens' demands regarding sustainable transport in everyday life.

Willpower, knowledge and understanding are important factors in the work with changing attitudes and behaviour. When working with behavioural influence, the consequences of individuals' and organisations' conduct is put in focus. When presenting visions and alternative transport modes and ways to travel, different possibilities are pointed at. On these grounds, the City of Malmö can help to offer solutions and to inspire to new travel behaviour in everyday life for both individuals and business.

ONGOING

Developing forms that to a higher extent coordinate Mobility management with implementation of physical and regulated actions (GK).

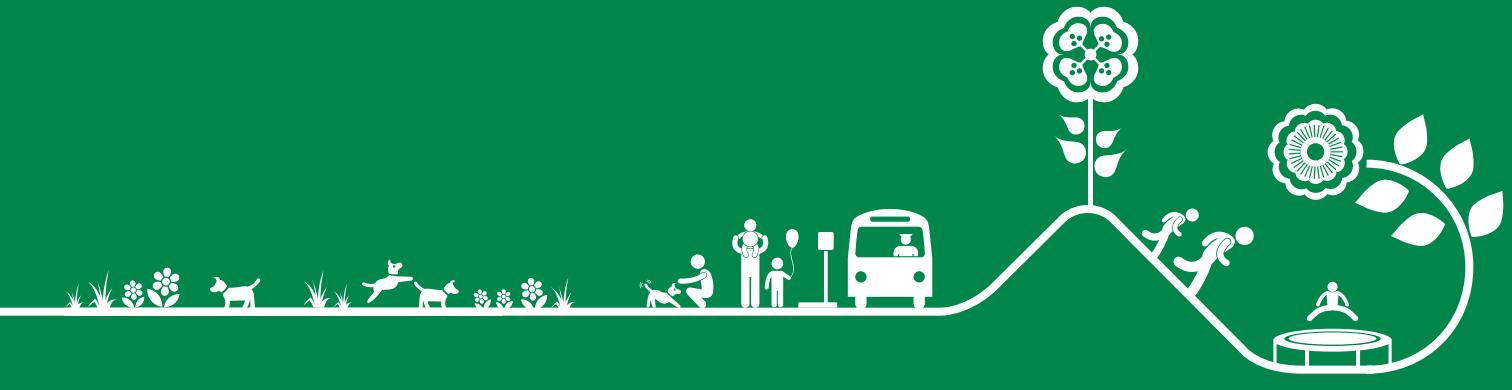
NEXT STEP

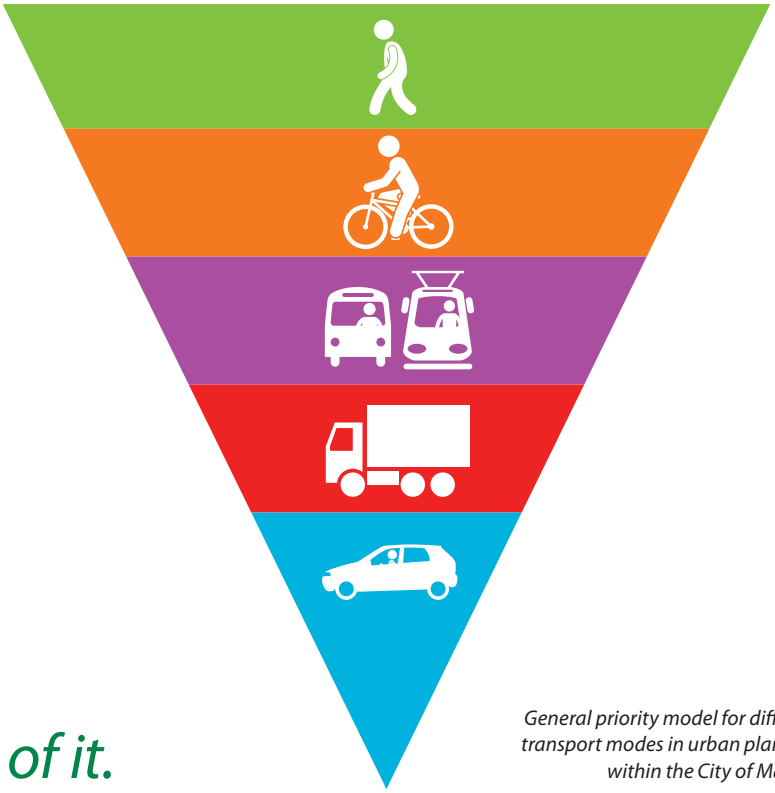
Establish new collaborations where social sustainability, in a clearer way, is connected to mobility management measures, e.g. through framing Bicycle rights for all citizens (GK, SK, SoF). See p. 25.
Develop a model that enables business to - through their work with CSR - take active part in Malmö as a bicycle friendly city (GK, SKB, MF, SK). See p. 25.*
**Corporate Social Responsibility*

3 TRAFFIC AND MOVEMENT

The population in Malmö, Skåne and the Öresund region is growing, which increases traffic and commuting to and from Malmö. This implies a growing demand for transport – more people will move and spend time on the city's sidewalks, cycle lanes and streets, at the same time as the flow of goods, material and waste will increase. In order to meet the growing demand for transport, Malmö has to continue to invest in high capacity traffic solutions, grounded in a higher share of people walking, cycling and using public transport, as well as in more efficient freight traffic. Malmö also has to continue its development in line with a clear urban planning strategy centered around a dense, green and integrated city with short distances, which contributes to reducing person miles travelled (PMT) and the need for cars. In that way, Malmö becomes more accessible for a greater number of people. Prioritisation of traffic surfaces and space for buildings, squares, meeting places and parks must be made departing from a holistic perspective with the city's best interests in mind. This chapter clarifies objectives for travelling, commuting and freight traffic and presents strategies for how the objectives can be reached.

- CHANGED TRAVEL PATTERNS FOR GREATER ACCESSIBILITY
- PRIORITISING SURFACE EFFICIENT TRANSPORT MODES – REORGANISING STREETSCAPES
- PROMOTING GREEN VEHICLES, TECHNICAL INNOVATIONS AND RENEWABLE FUELS
- TARGET ORIENTED TRANSPORT DEMAND
- OBJECTIVE FOR PASSENGER AND FREIGHT TRAFFIC WITHIN, TO AND FROM MALMÖ
- OBJECTIVE FOR INHABITANTS' TRIPS
- STRATEGIES FOR INHABITANTS' TRIPS
- OBJECTIVE - SUSTAINABLE COMMUTING
- STRATEGIES - SUSTAINABLE COMMUTING
- OBJECTIVE - SUSTAINABLE FREIGHT TRAFFIC AND CITY LOGISTICS
- STRATEGIES FOR SUSTAINABLE FREIGHT TRAFFIC AND CITY LOGISTICS





General priority model for different transport modes in urban planning within the City of Malmö.

You are not stuck in traffic - you are part of it.

CHANGED TRAVEL PATTERNS FOR GREATER ACCESSIBILITY

In a growing Malmö, it is important that the modal share of car traffic decreases. Increased car traffic leads to increased spatial claims for infrastructure, noise and air pollution, congestion, worse level-of-service and accessibility for citizens and business, which in turn influence the city's attractiveness in many ways. In order to gain greater understanding for how a more attractive and accessible city can be created, focus should lay on traffic as constituted by humans and goods, not by vehicles.

Through prioritising surface efficient transport modes, congestion can be prevented and the accessibility in the city can improve. More of Malmö's inhabitants, workers and commuters will find it easier to get to work and school, trade and entertainment, recreation and leisure activities. An easy access with different transport modes within, to and from Malmö contributes to a stimulation of the labour market in the region and is favourable for inhabitants, commuters and businesses. A changed modal split creates space for other purposes than traffic, and is crucial for creating better level-of-service and accessibility for a greater number of people.

Confronting increased car traffic and congestion with more or broader streets and roads is a short-term strategy. More road space, to a great extent, leads to increased car traffic. Such a strategy is not compatible with Malmö's targets of changed modal shares or the overarching goal of a more environmentally, socially and economically sustainable city. In order to allow Malmö to grow sustainably, investments must be made in alternatives to increased level-of-service for car traffic: alternatives with better accessibility and level-of-service for cycling, walking and public transport.

PRIORITISING SURFACE EFFICIENT TRANSPORT MODES – REORGANISING STREETSCAPES

Walking, cycling and public transport are all more surface efficient transport modes than passenger car traffic – both regarding parking space and space for movement. If more people choose to walk, cycle or use public transport, space for a greater number of people to move and spend time in the city is generated – more people gain access to what Malmö has to offer.

NEXT STEP

Define sustainable car traffic. This should be done within a Programme for Sustainable Car Traffic (GK, SBK, MF).

*Definition av **tillgänglighet***

Möjlighet att kunna nå en målpunkt. Skapar förutsättningar till förflyttningar för både medborgare och näringsliv avseende såväl persontrafik som godstransporter.

*Definition av **framkomlighet***

Mått på transportkvalitet med avseende på restid, d v s hur lång tid det tar att färdas mellan två målpunkter eller platser.

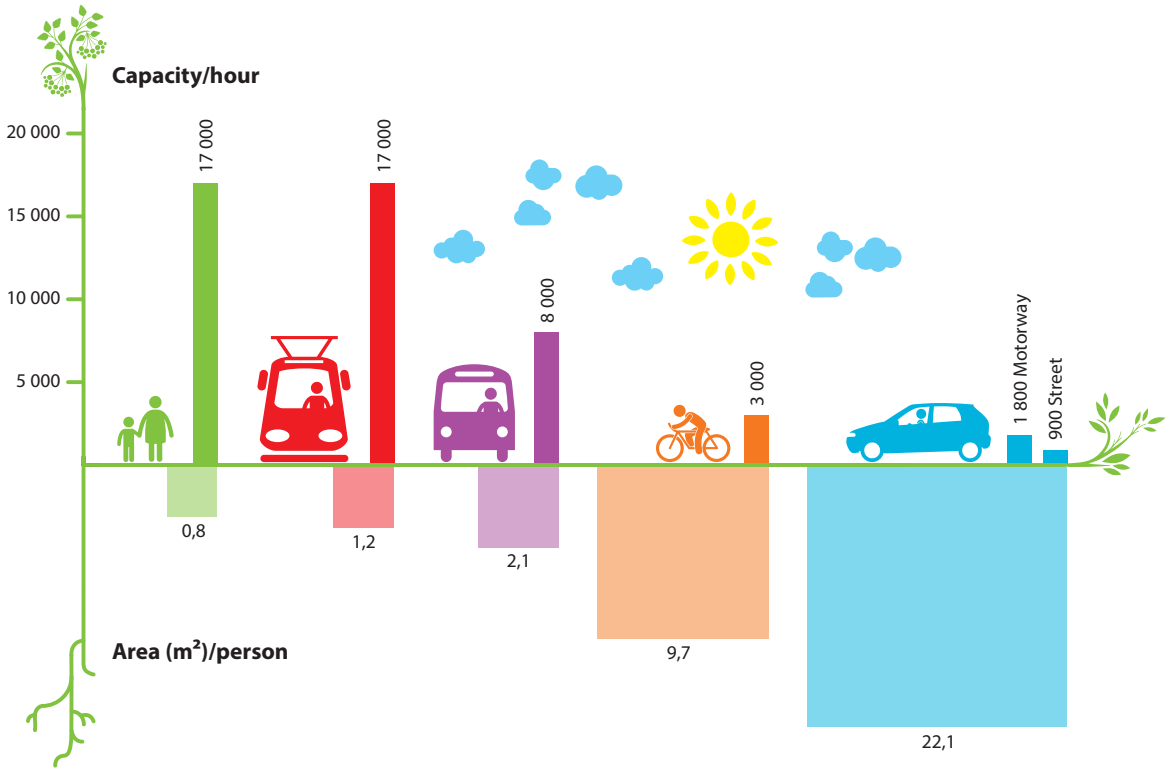


Figure presenting the general flow capacity per hour, and the space required per person, for different transport modes. This shows, among other things, that pedestrian traffic is more space efficient than public transport and that public transport in turn is more space efficient than passenger car traffic. Space demand per transport mode includes both space required for movement, streets and carriageways, and for parking. Source: TØI, Norwegian Centre for Transport Research.

Flow capacity compares how many trips that can be carried out in one hour with different transport modes. This measure of level-of-service can also be seen as a measure of accessibility in the number of potential visitors or clients. Measures targeting space efficient passenger trips and integrated surfaces, including pedestrian streets and walking speed areas, can also improve accessibility for goods delivery.

PROMOTING GREEN VEHICLES, TECHNICAL INNOVATIONS AND RENEWABLE FUELS

Parallel to the work towards a changed and more balanced modal split, the City Administration works to promote cleaner, quieter and more efficient motor vehicle transports. Since a high share of today's motor vehicle trips will be carried out in the future as well, more measures targeting green vehicles and renewable fuels must be taken. The share of motor vehicles powered by natural gas, gaseous hydrogen and electricity must increase in order to further reduce environmental impact of motor vehicles.

Measures targeting electric city buses and regional buses have had a large impact on air quality and noise climate in central Malmö.

The activities within the City of Malmö generate a significant number of transports. This implies a big responsibility as well a possibility to urge development and to demand renewable and fossil-free fuels.

Increased use of electric bicycles means that bicycle traffic can become a larger competitor to car traffic. The electrifying of public transport, with electric buses and trams, leads to quieter, cleaner and more attractive urban environments. Most environmental benefits are reached if the public transport system attracts motorists. A modern rail system is estimated to have the best chance to attract these travellers to public transport. More environmentally adapted distribution vehicles can also push the development in this direction, which is not least important in a growing city with growing flow of goods.

ONGOING

Implementing actions set in the Traffic Environment Program 2012-2017 about clean, quiet and efficient motor vehicle transport (GK, MF, SBK).

The energy strategy for 2009 is valid, a new energy strategy is under preparation (SBK).

ONGOING

The City of Malmö together with the regional public transport authority (Skånetrafiken) investigate possibilities to implement the use electric buses in city traffic (GK).

NEXT STEP

Develop a new strategy for green vehicles - this can be made within a program for sustainable car traffic. Monitor technical development within the field of vehicles and renewable fuels (GK, MF).

MalmöExpressen – a new, 24 m long, double articulated bus, powered by a hybrid engine (gas and electricity), developed for the City of Malmö together with the regional public transport authority (Skånetrafiken), Nobina and Van Hool (Photo: Åsa Svensson).

TARGET ORIENTED TRANSPORT DEMAND

According to demographic projections carried out by the City Administration, Malmö is estimated to grow with approximately 100 000 inhabitants and 50 000 workplaces within the outer ring road until 2030. More inhabitants, more employment opportunities, more visitors and tourists, and an increased population in the region in general imply increased passenger traffic and more freight traffic.

In order to predict future demand for transport, projections of population growth and traffic increase are carried out. Traffic projections form a foundation when describing changes in travel behaviour and traffic quantity for all traffic modes. Additionally, they are used to calculate noise and air pollution deriving from traffic.
On a domestic as well as an international level, a clear trend towards reduced car use in benefit of public transport and cycling can be observed. In Malmö, this trend is stronger than in Sweden in general. This can partly be explained through short distances to destinations within the city, good alternatives to cars and changed values regarding owning and using passenger cars.

Planning work within the City of Malmö should depart from the vision of the desired city and the targets that have been developed for traffic. Target oriented traffic projections should be applied to concretize and clarify the goals stated in the Sustainable Urban Mobility Plan. To form a basis for noise calculations and air quality calculations, different scenarios regarding traffic amounts shall be used. The point of departure should be to describe and predict different risks concerning health, environment and climate.

ONGOING

Developing models for traffic and projection models for all modes of transport, including walking, cycling and freight traffic (GK).

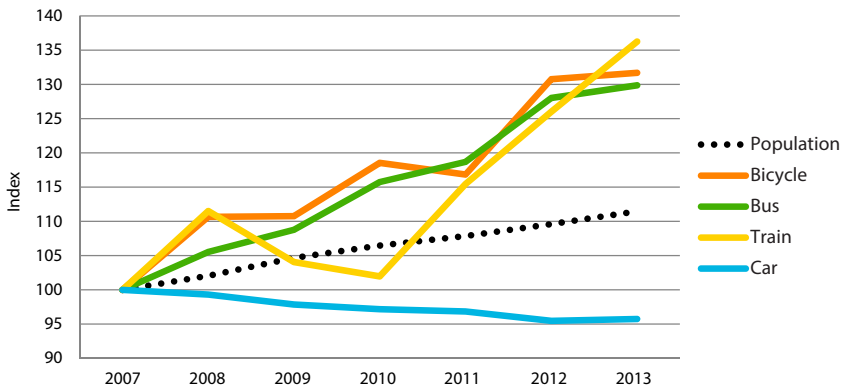
Increasing collaboration with other organisations in order to gain access to relevant data throughout the region, both domestic and international.

NEXT STEP

Gather in-depth knowledge about subjective factors for travelling choices within traffic modelling, and develop scenario modelling to serve as a basis for prioritisation and decision-making (GK).

Development of traffic modes and population 2007-2013

(2007=index 100)



Development of the number of trips by car, bicycle, bus and train during the period 2007-2013, as well as demographic development during the same years. Walking is not taken into consideration in the comparison due to insufficient data. For cars, traffic flows for an average weekday count over all cross sections each year. For bicycles, the development in central Malmö is presented. For public transport, all trips per year for all bus or train lines in Malmö are presented. In order to be able to compare data for the different transport modes and the population, as well as to show a development over time, the values have been indexed. 2007 is the baseline (index = 100).

OBJECTIVE FOR PASSENGER AND FREIGHT TRAFFIC WITHIN, TO AND FROM MALMÖ

Cities give rise to both passenger traffic and freight traffic – two kinds of transports with different needs, possibilities and interests. The objective for these transport modes has been divided into two in order to create clarity and to point at differences in their characters.

Passenger traffic consists of trips carried out by inhabitants, visitors and commuters to and from school, work, stores and to run errands. In order to develop Malmö and its traffic system in the right direction, a gathered objective regarding modal shares for inhabitants' and commuters' trips is required. The objective for a sustainable transport system is most conveniently described in modal shares. The adopted objective regarding a changed and more balanced modal split is a clear sign of whether a transport system develops to become more environmentally, economically and socially sustainable

In order to show what traffic can contribute to, viewed from a broader perspective, the objective of changed modal shares works as a symbol for how well the city will succeed with a number of overarching goals. A traffic system with higher capacity for sustainable transport modes creates possibilities for a Malmö that is more adapted to humans, more equal and greener. It also opens up for a city with better public health and better accessibility for more people – a more attractive Malmö and a traffic system where energy use and emissions are reduced on a local and global scale.

In Malmö, the circulation of freight traffic is less studied than the circulation of passenger traffic. The work on gathering knowledge on this topic, together with private and public actors, is a priority within the City of Malmö. The objective for freight traffic is described in words.

Population growth and possible scenarios

The future demographic development in Malmö and the number of commute trips to Malmö depends on many uncertain factors. Therefore, the Sustainable Urban Mobility Plan presents two different scenarios regarding population growth in Malmö and the region until 2030. These estimations are based upon expected population growth according to demographic projections carried out by the City Administration.

Scenario A describes a moderate population growth with an average of 2 900 more inhabitants per year until 2030. In scenario A there are 360 000 citizens in Malmö 2030. Scenario B describes a stronger population growth with around 5 300 more inhabitants per year until 3020. Scenario B should be compared with the population growth that the Comprehensive Plan has in readiness, i.e. that Malmö can grow to 400 000 inhabitants until 2030.

Scenario A and B for commuting are based upon the same growth percentage as the population growth. This means that the number of work opportunities in Malmö and throughout the labour market region grows by the same percentage as the number of inhabitants. Scenario A describes a moderate growth in commuting with an average of 600 more trips to Malmö per year until 2030. Scenario B describes a stronger growth in commuting with an average of 1 100 more trips per year until 2030.

OBJECTIVE FOR INHABITANTS' TRIPS

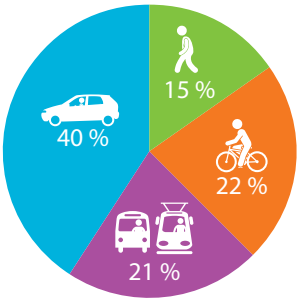
Inhabitants' trips and movements are meaningful for a dynamic urban life. The way the traffic system and urban environments are planned, designed and used has great impact on the inhabitants' everyday lives and their possibilities to create favourable conditions for themselves. When it comes to reaching the goals of changed modal shares, it is the physical conditions in the city and the inhabitants' travel behaviour that create a more sustainable and attractive Malmö.

The modal split for 2013 describes the result from the travel survey RVU2013. The objective for 2030 has been defined departing from a balanced mix of the Pedestrian Programme (2012-2018), the Bicycle Programme (2012-2019), a list of the targets in the Network of Public transport (Koll2020) and the Traffic Environment Programme (2012-2017). The objective for 2020 shows the modal shares for different transport modes that at the very least needs to be fulfilled in order to reach the combined objective for 2030.

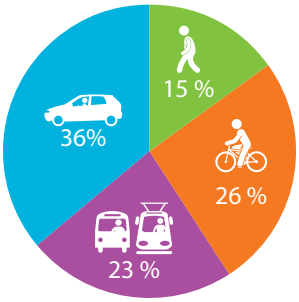
The total amount of the inhabitants' trips will increase along with the increasing population. Scenario A and B describe two potential population growth rates until 2030 and what each one would imply for the modal split as well as for the total amount of trips carried out by the inhabitants.

Depending on the population growth according to the two scenarios, the number of walking trips will increase by around 15-30%, the number of

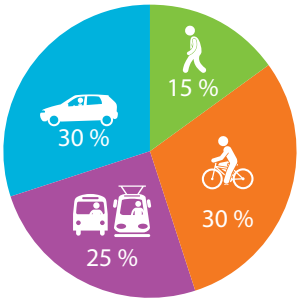
Explanation of ***modal share***
percentage allocation describing the main transport mode used regarding the number of trips with different transport modes. The division is given by the results from travel surveys, where citizens in Malmö and Skåne during one week's time state where, how and why they travel. In 2013, a travel survey was carried out where around 70 000 persons all over Skåne were consulted, of which 12 000 in Malmö. The response rate was 37% in Skåne and 33% in Malmö. Comparable travel surveys were carried out in 2003 and 2008.



2013

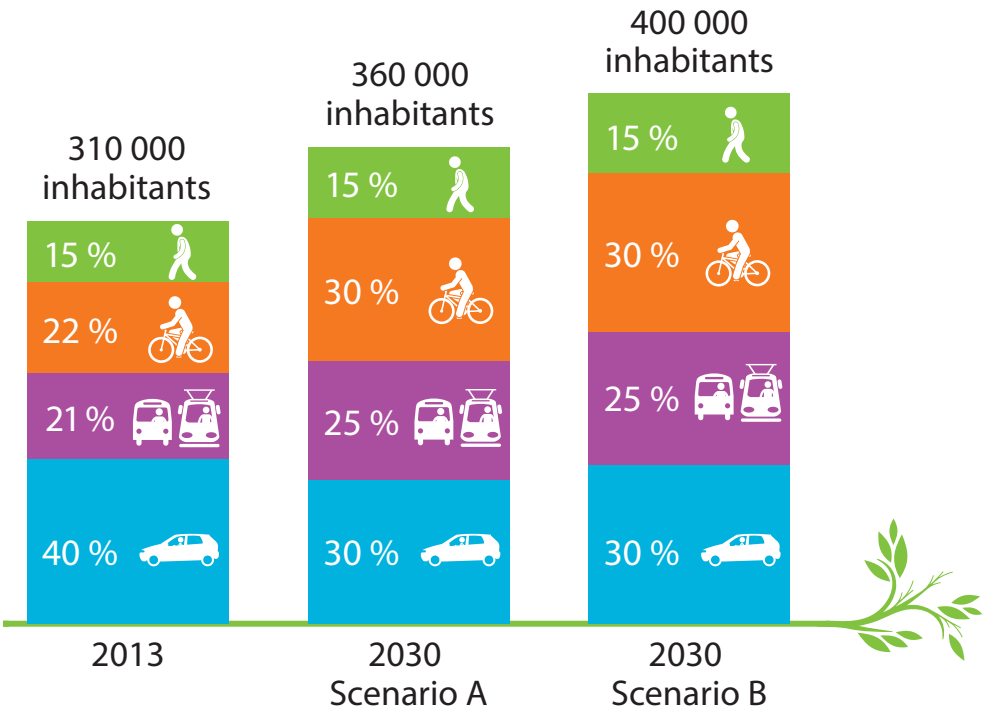


2020



2030

Modal split for the inhabitants' trips regarding main mode of transport, travel sections not included. From the left: 2013, followed by the objective for 2020 and the objective for 2030. Note that the modal split for 2013 does not amount to 100%, since the category "other mode of transport" is not displayed.



Number of citizens in Malmö and modal split 2013, followed by estimations of population increase and objective for scenario A and B for 2030. Modal split with regards to main mode of transport, travel sections not included. Note that the modal split for 2030 does not amount to 100%, since the category "other mode of transport" (2%) is not displayed.

bicycle trips by around 60-75%, the number of trips with public transport by around 40-55%, and the number of car trips will decrease by around 5-15%. Consequently, the most significant increase in the number of trips will take place within bicycle traffic and public transport.

The height of the bars in the bar chart on the previous page symbolises the number of trips made by the inhabitants. The modal split describes the main mode of transport used for one trip. How many travel sections made, and which or what transport mode used, is not presented. Experience, together with the result of the travel survey RVU2013, indicates that a large part of all travel sections are carried out by walking.

Travelling usually begins or ends with movement on foot. A combination of walking trips and trips with public transport is most common. Therefore, it is important to aim for a high increase in walking, although the objective describes a modest increase.

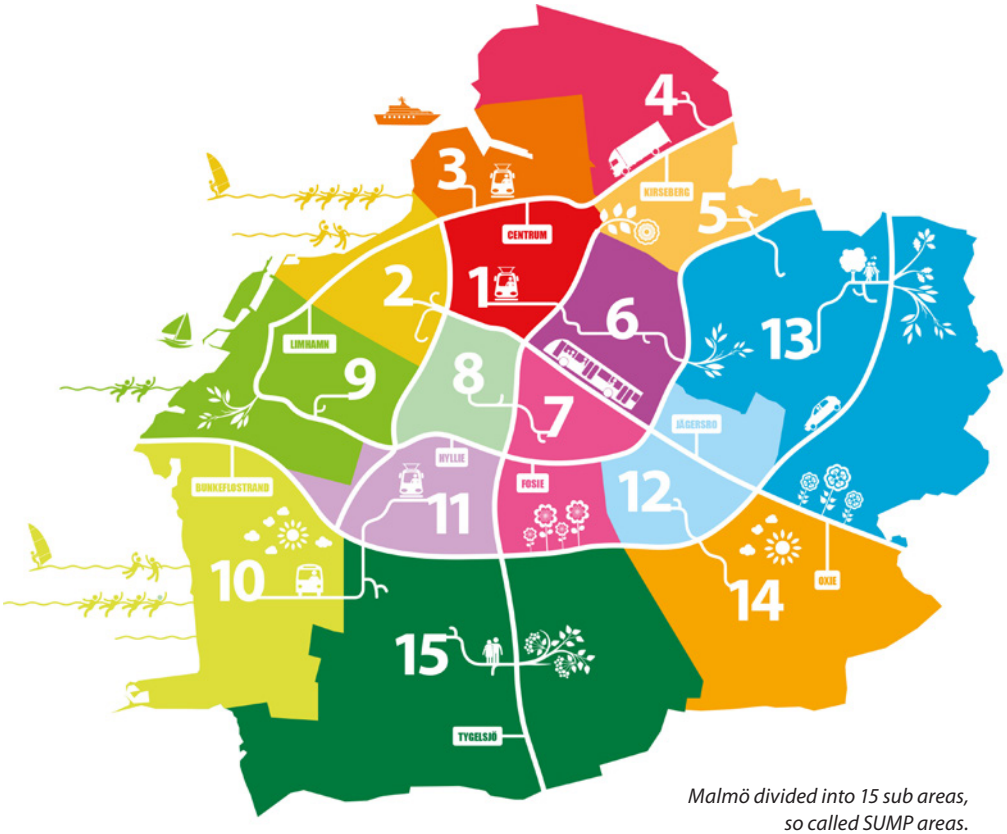
The decrease in the number of car trips will mainly be replaced by cycling and/or public transport, and in order to enable this change, it is important to also be able to move easily on foot. Therefore, major measures that target these transport modes should be taken.

Objective for sub areas

In order to make the future goals for transport modes concrete, and to show potential to change travel behaviour, the city has been divided into fifteen sub areas – so called SUMP areas. The divide is based upon how buildings and infrastructure are differentiated today. The conditions of and access to different transport modes vary between the different sub areas, and the objectives for transport modes has been adapted accordingly. If the objectives for the different sub areas are put together, the overarching goal for transport modes is reached.

ONGOING

Follow-up of travel behaviour and traffic development through travel surveys and traffic calculations for all modes of transport. Working with how traffic development is communicated internally and externally (GK).



Malmö divided into 15 sub areas, so called SUMP areas.

The increase in the total amount of trips in Malmö depends on the population growth both in Malmö in total and in each sub area. The change in the number of trips in each sub area, as described in the chart above, depends on the population growth and the goals for changed travel behaviour. The population growth in each area is projected, and the change in traffic is based on the objective for traffic.

The highest population growth is estimated to take place in Västra Hamnen and Hyllie (area 3 and 11). Along with the population, trips with all transport modes will increase – although it generally should be walking, cycling and public transport that increases the most.

When it comes to walking, there is great potential for an increase within sub areas with developed sub area centres like Limhamn, Hyllie and Västra Hamnen. Integrated and short distance sub area centres enable a higher share of walking trips.

Bicycle traffic has the greatest potential to increase in central and semi-central areas, but in general, a significant increase in all sub areas is needed. The largest increase in bicycle traffic should take place in the City centre, Västra hamnen, Rosengård/Sorgenfri and Limhamn.

The largest increase in public transport should take place in areas where it today, or within a near future, exists well developed and robust public transport. In this regard, the largest increase should take place in the sub areas Hyllie, Fosie, Västra hamnen and Rosengård/Sorgenfri, followed by the City centre, Kirseberg and Limhamn.

The City centre, Slottsstaden, Rosengård/Sorgenfri and Fosie are the sub areas with the greatest potential, and where car traffic should decrease.

The objectives for each area regarding modal shares, and the needs for change that they imply, should be guiding. The goals for each sub area must be reached in order to achieve the overall goal.

ONGOING

Further developing target oriented projections in order to support urban planning (GK).

Lifting the perspective of sustainable transport in the interdepartmental work on the Exploitation strategy (GK, SBK).

Further developing the method used in the work on Sustainable travelling in Västra hamnen 2013, and keep using the method in other urban development areas (GK, SBK, MF).

NEXT STEP

When developing operational plans, policy documents and in planning, the main assumption should be the goals for sustainable transport for the 15 geographical SUMP areas. The objectives of changed travel behaviour and the Exploitation strategy should strengthen each other (GK, SBK, FK).

In-depth investigations containing clear strategies regarding target oriented transport demand will be carried out in chosen sub areas (GK, SBK).

Implement a pilot project along a road stretch, with actions departing from the objective of changed modal shares and target oriented projections (GK, SBK, FK, MF).

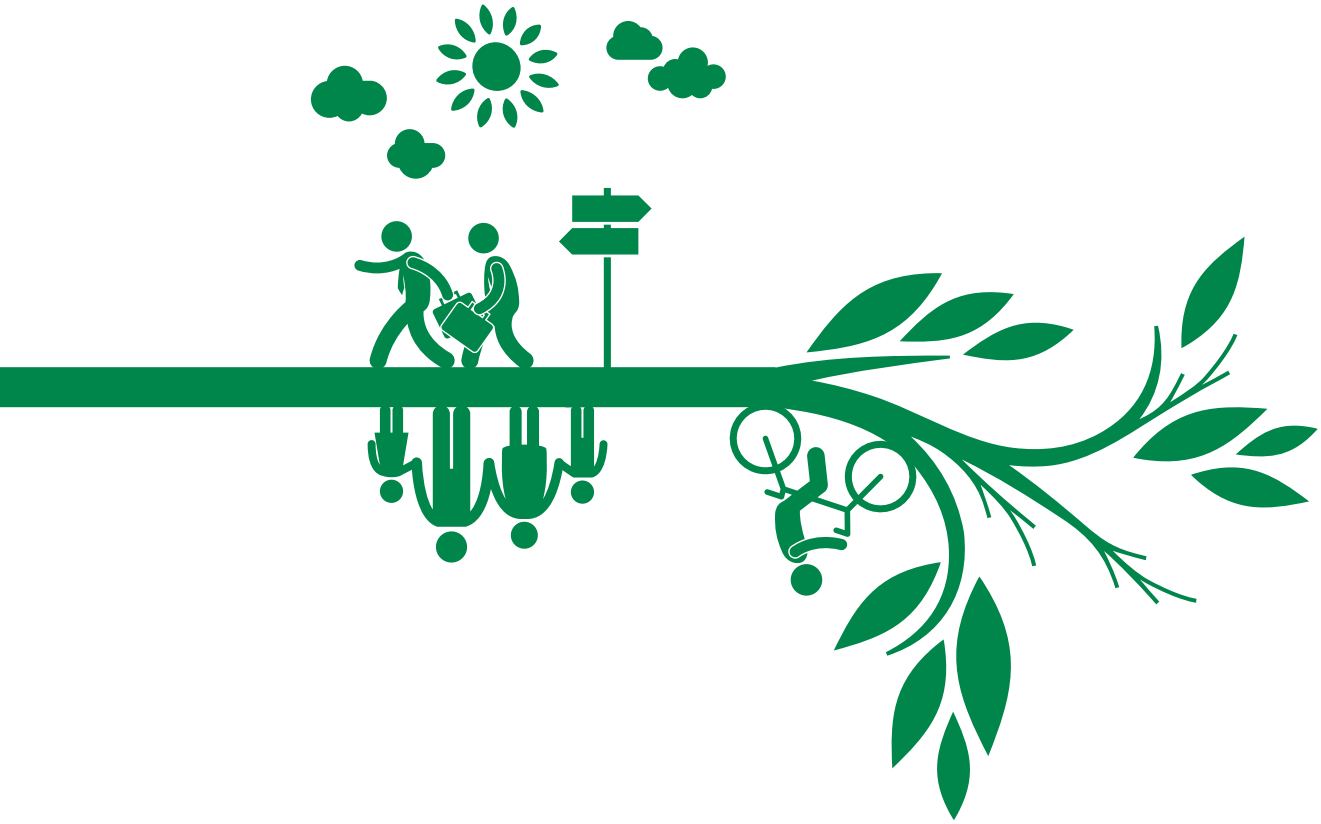
Sub area				
1 Centrum	15% (25%)	25% (23%)	35% (25%)	25% (25%)
2 Slottsstaden	25% (33%)	20% (16%)	40% (34%)	15% (14%)
3 Västra hamnen	20% (30%)	30% (25%)	30% (25%)	20% (17%)
4 Norra hamnen	25%	30%	30%	15%
5 Kirseberg	25% (34%)	30% (24%)	30% (24%)	15% (16%)
6 Rosengård/Sorgenfri	20% (31%)	30% (25%)	35% (28%)	15% (15%)
7 Fosie	30% (49%)	35% (24%)	25% (18%)	10% (6%)
8 Holma/Kroksbäck	30% (40%)	20% (17%)	30% (22%)	20% (18%)
9 Limhamn	35% (54%)	20% (14%)	30% (20%)	15% (10%)
10 Bunkeflostrand	45% (62%)	25% (18%)	20% (9%)	10% (8%)
11 Hyllie	30% (56%)	30% (14%)	20% (12%)	20% (18%)
12 Jägersro	50% (59%)	15% (12%)	20% (15%)	15% (15%)
13 Husie	50% (63%)	20% (15%)	20% (14%)	10% (8%)
14 Oxie	50% (64%)	25% (20%)	15% (6%)	10% (8%)
15 Tygelsjö	55% (72%)	20% (12%)	15% (4%)	10% (9%)
Total	30% (40%)	25% (21%)	30% (22%)	15% (15%)

Objective 2030 for modal split for each SUMP area. The result from a travel survey, RVU2013, is displayed within brackets. The modal split regards all trips made by inhabitants within, to/from and outside of the areas. The area of Norra hamnen almost exclusively consists of business today; the number of inhabitants is negligible.

Change in population and number of trips until 2030 (2013 is baseline)

Sub area	Number of inhabitants 2013	Population increase until 2030				
1 Centrum	61 900	+ +	- - -	+ +	+ + +	+
2 Slottsstaden	32 000	+	- -	+	+	
3 Västra hamnen	6 700	+ + +	+	+ + +	+ + +	+ +
4 Norra hamnen	0					
5 Kirseberg	15 800	+ +		+ +	+ +	+
6 Rosengård/Sorgenfri	51 500	+ +	- -	+ + +	+ + +	+
7 Fosie	38 600	+ +	- - -	+ + +	+ +	+
8 Holma/Kroksbäck	23 500	+	-	+	+	+
9 Limhamn	25 000	+ +	-	+ +	+ + +	+ +
10 Bunkeflostrand	12 900	+		+	+	+
11 Hyllie	5 700	+ + +	+ +	+ + +	+ +	+ +
12 Jägersro	100					
13 Husie	21 000	+	-	+	+	+
14 Oxie	12 300	+	-	+	+	+
15 Tygelsjö	4 200	+		+	+	

Challenges and changes in travel behaviour and number of trips based on estimated population increase in each area. The changes are not presented in numbers – "+" stands for increase and "-" for decrease, and they symbolize changes in either population or travelling. The more of the same sign, the bigger the changes in population or travelling. These estimations serve to give a rough indication of where measures should be taken and travel behaviour change in order to reach the defined goals for travelling until 2030. The areas Norra hamnen and Jägersro almost exclusively consist of business today; the number of inhabitants is negligible.



STRATEGIES FOR INHABITANTS' TRIPS

The vision of Malmö's traffic system is to enable an everyday life where walking, cycling and public transport are the natural choices for inhabitants, and where it is easy to change between these transport modes. The inhabitants' travel behaviour is crucial for the city's development and attractiveness. In order to influence travel behaviour, a combination of different measures is required – both measures towards behavioural change and physical actions. Together, these factors create synergy effects and enable inhabitants to move with different transport modes when making different kinds of trips.

Inspiring in order to influence travel behaviour

Measures to involve, inspire and inform the citizens are required in order to enable the physical infrastructure to reach its full potential.

The City of Malmö works with mobility management in order to create opportunities for, and acceptance of, sustainable transport. In the long run, this contributes to greater demand for solutions for sustainable travelling, which in turn pushes the development in the right direction. A number of actions, campaigns and activities have been carried out over the years. There is potential in coordinating mobility management and physical development.

Pedestrian traffic for slow and fast movements

Pedestrian traffic is in itself an important mode of transport. It is also a mode of transport that starts or ends essentially all movement, no matter what other transport mode is used. Pedestrian traffic enriches urban life and opens up for encounters, which will be even more evident in a more densely populated city.

Attractiveness, comfort and walkability are three fundamental aspects for increased pedestrian traffic. The goal is that people experience a walk in Malmö as something positive: something that creates surplus value in addition to the utility of the transport itself. In combination with accessible public transport, pedestrian traffic is an attractive alternative for a growing number of citizens and visitors.

Bicycle traffic for more freedom

Malmö's ambition is to become a world renowned bicycle-friendly city and, together with the rest of the Öresund region, a world-leading bicycle metropolis. In order to reach the goal of changed modal shares, the number of trips made by bicycle needs to increase. To achieve this, measures for changed travel behaviour as well as physical actions for increased capacity are required. The objective is to turn Malmö into a city where it is easy and safe for everyone to cycle. The ability to move by bicycle in Malmö increases accessibility as well as freedom of movement for large parts of the inhabitants, not least children and youths, and contributes to urban life and encounters.

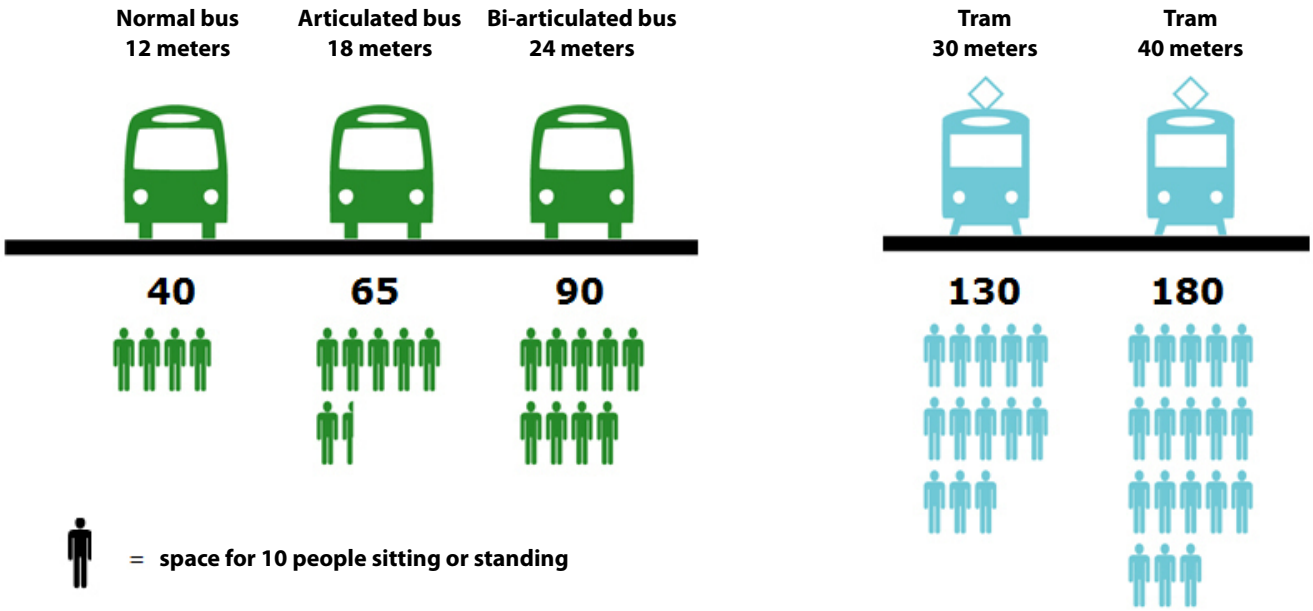
ONGOING

Implementing the Pedestrian programme 2012-2018 (GK).

Carrying out the actions described in the Walking lane plan (GK).

ONGOING

Implementing actions in the Bicycle programme 2012-2019, according to the following focus areas: strengthening Malmö's profile as a bicycle-friendly city, actions for increased safety and comfort, general actions for infrastructure, more detailed actions for infrastructure, better parking (GK).



Practical capacity, i.e. the capacity for different modes of public transport acceptable for travellers in terms of comfort

Barrier-breaking and reliable public transport

Public transport creates accessibility for large parts of the inhabitants. It should be reliable, competitive with cars and easy to use in everyday life. Further measures targeting institutions and living environments in places close to public transport are essential for creating a sustainable and attractive city.

City bus traffic constitutes a close network for public movements within the city. During the last years, the number of trips with city buses has steadily increased. This has resulted in a need for a city bus system with higher capacity.

MalmöExpressen is a new concept with 24-meter long bi-articulated city buses with high level-of-service and comfort on dedicated bus lanes. This concept has been implemented in order to face existing and increasing demand for public transport on the distance between Stenkällan and Västra hamnen, via Rosengård and Malmö Central. A continued increase in demand for public transport will require that more of today's city buses are replaced by concepts similar to MalmöExpressen.

To facilitate movement between Eastern and Western Malmö and throughout the region, projects to traffic the Continental Line (Kontinentalbanan) with passenger trains in a MalmöRing are carried out. Along this MalmöRing, passenger trains will stop at Malmö C, Östervärn, Rosengård, Persborg, Svågertop, Hyllie and Triangeln, and in the long term, also in Fosieby. In the longer term, the Öresund trains can interconnect several of these stations with Lund and Copenhagen.

In order to create a public transport system with higher capacity, the introduction of a tramway is necessary. A tramway would supplement and strengthen other sorts of public transport and create a strong increase in capacity for the whole public transport system. More people would be given the opportunity to move fast and comfortably between home, work, school and leisure activities. A tramway can transport two to three times as many passengers as an articulated bus. Improved capacity is important in order to meet higher demands and to increase the modal share of public transport. Modern tramways are comfortable, which has been proved to attract former car drivers.

Rail traffic leads to robustness and sustainability in the public transport system and is a more permanent measure. The introduction of rail traffic can be seen as a contract between the municipality and private as well as public actors who want to establish business and construct houses. Rail traffic and urban development can support each other in construction of, e.g., complementary housing and business. The introduction of rail traffic should be a motor for urban development and interconnection of sub areas.

ONGOING

Continuing the development of a long-term Public Transport Strategy in order to clarify and coordinate the city's strategic work with public transport (GK, SBK, SK).

EXPLANATION

The City of Malmö takes part in two ongoing national projects that influence the way metropolitan cities in Sweden develop, both when it comes to construction and to the opportunity to create more sustainable transport systems - and doing both simultaneously.

The Sweden Negotiation
"The objective of the Sweden Negotiation (Sverigeförhandlingen) is to give Sweden its first high speed railway as fast as possible, where trains should be able to travel at a speed of 320 km/h. The trains will travel from Stockholm to Gothenburg in two hours and from Stockholm to Malmö in two and a half. This measure should lead to more construction and growth in many municipalities and regions along the new railway."

"The Sweden Negotiation also looks upon the infrastructure project that is supposed to improve accessibility and increase construction in our big cities Malmö, Gothenburg and Stockholm. This is a negotiation of part-financing where the utilities are in focus and where municipalities, regions, cities and business can contribute to the result." (Sverigeförhandlingen. Access: http://sverigeforhandlingen.se/ [2015-05-04])

The City of Malmö works with describing how the city and the region can develop departing from an invest-
ment in high speed trains, with a high speed train station in Malmö and construction in places close to public transport. The City Office, the City Planning Office, the Environment Department and the Streets and Parks Department work together to describe how Malmö can develop departing from the Sweden Negotiation, and what utilities that can be created.

Urban environment agreements
"Today's housing deprivation limits people's life choices and restrains Sweden's development. Therefore, it is crucial to promote construction. The goal of the government is that at least 250 000 new homes should be built until 2020. Through better coordination between expanded public transport and construction, new buildings can benefit more people. For that reason, the government invests in Urban Environment Agreements (Stadsmiljöavtal) that partly finance local and regional public transport projects. Well functioning public transport opens up for new, attractive locations for construction. Locations that currently are not viewed as profitable for the construction industry can become attractive thanks to an expanded public transport system. Government Offices of Sweden - press release 2015-01-08. Access: Http://www.regeringen.se/sb/d/19812/a/252473 [2015-05-04])

Sustainable car traffic and increased opportunities for car-free living
In a growing city investing in better possibilities to move on foot, by bicycle and with public transport, the importance of cars will decrease and get more balanced. Certain car trips will, for rational reasons, be replaced by other transport modes.

Along with the exploitation of new living environments, possibilities for more sustainable travelling should be created. Dialogue with developers and constructors is, in this regard, something that needs to be strengthened. Car sharing has strongly increased in Malmö during the last couple of years. A continued expansion of car sharing solutions should be promoted in order to enable access to a modern car park and car-free living. Malmö's future car traffic should be constituted by green vehicles driven by renewable and fossil free fuels. The City Administration should work towards making this possible through continued collaboration and coordination with private business, organisations and civic society.

OBJECTIVE – SUSTAINABLE COMMUTING

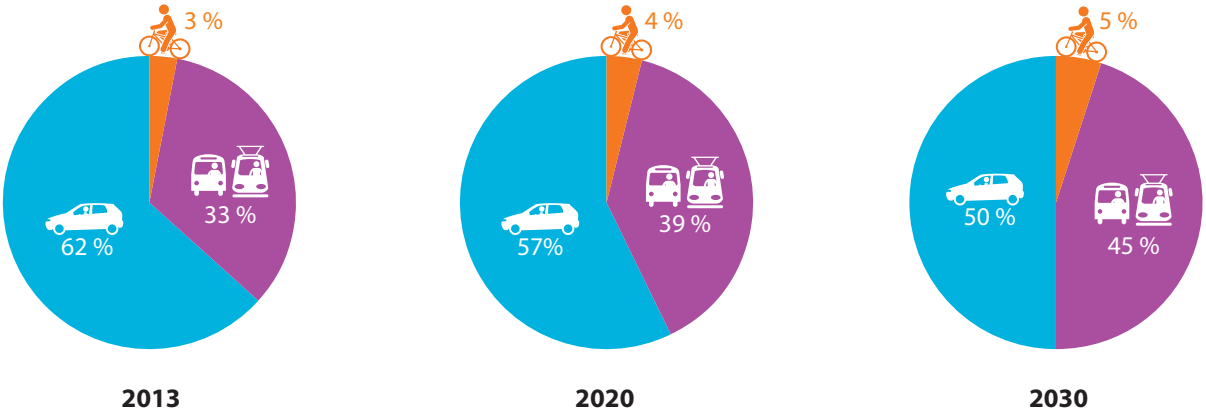
Due to its localisation in Skåne and its belonging to the Öresund region, Malmö is clearly connected to Europe and the rest of the world. In terms of commuting, this describes Malmö's opportunities, impact and potential for further development in a regional, national and international context.

The objective for 2030 regarding commuting to Malmö has been defined departing from the Traffic Environment program (2012-2017). The objective for 2020 shows the modal split that at the very least needs to be attained in order to reach the objective for 2030.

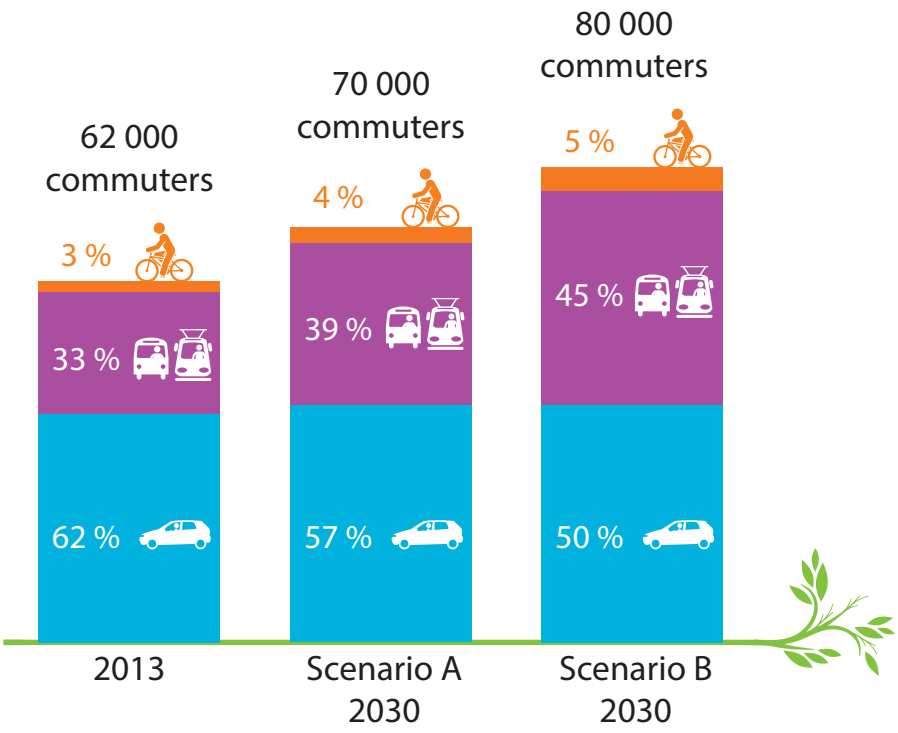
Malmö is dependent on a functioning mobility both within the city and throughout the region. Commuting functionally interconnects municipalities. Every day, approximately 62 000 persons commute to Malmö and 31 000 persons commute from Malmö. Commuting and regional expansion leads to possibilities and

ONGOING
Promoting car sharing solutions in dialogue with constructors and developers when it comes to new exploitation of housing and workplaces (SBK, GK, MF, FK).

NEXT STEP
Expand resources and developing the method of Mobility management in the exploitation process (SBK).



Modal split for commute trips to Malmö. From the left: 2013, objective for 2020 and objective for 2030.
Note that the modal split for 2013 does not amount to 100%, since the category "other transport mode" is not displayed.



Modal split and number of commute trips to Malmö 2013, followed by estimated growth in commuting to Malmö and objective in modal shares for scenario A and B 2030.

*Definition of **commuting***
In the Sustainable Urban Mobility Plan, commuting only refers to trips taking persons to work in another municipality. Commuting for studies in another city is not included in the notion.

*Definition of **regional expansion***
Increased commuting leads to regional expansion. When more people commute and move over geographical areas, municipalities are interconnected and become larger labour market regions.

challenges for sustainable development. An increase in commuting and regional expansion is not a goal in itself; the challenge is to make commuting more sustainable, in an environmental, economical and social sense. It is thus a challenge to secure sustainable, efficient and reliable commuting in a growing region.

62% of current commute trips to Malmö are carried out by car, which leads to challenges regarding surface claims, traffic safety, traffic noise, air pollution and gender equality. A changed modal split, corresponding to the goals for the inhabitants' travelling and commuting to Malmö, enables more sustainable commuting to and from Malmö. In order to reach the goal for commuting to Malmö, measures targeting efficient transport modes, such as bicycle and public transport, must be taken. This will make these transport modes more attractive in relation to cars. Greater mobility for walking, cycling and public transport in Malmö can contribute to developing the local labour market, at the same time as the negative influence on environment and human beings decrease.

In order to reach the goals regarding sustainable commuting, commute trips carried out with public transport and by bicycle should increase. Given the two scenarios A and B, this implies an increase in the number of public transport trips with 60-75%. The number of commute trips to Malmö carried out by car should not be higher than today. The number of bicycle trips to Malmö is currently relatively low, but the implementation of planned measures targeting increased bicycle commuting has potential to double it.

STRATEGIES – SUSTAINABLE COMMUTING

In order to reach the objective for inhabitants' trips and sustainable commuting, it is important to work with a combination of different actions and measures. This strengthens the actions individually and leads to positive synergy effects. The focus areas below describe actions that should be developed and prioritised in order to develop more sustainable commuting.

Cooperation with regional actors

The fact that Skåne is a region with many cores and short distances makes it possible to further develop routes for public transport and bicycles between municipalities. Routes for public transport and bicycles should make up the structural frame in regional planning and in urban construction within cities and urban areas. In order to open up for sustainable commuting in the region, it is important that new buildings are constructed in close connection to strong routes for public transport and bicycles.
To achieve this, cooperation with regional actors (neighbouring municipalities, the County Administrative Board (Länsstyrelsen), the Swedish Traffic Administration (Trafikverket), Region Skåne, other organisations as well as the commuters themselves) is very important.

Exploitation in Malmö

A continued and deepened collaboration on sustainable transport is needed in connection to exploitation and mark development in Malmö. Experience of the collaboration with constructors, developers and property owners in the development of Västra Hamnen should be used in other development areas in the city. When exploiting, the parking norm should be used to move towards a reduced need for cars. In cooperation with constructors, developers and property owners, principles for offering tenants car and bicycle sharing facilities, as well as good parking facilities for bicycles, should be developed.

Green travel plans for attractive workplaces

Companies and workplaces in Malmö should be encouraged to develop green travel plans that inspire and enable their employees to travel more sustainably. Green travel plans for workplaces can contain actions like good parking facilities for bicycles, changing rooms, bicycle service, health hours and flex time, as well as subsidised public transport passes that will reduce the need to own a car. A further example of potential actions in a green travel plan is to reduce the availability to free or subsidised car parking. The goal of using a green travel plan is to make sustainable transport modes more attractive for trips to work and business trips.
More employees choosing to walk, cycle or use public transport imply lower costs for travelling, fuel and parking. Furthermore, such a development has an important health aspect and influences the number of sick leaves. If a higher share of people walk, cycle or use public transport to get to work, urban space can be used in a more efficient way, which enables employers to establish in more attractive locations. A green travel plan makes a workplace more attractive, at the same time as the environmental impact of commuting and business trips decreases.

ONGOING
Further developing collaboration with regional actors and depart from south-western Skåne as a node (GK, SBK).

NEXT STEP
Strengthen cooperation with the regional public transport authority (Skånetrafiken) and the Streets and Parks Department's mobility management activities in order to coordinate measures (GK).

NEXT STEP
Increase resources and develop mobility management in the exploitation process when establishing major workplaces (SBK).

ONGOING

A preliminary study on a Öresund metro is currently carried out. The preliminary study shows how a metro would contribute to strengthening the Öresund region's international competitiveness, since the short travel time would make it easier to work, live, study, experience and meet on both sides of the strait (GK, SK).

Working with the Sweden Negotiation in order to describe what a station for high-speed train in Malmö would mean for the city and the region (SK, GK, SBK).

Photo: Åsa Svensson

Bicycle commuting

Approximately 3% of commute trips to Malmö are currently carried out by bicycle. The regional bicycle commuting can increase if shorter, more accessible and attractive commuting routes are created between, e.g., Malmö and Lund. In order to enable an increase in bicycle commuting, collaboration with regional actors, neighbouring municipalities and employers needs to be further developed. Along with the increased use of electric bicycles, it can become more attractive to commute over longer distances by bicycle. In that way, the competitiveness of bicycles in relation to cars can be strengthened.

Better possibilities to commute with public transport

Public transport is a system that interconnects international, national, regional and municipal destinations. In order to make public transport more attractive to commuters, the difference in travel time between car and public transport must decrease, which is also the case for travel time of public transport in rush hours. The possibility to work or do other things during the trip is an important competitive advantage in relation to cars. The type of public transport vehicle is determined mainly by the capacity demanded.

The regional train traffic connects Malmö to the rest of Skåne, but also to Copenhagen and Europe. The City tunnel in Malmö, and the stations Hyllie, Triangeln and Malmö C, constitute regionally important nodes for combined trips and transfers to other transport modes for people who commute to and from Malmö.

The planned MalmöRing will, together with the Continental Line, strengthen mobility by public transport in Malmö. The new stations along the railway will open up for urban development in locations close to public transport.

Through well functioning regional bus traffic, Malmö is interconnected with several neighbouring municipalities and urban areas throughout Skåne. Within Malmö, the development needs to lead to new bus lanes in order to improve level-of-service, reduce travel time and avoid delays in regional bus traffic. This would make regional buses more competitive in relation to cars.

In a long term perspective, Malmö should be further interconnected with Copenhagen, which will manifest in a metro strengthening integration and growth in the Öresund region. Companies and educational institutions are given better possibilities to establish on both sides of the strait, which can lead to better matches between competences and demand on the labour market. A stronger connection between Malmö and Copenhagen would also strengthen the position of Copenhagen Airport as an international node for Northern Europe, which in itself is an important factor for companies to establish and people to visit the region.

Bike & Ride station with locked parking facility at Malmö C *Photo: Gustaf Johansson*

Intermodal transfer points – throughout the whole trip

The significance of transfer points increases in a denser city with a higher share of trips carried out on foot, by bicycle and with public transport (or a combination of these transport modes). These transport modes strengthen each other, and the last couple of years, Bike & Ride stations in Hyllie, Triangeln S and Malmö C enable comfortable combined trips. The stations offer real time updates on sustainable travelling in the Öresund region, supervised parking facilities for bicycles, bicycle service and changing rooms. The paying system for high security parking facilities is integrated in the regional public transport debit card. Measures are needed to promote development of simple and integrated paying systems that facilitate the use of public transport for inhabitants, commuters and visitors.

Car commuting and access to parking facilities

Access to free car parking facilities close to workplaces or other destinations influence what transport mode people choose. The access to and cost of car parking facilities are important instruments for reducing car traffic. The selection and cost of car parking facilities close to workplaces in Malmö should be mapped out. This should later on be the foundation for a constant development of the city's parking policy and parking norm, as well as support the development of green travel plans in collaboration with employers.

Introducing parking facilities for residents is an efficient strategy to control access to free parking on street ground. This reduces the risk of street ground being used for commuting and creates more flexibility when it comes to parking for residents. Parking facilities next to residential buildings situated on public streets or special parking spaces are regulated with parking fees. Residents can apply for parking space, which means that lower parking fees will be paid per day up to two weeks, without demands for the car to be moved (which is the case for general parking rules).

ONGOING

Developing a future bicycle rental system in Malmö in order to increase mobility, strengthen the possibility to combine transport modes and the share of sustainable trips for inhabitants, but especially for people commuting to and visiting Malmö.

ONGOING

Investigating and implementing enlarged parking facilities next to residential houses as reglementing on ground destined for streets (GK).

NEXT STEP

Map out the selection and access to free car parking facilities close to workplaces and in constructed ground as well as develop strategies to control these. This can be carried out within a Programme for sustainable car traffic (GK, SBK).

OBJECTIVE - SUSTAINABLE FREIGHT TRAFFIC AND CITY LOGISTICS

Freight traffic in the city influences us in many ways. Everything that is bought and consumed has to reach inhabitants and visitors, either to their homes or to restaurants, cafés, stores, etc. that constitute the city's supply. After consumption, a functioning return flow, in the shape of waste management and recycling, is required. A smart freight traffic should contribute to a denser, greener and more integrated city with shorter distances – a more attractive and sustainable Malmö.

Freight traffic in Malmö is connected to a number of challenges within the coming years, not least because Malmö is estimated to continue to growing, which makes the challenges connected to environment and climate more urgent to deal with.

Establishing a logistical centre for boat, train and lorry transport in Norra hamnen is important for long-distance traffic and enables a more efficient management and distribution of goods. This measure is expected to lead to economic growth and more efficient freight traffic, and at the same time create new jobs within the logistics sector. It also implies moving heavy freight traffic further away from the central parts of the city.

A changed and more balanced modal split for passenger traffic creates possibilities for more efficient freight traffic. The accessibility for freight traffic improves when the modal share of car traffic decreases. Widening infrastructure for bicycles also allows companies to carry goods by bicycle throughout the city. The introduction of walking speed streets both enriches urban life and opens up for greater accessibility for freight traffic to load and unload.

ONGOING

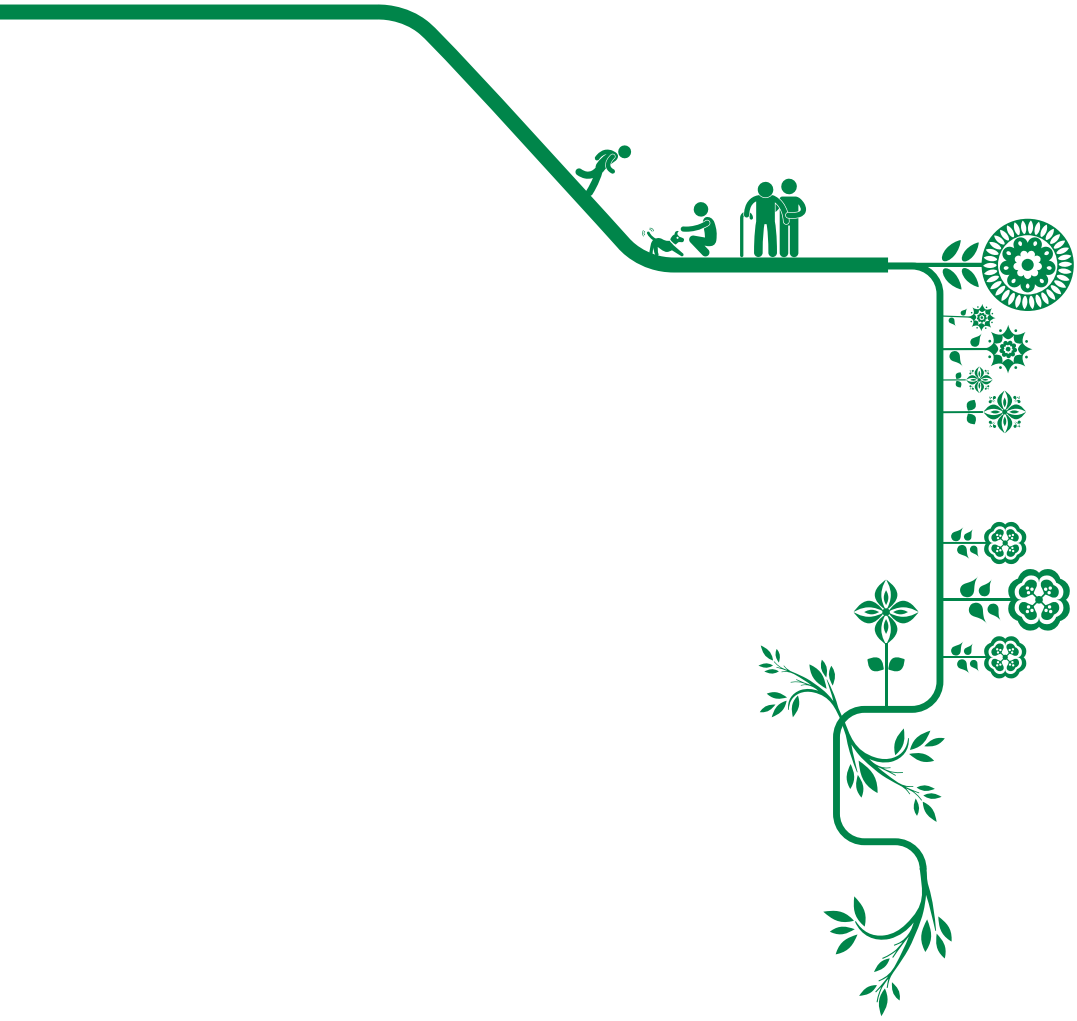
Implementing the Freight Traffic Programme 2014-2020 and working with the four directional goals regarding the city's attractiveness in relation to freight traffic – Malmö as part of the freight nod Öresund, as well as influence on environment, security and safety (GK).

ONGOING

Developing a consequence analysis for waste management and its transports in a denser city (GK, SBK).

*Definition of **city logistics***

City logistics is a collective notion containing all freight traffic to, from, through and within urban areas with heavy or light vehicles. It also contains service transport (e.g. for craftsmen) and transport for construction and waste management.



STRATEGIES FOR SUSTAINABLE FREIGHT TRAFFIC AND CITY LOGISTICS

In order to maintain good accessibility for freight traffic in a dense, green and integrated city with short distances, actions for streamlining and cooperation are required. These actions should address sub optimised solutions for logistics and low filling ratios. Actions for reducing the distance covered by freight traffic are required. It is also important that vehicles used for freight traffic become more efficient, clean and quiet.

Cooperation for increased knowledge of freight traffic

The responsibility for developing the freight traffic sector is shared by many actors, including the City Administration. Through experience in other cities, it has been made clear that the best way to work with these questions and gain in-depth knowledge is through cooperation and networks. The City of Malmö should work towards improving its cooperation with actors within logistics and deepening its knowledge of freight traffic.

City logistics for an attractive urban environment

Smart freight traffic should contribute to a more attractive city. To achieve this objective, planning that meets the demands for city logistics is required, not least along main roads and future urbanized main roads.

Coordinated distribution and loading of goods is one way to make freight traffic more efficient, which leads to reduced covered distance by heavy traffic within the city. This has an impact on environment on a local scale and climate on a global scale.

Measures targeting renewable fuels and quieter engines reduce the local and global environmental impact of freight traffic and lead to better urban environments.

ONGOING

Continuing cooperation within local, regional and national networks for freight traffic and city logistics (GK).

Implementing internal educations within the City of Malmö in order to increase knowledge of freight traffic and its challenges in a denser and more integrated city (GK).

NEXT STEP

Gather more information about freight traffic and develop a long-term freight traffic strategy as a complement to the Freight Traffic Programme (GK).

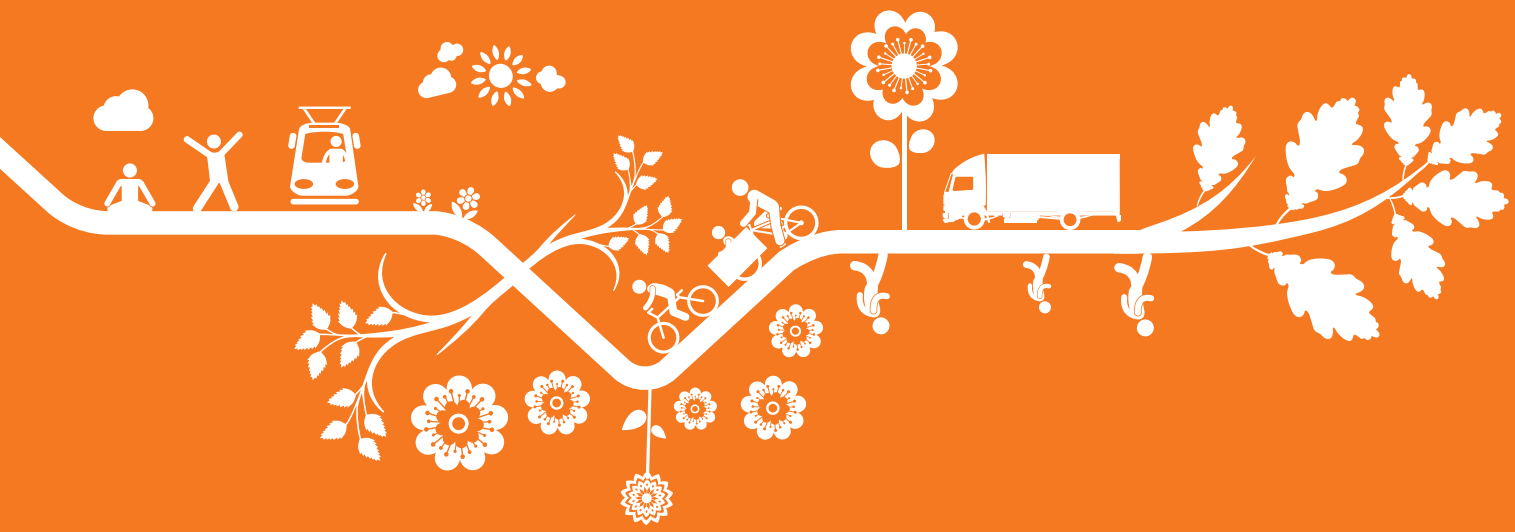
Photo: Åsa Svensson

4 THE CITY

In order to develop Malmö's urban environment and traffic system, planning work must depart from land use that contributes to making the city more attractive. Inhabitants, visitors, business, organisations and commuters must be given the possibility to travel more sustainably in their every day lives. In this regard, it is important that Malmö continues to grow and develop in locations with good accessibility to public transport, infrastructure for bicycles and attractive environments for pedestrians. Greater mobility allows a greater number of people to access qualitative urban environments where people meet and where urban life, innovations and culture prosper. This develops Malmö as a city, meeting place and labour market.

This chapter deals with how urban space and traffic influence the cityscape, and how urban space and the traffic system in turn are influenced by the city. The urbanized main road is a symbol for what kind of city, and what kind of traffic system, Malmö wants to create. Guiding principles are formulated about how urbanized main roads should be designed, and how spaces and functions should be prioritised in order to reach the goal of a more sustainable and attractive city.

- **A DENSE, INTEGRATED AND GREEN CITY WITH SHORT DISTANCES ENABLES SUSTAINABLE TRAVELLING**
- **DEMOCRATIC DIVISION OF URBAN SPACE**
- **URBANIZED MAIN ROADS – STREETS CONSTITUTED BY MOVEMENT AND URBAN LIFE**
- **URBANIZED MAIN ROADS – POTENTIAL AND DEFINITION**
- **HOW LOCAL ROADS CONTRIBUTE TO URBAN LIFE**

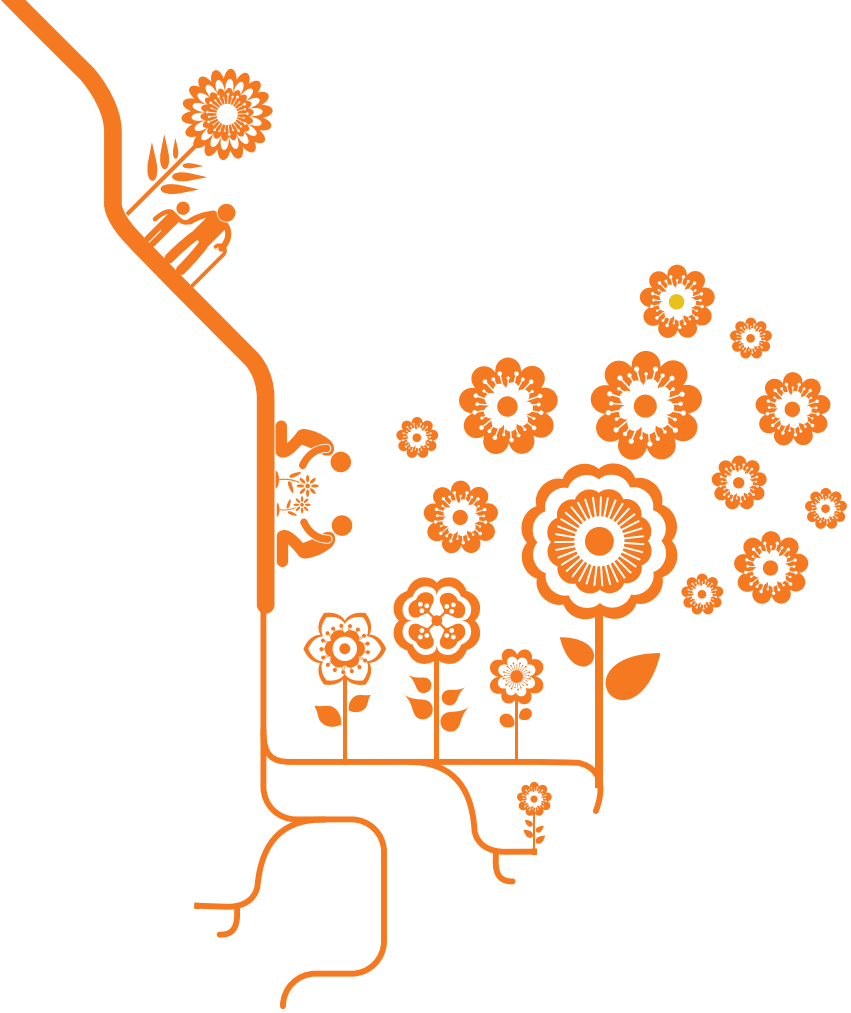


Fersens väg, an example of an existing main road that gathers many interests. *Photo: Åsa Svensson*

Localisation of activities and functions that generate much traffic has great impact on how inhabitants and visitors choose to travel to different destinations. This aspect is important both from a regional and local perspective. Preschools and schools should be localized in a way that promotes transport modes for short trips – in that way walking, cycling and public transport can become more competitive in relation to car traffic, which creates an accessible city for a greater number of people.

Malmö's inner city, in relation to external commercial centres, no longer has an obvious role as a commercial destination. In order to keep the city centre attractive and populated during all hours of the day, it must be developed in several ways. Accessibility for walking, cycling and public transport, as well as for cars and city logistics, is an important aspect for an attractive city centre. It is equally important that the inner city qualities are allowed to develop from an urban environmental perspective. A higher share of space between façades should be used for green areas and meeting places. Together with commercial trade, this can increase the amount and variety of destinations in the inner city.

Malmö's more external areas can develop when missing functions are added, which could lead to a more integrated city with shorter distances. The traffic system should develop in connection to this, and traffic routes and main roads that today constitute barriers can instead develop to gain a more integrated character, interconnecting different areas, which would have a healing effect on the city.



A DENSE, INTEGRATED AND GREEN CITY WITH SHORT DISTANCES ENABLES SUSTAINABLE TRAVELLING

A more sustainable transport system and a denser city create opportunities for each other. Walking, cycling and public transport are more surface efficient transport modes than passenger car traffic – both regarding parking and street space. This means that more people are given space to move and spend time in a city when a greater number of people choose to walk, cycle or use public transport.

A more integrated and denser city is a city with shorter distances. This implies that demand for travel time per person decrease, which promotes transport modes for short trips; walking, cycling and public transport become the most rational means for moving throughout the city. Densification makes it possible to create a more sustainable transport system, and a more sustainable transport system is made possible by a denser city.

DEMOCRATIC DIVISION OF URBAN SPACE

When Malmö and the region are growing, the claim for urban space grows – a greater number of people living, working and spending time in the city implies more movement and transport of humans, goods and waste. More people and interests should be able to gather on the city's streets.

Reorganisation of the city's streets and cityscapes allows a greater number of people to move on foot, by bicycle and with public transport, which implies a more gender equal transport system with greater mobility and freedom of movement. More people, regardless of gender, age, physical ability or socioeconomic conditions, have access to these transport modes as compared to a transport system dominated by car traffic. A development towards a more balanced modal split leads to a more equal, democratic and accessible city for more people.

There are examples of how greater space claims by pedestrians and cyclists can be combined with better accessibility for freight traffic. Creating pedestrian streets and walking street areas, where loading and unloading generally is allowed, is such an example.

ONGOING

Drawing attention to sustainable transport in the interdepartmental work on the Exploitation strategy (GK, SBK).

Drawing attention to sustainable transport in the interdepartmental work on the Plan for for public services' land need (PLASMA) (SBK, GK).

Vision for Lorensborgsgatan as an urbanized main road. *Illustration: Dziugas Lukosevicius*

URBANIZED MAIN ROADS – STREETS CONSTITUTED BY MOVEMENT AND URBAN LIFE

The greater part of all person miles travelled (PMT) in Malmö takes place on main roads. These tie different urban areas and destinations together, and people use them to orient themselves in the urban structure. The greater part of all traffic accidents, as well as the most serious ones, happen along main roads. Main roads also have the highest proportion of air pollution and traffic noise. Along main roads, the challenges regarding a more sustainable transport system and a more attractive city meet. The design of urbanized main roads carries a strong symbolic value for the desired traffic system and urban environments.

A development of today's main roads into urbanized main roads would lead to better accessibility, reduce perceived and physical barriers, and interconnect different urban areas. Redefining main roads into urbanized main roads marks a paradigm shift in the view of how main roads should be designed and used.

Urbanized main roads must be designed in a way that contributes to reaching the goals of a changed modal split for the inhabitants' and commuters' trips, and to create a more accessible and attractive city. Taking a holistic approach, both regarding whole road stretches and streetscapes from façade to façade, is crucial for how well the transformation of existing main roads into urbanized main roads will succeed. Urban development, through more buildings and urban environments in streetscapes, can and should strengthen such a development.

ONGOING

Implementing actions in the Noise programme 2014-2018 (GK, MF).

Implementing a Modified action programme in order to reach the environmental quality norm for nitrogen dioxide 2011 (GK, MF).

NEXT STEP

Develop a method and strategy for a holistic approach in the transformation of main roads into urbanized main roads, and investigate funding that supports this approach (GK, SBK, FK, MF).

URBANIZED MAIN ROADS – POTENTIAL AND DEFINITION

All existing main roads in Malmö should be viewed as potential urbanized main roads. The different criteria described below should be guiding when main roads are re-organised into urbanized main roads. The Sustainable Urban Mobility Plan describes how existing main roads can be turned into urbanized main roads according to the SUMP goals and vision. In order to secure a holistic approach, a broad attempt is required where urban development and potential exploitation are important aspects. Existing and planned infrastructure for cables underground is an important aspect to take into consideration early in the planning process. There are two potential approaches to implementation.

Transformation in connection to urban development through exploitation

The Exploitation Strategy, developed within the City of Malmö, provides a framework for a reconstruction project where exploitation, reorganisation of public space and the traffic system can be coordinated. This can lead to important gains in coordination as well as synergy effects.

Transformation in connection to urban development, without exploitation

Target oriented planning towards a reorganisation of existing infrastructure, and development of public spaces, can spur the transformation. Through defining clear priorities and measures for each road, this can be implemented without exploiting in existing urban environment.

The components of an urbanized main road

There is not *one* kind of urbanized main road. Every street and cityscape has its own conditions with destinations, qualities, claims and space limitations. The criteria described below are all important for creating an attractive urbanized main road. The six criteria are described under the following headlines: *Space for everyone, Slow pace – higher traffic safety, Short distances between intersection points, Defined streetscape – the importance of street facing storeys, local claims and façades, Green and blue values, Distinct disposition of space.*

It should be possible to move along an urbanized main road in multiple ways. Urbanized main roads should, through their design, clearly signal a slow pace in traffic. They should open up for urban life, and have enough space for traffic and movements as well as for people spending time both in spontaneous and planned manners. Other important functions to take into consideration are city logistics and space for rescue vehicles. The main task of an urbanized main road is to gather movements, urban life, claims and functions, and, through that, fight barrier effects. From this perspective, human beings will be the most important actors, and human beings should be in focus in the design and use of urbanized main roads.

Space for everyone

There should be space for everyone to move along an urbanized main road – regardless of gender, age, physical ability or socioeconomic conditions. Surface efficient transport modes (walking, cycling and public transport) are prioritised on urbanized main roads, which makes it possible for people to move in multiple ways. This creates better accessibility, higher safety and a more democratic urban environment.

Slow pace – higher traffic safety

An urbanized main road should clearly signal to road-users that they should move calmly. The distances between intersection points for pedestrians and cyclists should be relatively short. The way these intersections are designed should lead to slow pace and high traffic safety. Narrower parts, side shiftings and different kinds of paving are other principles that create variety and lead to a slower pace. These measures are placed next to intersections, on stretches of roads or on destinations where many people move on foot or by bicycle.

Short distances between intersection points

Short blocks, preferably not longer than 100 meters, and connecting streets, create a variety along an urbanized main road. This variety opens up the road for light and movement. The interruptions that occur by natural means at intersection points have a softening effect on the pace in traffic. Along urbanized main roads and crossing local streets, the routes for pedestrians and cyclists run along the entire street and are speed limited.

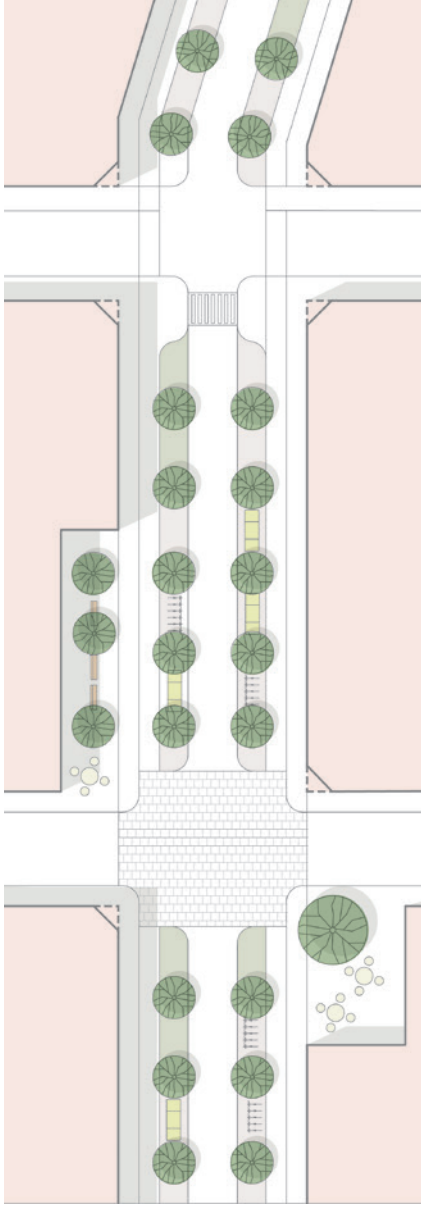
Intersections connecting urbanized main roads and other roads can vary depending on space, function and character. At-grade junctions is the most common type, but circular intersections could be a good alternative if they are designed on the city's terms and do not noticeably impair level-of-service for pedestrians, cyclists or public transport.

Defined streetscape – the importance of street facing storeys, local claims and façades

The edges of an urbanized main road influence how the streetscape it experienced. Varied façades with mixed content, and entrances that are directed towards the street, strengthen the image of an urbanized main road. The variety of stores, offices, residential buildings and public activities on the ground floor activates the streetscape and generates safety during day and night. Good lighting and lighting design improves the way in which a streetscape is apprehended and can strengthen functions and create holistic experiences. The streetscape is further made alive through stores and cafés with seating out areas under the trees along the street. In order to create favourable living areas along an urbanized main road, the structure of the block is important. One possibility is to plan for apartments that stretch from one side of the house to the other, and thus have one side that is quieter.

Connecting local street with speed limited cycle lane running along the entirestreet, Nobelvägen, Malmö.

Photo: Åsa Svensson



Sketch showing a variety in street and buildings.

An urbanized main road invites people to move in a slower pace, but also encourages pedestrians, cyclists and car-drivers to make stops along the road. This is enabled through, among other things, attractive furnishing and organisation of the street facing storey, i.e. the area between façade and driving lane.

Urbanized main roads can vary in character, which improves walkability and makes movement throughout the city full of experiences. A variety in façades, local claims as well as in size of the street facing storey creates a varied streetscape which leads to a pleasurable micro climate and high quality for visitors. Widening of street sections at some places along the road creates space for functions such as retail, cafés or attractive green areas. This increases the potential for enjoyable urban life and spontaneous encounters.

Along an urbanized main road, there is often space for retail (in kiosks), benches and seating out areas. Bicycle parking facilities, bicycle service (bicycle pump etc.) and stops for public transport are also defined destinations in the streetscape. On the street facing storey, there is always space for green elements such as trees and plantations. Artwork and information boards also belong to the street facing storey.

Along an urbanized main road, goods must be delivered and waste collected. Embarkation and disembarkation points for cars and city logistics can be established between trees for an efficient land use and in order to create a distinct and favourable streetscape. Stops for public transport contribute to urban life through their function as focal points. On urbanized main roads, there is usually only one lane in each direction for general vehicle traffic.

Green and blue values

There is great potential for creating more green and blue (urbanized main) roads in Malmö. Green and blue environments are important for mental and physical well-being. Bringing more green and blue values to public space creates more attractive and more visitor friendly cityscapes, and upholds the city's ability to maintain and produce eco-system services.

Trees are important for urban life, Fersens Väg *Photo: Åsa Svensson*

Trees are very important for how a street is experienced; they frame and create space. Green environments give shade and coolness during warm summer days, generate variety through the contrast to buildings and paving, and draw attention to how the seasons pass. The crowns of the trees reduce wind and enhance atmospheric humidity, which creates a better micro climate. Trees have the ability to absorb exhaust fumes and particles from motor traffic, but can also have the effect of closing in air pollution.

Green spaces along streets can work as deposits for run-off water, clear run-off water from hard surfaces and help to handle strong rain showers. Green streets can contribute to improving the proximity and accessibility to parks. Additionally, green streets can interconnect parks and green areas and, through this process, contribute to a more robust green structure.

Distinct disposition of space

In order to reduce barrier effects and create more urbanization, all land use along an urbanized main road should be distinct.

Walking traffic and bicycle traffic are given dedicated lanes that are separated from other transport modes and each other. Public transport and general motor traffic should have their own lanes in order to secure good accessibility.

The main assumption is that an urbanized main road should not be laid out with longitudinal traffic refuges; these can create mental barriers, rend crossing movements for unprotected road-users more difficult and lead to higher speeds.

However, longitudinal traffic refuges can be used as zones for tree plantations in order to create spatiality; sometimes it is not possible to plant trees on the edges of a street. The longitudinal traffic refuges on an urbanized main road should not contain fences or other elements that create barriers or make it harder to cross the street.

At specific intersection points for unprotected road-users, short refuges can be used in order to ensure traffic safe movements across urbanized main roads.

Holistic solutions for the functions of an urbanized main road
Future urbanized main roads should be laid out in a way that can meet a strong increase in trips on foot, by bicycle and with public transport. Their design should also open up for more urban life through space for local claims.

Every urbanized main road has its own conditions with destinations, claims on functions and limited space over and under ground. The ambition is that every urbanized main road should have as rich content as possible and that holistic solutions should guide its design. This requires coordination, and sometimes prioritisation of certain functions. In order to manage and use attractive urban environments, it is important to emphasize the importance of operational work and service work at an early stage in the planning process.

Support for functional planning along urbanized main roads
In a denser city, the claims on urban space increases, which in turn strengthens demand for prioritisation of functions. The criteria for urbanized main roads, and the model supporting the planning of urbanized main roads (see page 60) should simplify the transformation.

The basic principle is that prioritisation of functions and the design of urbanized main roads should contribute to reaching the goal of a changed modal split and the overarching goals of an attractive and sustainable city. To reorganize surfaces in streetscapes so that traffic is more adjusted to human beings is thus an important part in urban development.

The functions A-H describe the claims that can exist in today's main roads or urbanized main roads. The model on page 60 should be seen as support in planning for functions that should be taken in consideration in the transformation. The classification of traffic modes in the model is based upon planning guidelines for traffic in the Comprehensive Plan.

The goal of transforming today's main roads is to design attractive urbanized main roads that make sustainable travelling possible. All functions do not come in question for all urbanized main roads. It is not a target in itself that all functions should exist on each urbanized main road; rather, the goal is to find a holistic solution. This implies making priorities that support the goals of changed modal shares and the city's overarching goal about an attractive city. In the web-based map tool, integrated in the Comprehensive Plan, there is more information about claims and planning guidelines for today's main roads and future urbanized main roads. These guidelines should be used as support for planning and/or other urban development projects.

NEXT STEP
Develop the City Administration's Technical Design Manual, that is used for implementation of construction on public ground, so that guidelines and measures regarding traffic space correlates with the goals of changed modal shares (GK).

Study the potential for eco-system services along urbanized main roads within the Plan for Malmö's Green and Blue environments (GK).

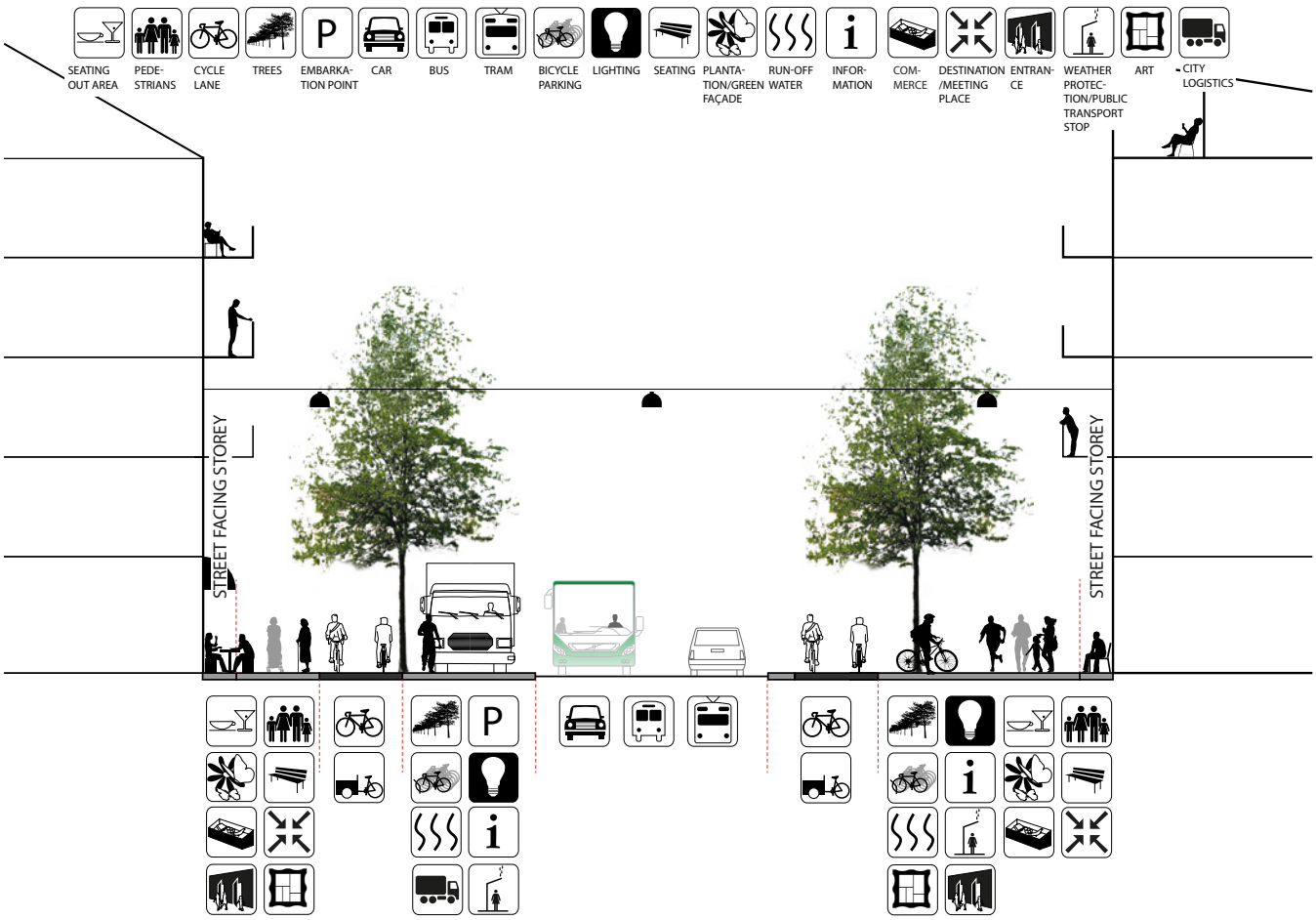
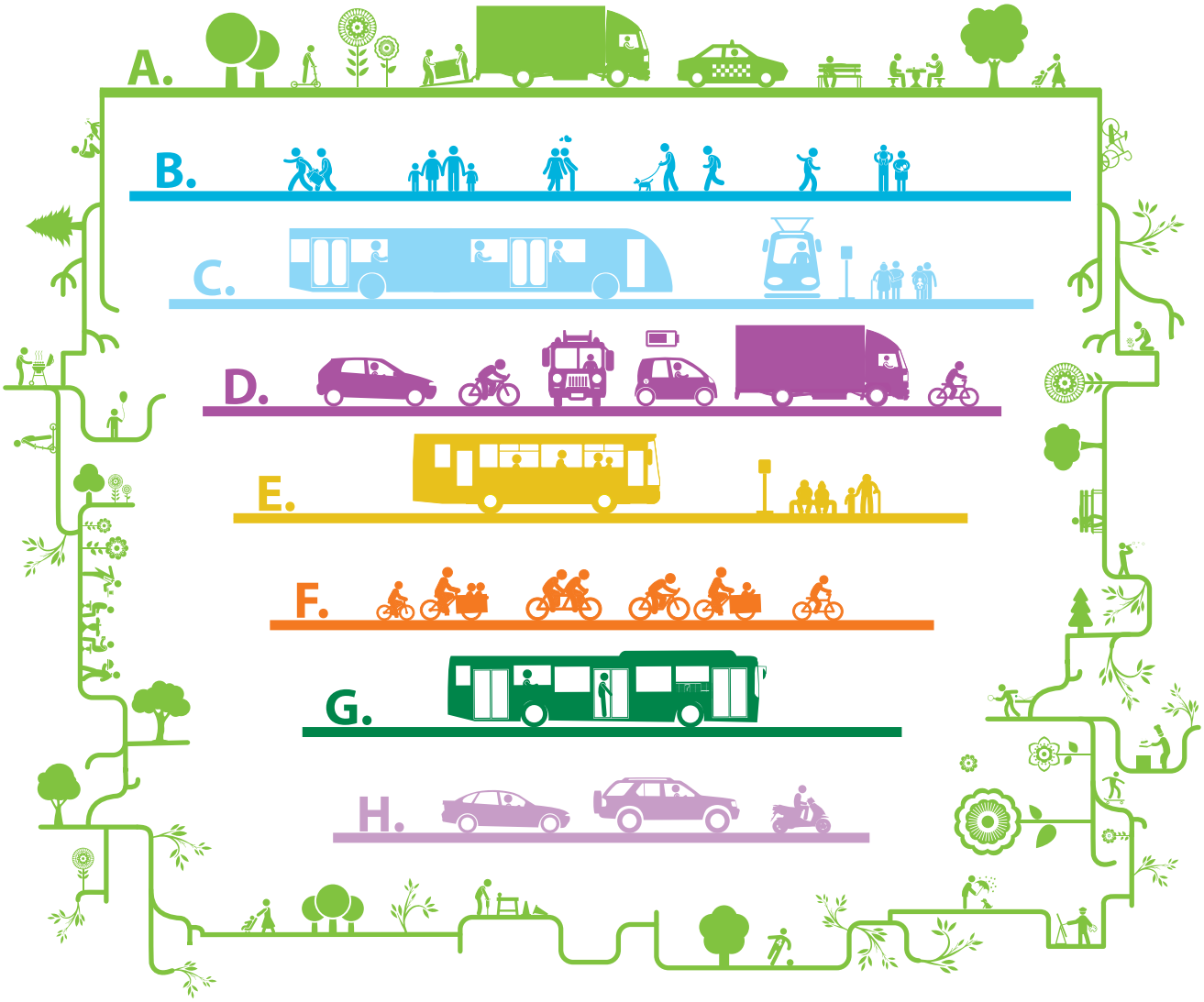


Illustration schematically displaying important functions along an urbanized main road and where they usually belong. *Illustration: Tobias Starck*



A. Urban life/ Local claims

B. Pedestrians

C. Malmöexpress/ Railway

D. General vehicle traffic, including bicycles in mixed traffic, two lanes

E. Regional buses

F. Main cycle, separated cycle lane

G. Trunk line buses

H. General vehicle traffic, four lanes

General planning model for urbanized main roads. The overarching goal in the transformation of main roads into urbanized main roads is to create a holistic solution that helps to reach the goal of changed modal shares and an attractive city. Going through the model more than once opens up for a favourable process and a holistic outcome.

Urban life/local claims (A) can vary strongly in character along urbanized main roads, but are always important aspects of how a street is perceived, its functions, design and holistic impression. In a city with shorter distances, the local claims allow a favourable urban life to prosper and should be seen as a basic requirement and a target in itself. Example of local claims are trees, places for spending time, stops for public transport, cultural expressions, refuges to enable safe crossings, space for embarkation and disembarkation for general vehicle traffic, taxis and community transport, urban recreation, zones for city logistics, loading and waste management, seating out areas, meeting places, handling of run-off water and bicycle parking facilities. Accessibility for rescue vehicles, waste management vehicles and operation and service vehicles should be taken into consideration and be provided for in the local claim.

Pedestrians (B) is the first transport mode that should have space provided, both in terms of longitudinal and crossing movements. Space is put in proportion to existing or potential urban life and should be designed for movement and encounters for everyone, meaning that good accessibility should be the norm. Pedestrian zones are described in the Comprehensive Plan, and planning guidelines should, together with the Pedestrian Programme and the Walking Lane Plan, work in a guiding manner.

Good level-of-service is important in order to make **MalmöExpressen,**

Regementsgatan in Malmö, an example of multiple functions gathered to a holistic solution. *Photo: Åsa Svensson*

trams or a corresponding type of efficient public transport (C) a structural and competitive transport mode. For this transport mode, separate lanes should be built. Short and soft stretches between destinations and priorities in intersections are example of important aspects. In pedestrian zones and at intersections with main bicycle lanes, high traffic safety for unprotected road-users should be guaranteed.

General vehicle traffic, one lane in each direction (D) provides for level-of-service for vehicles along the existing network of main roads. This notion contains passenger traffic, bicycle traffic in mixed traffic (if the physical form supports slow speeds), public transport in mixed traffic, freight traffic, city logistics, community transport and taxi vehicles. Space for rescue vehicles and civil protection can be an important aspect to take into consideration in the design of urbanized main roads. Slow speed in traffic is important in order to reduce barrier effects to a minimum, improve traffic safety and reduce environmental impact and noise levels.

In order to reach the goals regarding sustainable commuting, it is important to improve accessibility and level-of-service for regional public transport along urbanized main roads. **Regional buses (E)** could share driving lanes with city bus traffic.

Main cycle lanes (F) make up the existing, dense network of cycle lanes, as well as their supplements that should improve accessibility and level-of-service for bicycle traffic. The main cycle network is, when possible, arranged on separate lanes and, in the long run, on both sides of the main road. The cycle network is constituted by cycle lanes in the local street network, along existing main roads and in a cycle network. There are also prioritised main cycle lanes, which are raised classification of certain lanes in the cycle network. In order to reach goals about a changed modal split, these lanes must be able to meet increased demand for bicycle trips. Therefore, prioritised main cycle lanes should offer high capacity and good level-of-service, and should always be separated from other transport modes.
The trunk line buses (Stomlinjebuss) (G) (city bus lines 1-8) constitute most city bus traffic, and should therefore be given high priority on separate lanes – that could be shared with regional bus traffic or other public transport. The network made up by trunk line buses should be prioritised in order to generate high capacity, good level-of-service, accessibility and comfort. Plus line buses (city bus lines 31-35) should also be prioritised.

The majority of today's main roads are designed for **general vehicle traffic with two lanes in each direction (H).** The notion 'general vehicle traffic' contains passenger traffic, public transport in mixed traffic, freight traffic, city logistics, community transport, taxi vehicles and civil protection vehicles. A slow pace in traffic is important in order to reduce barrier effects to a minimum, improve traffic safety and reduce environmental impact and noise levels.

In order to reach the goals of changed modal shares, existing main roads for general vehicle traffic with two lanes in each direction should, to the greatest extent possible, be reorganized.

Embarkation and disembarkation for general vehicle traffic along urbanized main roads
In the development from main roads into urbanized main roads, lanes for car traffic should partly be reorganized in favour of local claims and/or to give more space to other transport modes. In this development, more space for embarkation and disembarkation, short time parking facilities or loading zones for goods delivery and waste management along a street might be required. Such functions should be provided for on the street facing storey for local claims and can be placed between trees or furnishing.

Today's main roads are often regulated as main routes. This means that loading or unloading, as well as embarkation and disembarkation, is permitted along the roads. Dedicated space for embarkation and disembarkation, and short time parking facilities, can open up for more stores and slower pace, which improves traffic safety. Embarkation and disembarkation, short time parking facilities and delivery of goods can take place on constructed ground or on side streets. However, this is not possible in a denser city, and other measures might be necessary in order to find a holistic solution.

Urbanized main roads and intersections
The way intersections are laid out is crucial for accessibility and level-of-service for all traffic modes. A large increase in the number of trips on foot, by bicycle and with public transport should be estimated, which calls for an approach that works towards a more integrated traffic environment and interconnected prioritisation of the more sustainable transport modes. Consequently, solutions for intersections could differ from case to case.

The design of both road stretches and intersections along urbanized main roads should lead to slow pace, not least regarding crossing movements for unprotected road-users. In these cases, speed limits are recommended. Circular intersections can be considered in order to secure slow speeds and high traffic safety.

If public transport is present in intersections where pedestrians and cyclists move, the amount of traffic in different directions must be taken into consideration. To regulate such intersections with traffic lights is one way to prioritise over time and create interplay in the traffic environment. If there is public transport on rails, the demand for traffic lights will increase.

A gathered strategy for traffic lights can, in the long term, be used in order to reduce transit traffic by cars through the inner city. The implementation of such a strategy can regulate congestion, disperse car traffic in the traffic system, clarify priorities of transport modes and enable for balanced traffic in the central parts of the city in favour of changed modal shares according to set goals.

HOW LOCAL ROADS CONTRIBUTE TO URBAN LIFE

The city's local roads make up a dense network that should allow movements in slow pace. Urban life and local claims in the form of trees, seating out areas, loading zones, meeting places and bicycle parking facilities should be guiding in the design of local roads. This opens up for better accessibility for a greater number of people, and contributes to attractive urban environments and quality of life. On local roads, transport modes can be mixed if the physical form supports slow pace in traffic.

Local roads and their intersections can be regulated and designed as pedestrianized walking speed areas in order to reduce speed and by those means increase the possibility for people to meet and spend time there. Such regulations also create more flexibility for goods delivery; loading and unloading can be carried out at a suitable place and time within the walking speed area.

NEXT STEP
Develop a strategy for traffic lights. This can be carried out within a Programme for sustainable Car Traffic (GK).

Example of a local road, Fricksgatan in Malmö. *Photo: Åsa Svensson*

Rundelsgatan, Malmö – an example of a local road. *Photo: Åsa Svensson*

NEXT STEP

Develop a method for how existing action plans for different sector programmes within the Streets and Parks Department can be integrated and implemented for each road or according to another geographical division that facilitates a holistic approach (GK).

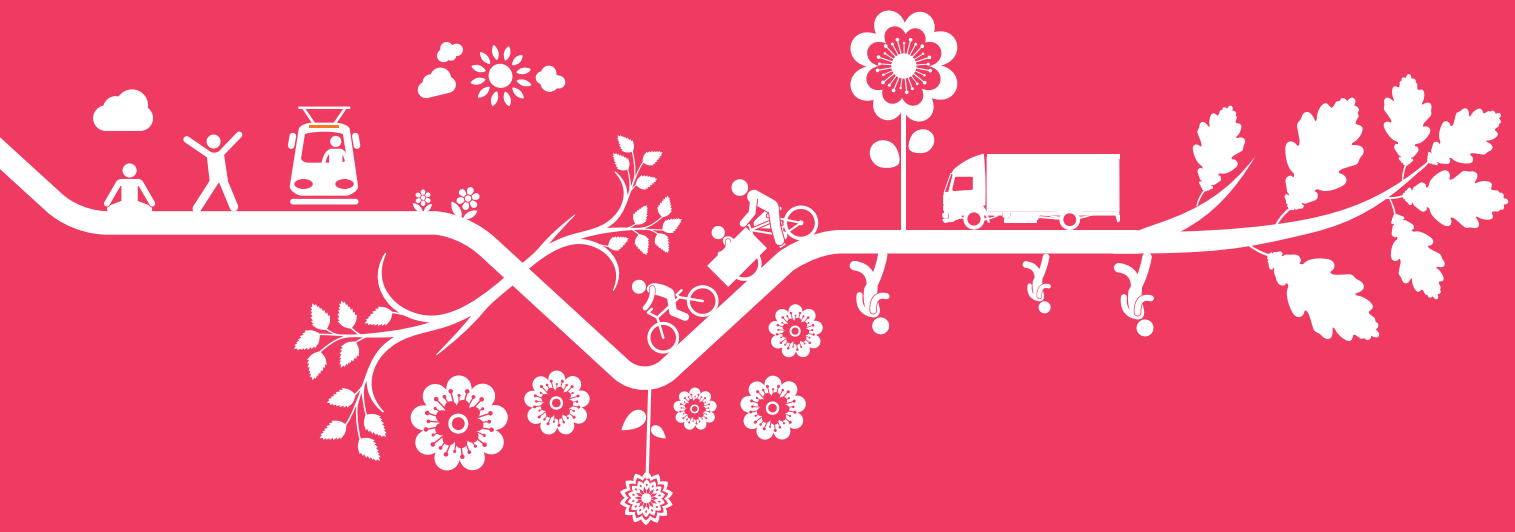
Investigate the proportions of transit traffic in Malmö's inner city. This can be carried out within a Programme for sustainable car traffic (GK, SBK, MF).

Investigate which main roads that should have limited car traffic and reorganized surfaces for car traffic in favour of other transport modes, urban life and local claims. Consequences should be formulated, which can be carried out within a Programme for sustainable car traffic (GK, SBK, MF).

Develop a strategy for traffic safe urbanized main roads within the Strategy for traffic safety 2015-2020 (GK).

5 IMPLEMENTATION

- ORGANISATION
- RESPONSIBILITY FOR ACTIONS
- FUNDING
- COOPERATION AND NETWORKS
- COMMUNICATION
- *ONGOING* PROCESSES AND *NEXT STEP* ACTIONS
- IMPACT ASSESSMENT



ORGANISATION

All departments represented in the Order group share responsibility for realising the plan's strategies and actions. The SUMP goals, planning conditions and strategies should be guiding within each department in planning work, implementation and follow-up. All aspects of urban planning are of fundamental importance in order to create good conditions for a more sustainable transport system and a more attractive Malmö.

RESPONSIBILITY FOR ACTIONS

The interdepartmental collaboration – the foundation in the development of the plan – is a requirement for implementing its actions and reaching its goals. The implementation is based upon continuous cooperation with the regional water and sewage company (VA SYD), civil protection (Räddningstjänsten Syd), the regional public transport authority (Skånetrafiken), Region Skåne, the project HMSkåne for sustainable mobility, the Swedish Transport Administration (Trafikverket), neighbouring municipalities, national agencies, universities, business and other important actors.

The implementation should be coordinated, but different departments should carry the main responsibility for different actions. This is determined for each action. After political adoption of the SUMP, a new steering group for implementation and follow-up should be appointed by the current steering group. The steering group for implementation and follow-up should contain decision-makers from the City office, Streets and Parks Department, City Planning Office, Real Estate Office and Environment Department.

Project coordinators and the Project group for implementation and follow-up are appointed by the Steering group. Implementation of each action is carried out through projects or within the hierarchical organisation. Project coordinators and the Project group are responsible for coordination and information.

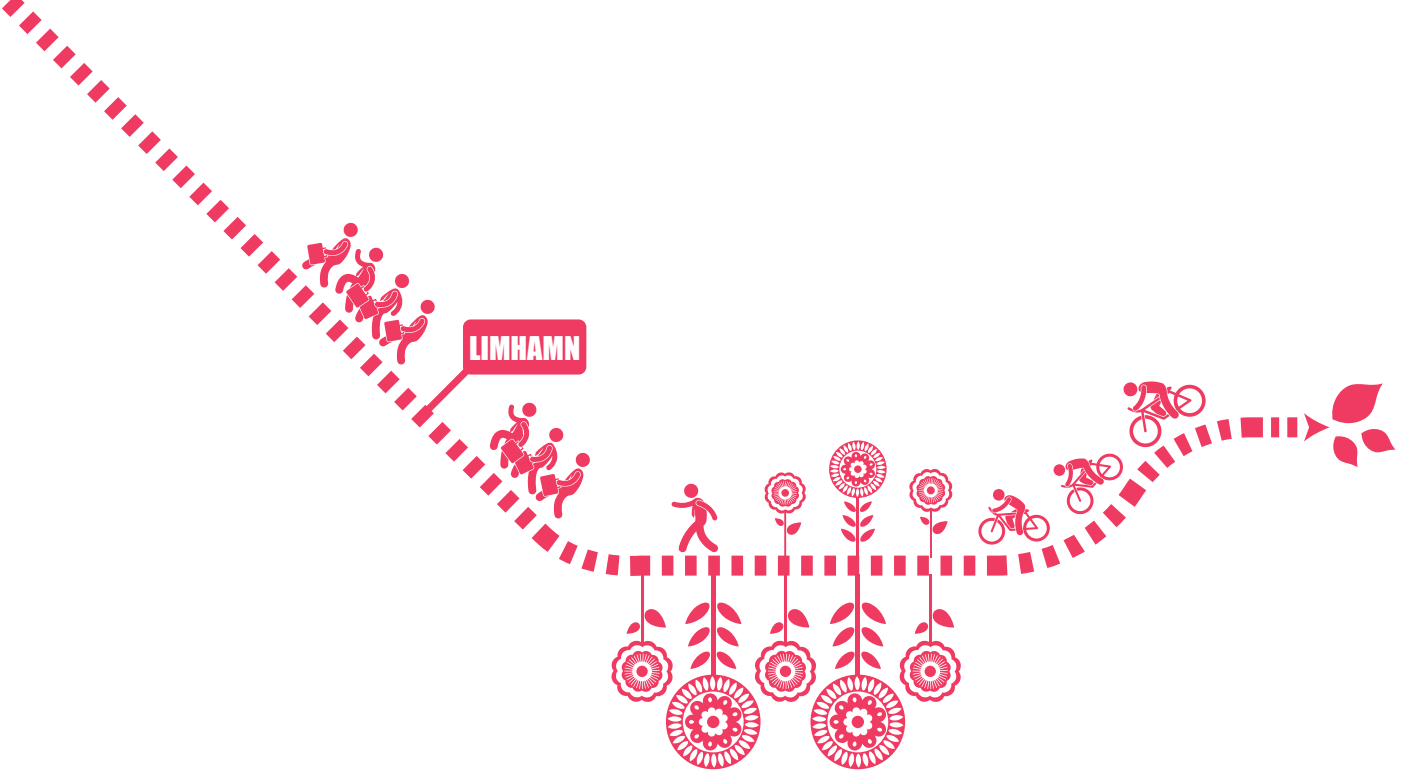
The Steering group for implementation and follow-up is responsible for:

- Implementation in general,
- Integrating actions in operational plans and budgets,
- When needed, lifting actions for political treatment,
- Integrating strategies and actions in the hierarchical organisation,
- Follow-up of actions and goals as well as of the work process itself,
- Taking action if the plan is not followed, and taking a stand on whether the plan should be revised,
- Yearly reporting the status of the plan and the development of a sustainable transport system to concerned political boards and managements.

Project coordinators and the Project group for implementation and follow-up are responsible for:

- Monitoring the implementation of actions,
- Making the steering group aware of potential need for funding, changed methods or working routines,
- Yearly composing a report with follow-up of goals, strategies and actions and reporting the development to the Steering group,
- Lifting the potential need for revision to the Steering group,
- Advocating the SUMP and its intentions within their respective departments.

The Sustainable Urban Mobility Plan should be updated in relation to an updated Comprehensive Plan or when needed due to major changes. An updated Sustainable Urban Mobility Plan should be adopted every four years.



FUNDING

The plan should be funded within regular budgetary framework, provided there are no particular reasons to apply for increased funds from the City Council. A holistic approach is important when it comes to operational planning, and this should be reflected in future budgeting. Physical actions should, for example, be gathered for one whole road stretch in order to enable a holistic approach in the transformation from main roads into urbanized main roads. For some actions and processes, external funding can be applied for from the state, the region and the EU. During the plan's validity period, the local authorities should take part in different EU projects focusing on sustainable traffic and mobility, both in order to increase necessary knowledge and to share experience and knowledge possessed by the City of Malmö and its employees.

COOPERATION AND NETWORKS

It is important to cooperate with other municipalities, organisations, business and civic society, especially considering that many of the city's challenges must be faced with joint measures stretching over municipalities and competences. Further development of a sustainable transport system, and Malmö as an attractive city, is based upon cooperation with different actors in society. There are established interfaces, e.g. with the regional public transport authority (Skånetrafiken), the Swedish Transport Administration (Trafikverket), the project HMSkåne for sustainable mobility, and neighbouring municipalities. These must be strengthened. Additionally, there are potential new forms of networks and partnerships and, in this context, private business and organisations are important actors. The networks that have been established as parts of the freight traffic collaboration should serve as a model. It is also important to cooperate with other cities in Sweden and Europe in order to gain more knowledge and exchange experiences.

COMMUNICATION

During the plan's validity period, information and communication play important roles, e.g. through workshops, presentations on conferences and other extrovert activities. A platform for delivering messages should, together with communication competence, be developed by the Project group, subsequently to the political adoption of the plan. The platform should be used when the adopted Sustainable Urban Mobility Plan is communicated internally with departments, political boards and municipal companies, and externally with inhabitants, media, neighbouring municipalities, cities and other concerned actors. The Sustainable Urban Mobility Plan should be accessible on malmo.se.

ONGOING PROCESSES AND *NEXT STEP* – ACTIONS

In the SUMP document, there are bright green and bright blue boxes with examples of processes and actions that are ONGOING and suggested as NEXT STEP. Below, actions for NEXT STEP that should be started or implemented within the validity period of this version of the SUMP are listed. A rough prioritisation of actions, divided into three groups, has been developed departing from an estimation of what effect they have in reaching the overarching goals of the Sustainable Urban Mobility Plan and the City of Malmö. The NEXT STEP actions are not resource budgeting or time limited.

ONGOING
Example of ongoing processes.

NEXT STEP
Proposal for new actions.

Greatest effect

1 – When developing operational plans, policy documents and in planning, the main assumption should be the goals for sustainable transport for the 15 geographical SUMP areas. The objectives of changed travel behaviour and the Exploitation Strategy should strengthen each other (GK, SBK, FK). See p. 32.

2 – In-depth investigations containing clear strategies regarding target oriented transport demand will be carried out in chosen sub areas (GK, SBK). See p. 32.

3 – Develop a method for how existing action plans for different sector programmes within the Streets and Parks Department can be integrated and implemented for each road or according to another geographical division that facilitates a holistic approach (GK). See p. 57.

4 – Develop methods and strategy for a holistic approach in the transformation of main roads into urbanized main roads, and investigating funding that supports this holistic approach (GK, SBK, FK, MF). See p. 47.

Great effect

5 – Develop a concept for coordinated dialogue and mobility management measures in order to create higher participation among inhabitants, departing from increased sustainable travelling in each SUMP area. The visions for each area should serve as a basis for this project (GK, SoF). See p. 21.

6 – Establish new collaborations where social sustainability, in a clearer way, is connected to mobility management measures, e.g. through framing Bicycle rights for all citizens (GK, SK, SoF). See p. 25.

7 – Develop a model that enables business to - through their work with CSR* - take active part in Malmö as a bicycle friendly city (GK, SKB, MF, SK). See p. 25.

*Corporate Social Responsibility

8 – Further develop Malmö departing from the action plan developed by the Commission for a socially sustainable Malmö, and more clearly connecting this project to traffic and freedom of movement in the city (GK, SBK, SK). See p. 19.

9 – Develop a Safety Strategy for public places (GK, SBK, SK, SoF). See p.19.

10 – Definine an equal traffic system for Malmö. Clarifying measurable targets and indicators (GK, SBK, SK). See p. 20.

11 – Increase resources and developing mobility management in the exploitation process (SBK). See p. 38.

12 – Widen cooperation with the regional public transport authority (Skånetrafiken) and mobility management within the Streets and Parks Department in order to coordinate measures (GK). See p. 38.

13 – Developing a Programme for sustainable car traffic with, e.g., the following content:

- Definition of sustainable car traffic (GK, SBK, MF). See p. 27.
- Identification of selection of and access to free car parking facilities close to workplaces and on ground destined for housing construction, as well as developing strategies to control these (GK, SBK). See p. 40.
- A Traffic Light Strategy (GK). See p. 56.
- Investigation of proportions of transit traffic in Malmö's inner city. This can be carried out within a Programme for sustainable car traffic (GK, SBK, MF). See p. 57.
- Investigation of which main roads that should have limited car traffic and reorganised space for car traffic in favour of other transport modes, urban life and local claims. Consequences should be described. See p. 57.
- Development of a new Strategy for Green Vehicles. Monitoring technical development within the fields of vehicles and renewable fuels (GK, MF). See p. 28.

14 – Increasing knowledge of freight traffic and developing a long-term Freight Traffic Strategy as a complement to the Freight Traffic Programme (GK). See p. 42.

15 – Developing the City Administration's Technical Design Manual, used for implementation of construction on public ground, so that guidelines and measures regarding traffic space correlates with the goals of changed modal shares (GK). See p. 52.

16 – Developing a strategy for traffic safe urbanized main roads within the Strategy for traffic safety 2015-2020 (GK). See p. 57.

17 – Implementing a pilot project along a road stretch, with actions departing from the objective of changed modal shares and target oriented projections (Gk, SBK, FK, MF). See p. 32.

18 – Developing and trying out a concept of a car free school, both regarding taking children to school and freight traffic (GK, SBK, FK, MF, FSF, GSF). See p. 20.

Significant effect

19 – Studying the potential for opening up for eco-system services along urbanized main roads within the Plan for Malmö's green and blue environments (GK). See p. 52.

20 – Gathering in-depth knowledge about subjective factors for travelling choices within traffic modelling, and developing scenario modelling to serve as a basis for prioritisation and decision-making. See p. 29.

GK = Streets and Parks Department
SK = City Office
SBK= City Planning Office
MF = Environment Office.
FK = Real Estate Office
SF = Department of Internal Services
SoF = City District Administrations
FSF = Preschool Administration
GSF= School Administration

IMPACT ASSESSMENT

Connections to strategic documents on municipal, regional and national level

One overarching strategy in the Comprehensive Plan is that the city mainly should grow inwards, within the outer ring road, and become a denser, greener, more integrated city with shorter distances. This strategy enables, and is enabled by, changed travel behaviour where more people choose to walk, cycle or use public transport, and less people choose the car as their main mode of transport. In that way, the strategies and goals of the Comprehensive Plan and the Sustainable Urban Mobility Plan are clearly connected and strengthen each other. The work carried out within the Plan for Malmö's Green and Blue Environments, the Exploitation Strategy, the Plan for Public Services' Land Need (PLASMA), the projects "Arkitekturstaden" (the Architectural City) and "Levande Malmö" (Living Malmö), as well as the strategies within the Sustainable Urban Mobility Plan, will be crucial for Malmö's urban development. That these planning aspects are integrated is important in order to reach desired synergy effects and holistic solutions.

Turning Malmö into a regional motor for green growth and ¬employment is made possible by the SUMP strategies for robust, reliable and sustainable commuting and good accessibility for private business transport. These strategies are strengthened through, e.g., the work carried out within the Pedestrian Programme, the Bicycle Programme, Koll2020, the Public Transport Strategy, The Sweden Negotiation and the Freight Traffic Programme. A draft of the Programme for Sustainable Car Traffic will define sustainable car traffic and clarify concrete actions, not least for anticipating problems with congestion.

The goal of strengthening Malmö as a cultural and democratic arena is supported by the SUMP strategies that emphasise the importance of departing from human beings in urban development. Reorganising space for transport modes accessible to more people – girls and boys, women and men – and rearranging space to make it easier to spend time in the city are strategies that will open up for Malmö's streets and squares to be populated and to constitute cultural and democratic arenas. The focus on children's and youths' movements throughout the city, and growing influence from citizens in planning, correspond to the directives developed departing from the work by the Commission for a Socially Sustainable Malmö. Actions in, mainly, the Pedestrian Programme, the Bicycle Programme, Koll2020, the Action Programme for Increased Accessibility and the Traffic Safety Strategy, which are further strengthened by the Sustainable Urban Mobility Plan, contribute to increased social sustainability.

The strategies and coordinated objectives regarding changed modal shares correspond to goals in the Traffic Environment Programme, the Energy Strategy and the Environment Programme. The objectives regarding changed modal shares and a general decrease in car traffic in Malmö, will also be significant in order to reach environmental quality norms for air quality and guide values for noise. Goals and actions for this can be found in the Action Programme for Better Air as well as the Action Programme against Noise.

The Sustainable Urban Mobility Plan correlates with the Regional Development Strategy (Strukturbild för Skåne) and the Regional Plan for Transport Infrastructure. The objective for modal shares of public transport in the Regional Traffic Supply Programme is higher than the ones formulated in the Sustainable Urban Mobility Plan.

The overarching national goal for Swedish transport politics, established by the government, is to secure a transport supply that is efficient in terms of socioeconomics, and sustainable over the long term for citizens and business all over the country. The SUMP vision, objectives and strategies fulfil the overarching transport policy goal and the two underlying goals about function and respect.

The national organisations for public transport have adopted a goal of a long term duplication of the market share of public transport, and a duplication of the number of public transport trips, between 2008 and 2020. The SUMP vision corresponds to the goal regarding a duplication of the number of public transport trips until 2020 departing from the estimated population increase.

The Sustainable Urban Mobility Plan also corresponds to the proposal for a Strategy for Constructed Environment by the National Board of Housing (Boverket) and its target areas regarding sustainable urban planning, construction structure and transports, as well as energy and resource efficiency.

When formulating Urban Environment Agreements for Malmö, the SUMP proposal is lifted as an important and central document that clearly can show how Malmö works with sustainable transport as a part of urban development.

The Sweden Negotiation should enable for a fast implementation of constructing infrastructure for high speed trains between Stockholm and Gothenburg and Stockholm and Malmö. An important part of the negotiation is to strengthen public transport, improve accessibility and increase construction in the three cities. The vision, objectives and strategies of the Sustainable Urban Mobility Plan go well along with the intentions in the Sweden Negotiation. The outcome of the Sweden Negotiation can, in the long term, lead to the need for an updated Sustainable Urban Mobility Plan.

Environmental consequences
In the Comprehensive Plan, the combination of increased motor traffic and denser urban structure is estimated to lead to significant environmental impact. On a local scale, this can lead to worse air quality and noise levels in traffic, which will influence the inhabitants' health in a negative way. This emphasises the importance of following the norms for air quality, and that guiding values for noise are taken into consideration in further planning. It also means that the decrease in car traffic, both in terms of modal shares and number of trips in central Malmö, where the exposure is higher, is utterly important, and that concrete actions should be developed within a Programme for Sustainable Car Traffic.

Social consequences
Malmö's population is young, and population projections indicate that the 6-15 age group will grow the most until 2020. This leads to greater demands for how the city and the traffic system are designed. Traffic safety, accessibility for walking, cycling and public transport, localisation of preschools, schools and leisure activities are important aspects in creating a city for children and youths. These aspects are no less important for elderly and persons with reduced mobility, and help to enable a more equal city. Consequently, it is important to develop methods for describing, measuring and evaluating accessibility for different groups in society.

A city open for movement and people spending time on streets, squares and public spaces, enables richer urban life. This, together with walkability, the human scale, varied and interesting urban environments, leads to trust, understanding, social contacts and safety. A traffic system that focuses on human beings – especially on pedestrians and cyclists – leads to higher safety.

Economical consequences for society and municipality
Increased mobility allows a greater number of people to access qualitative urban environments where people meet and where urban life, innovations and culture prosper. This develops Malmö as a city, meeting place and labour market. Measures targeting a traffic system with good access to walking, cycling and public transport, both in Malmö and the region, allow more people to reach education and work, not least those who stand outside the labour market. It is necessary to investigate the possibilities and effects of the temporary solutions made to reorganise traffic surfaces in favour of walking, cycling and public transport, increased urban life and a greener Malmö.

The proposals in the Sustainable Urban Mobility Plan concerning transforming today's main roads into urbanized main roads should be carried out along with the city's other strategies, in order to open up for holistic solutions and different funding models.

Other important aspects in the transformation of today's main roads are how current and future pipelines underground will be affected, how traffic is influenced by the reconstruction, and how re-regulation during important operational and service work is influenced if driving surfaces for motor traffic is partly limited.

Consequences of the alternative zero
The so called alternative zero is a modal split that has not changed since 2013, neither in terms of inhabitants' trips in the city nor travelling throughout the region.

The proposals for urban development according to the Comprehensive Plan and the Exploitation Strategy about a denser, greener, more integrated city with shorter distances, is estimated to be very hard to realise if the SUMP goal of a changed modal split is not reached. The visions and strategies in these documents are interconnected and enabled through Malmö's common direction for urban development.

If the population, the number of workplaces and destinations in Malmö and the region continue to grow without the goal of a changed modal split is being reached, it will lead to worsened possibilities for inhabitants, visitors, professionals and commuters to move to, from and within Malmö. It will become harder to reach school, work, services, meeting places and other destinations if more efficient transport modes are not offered.

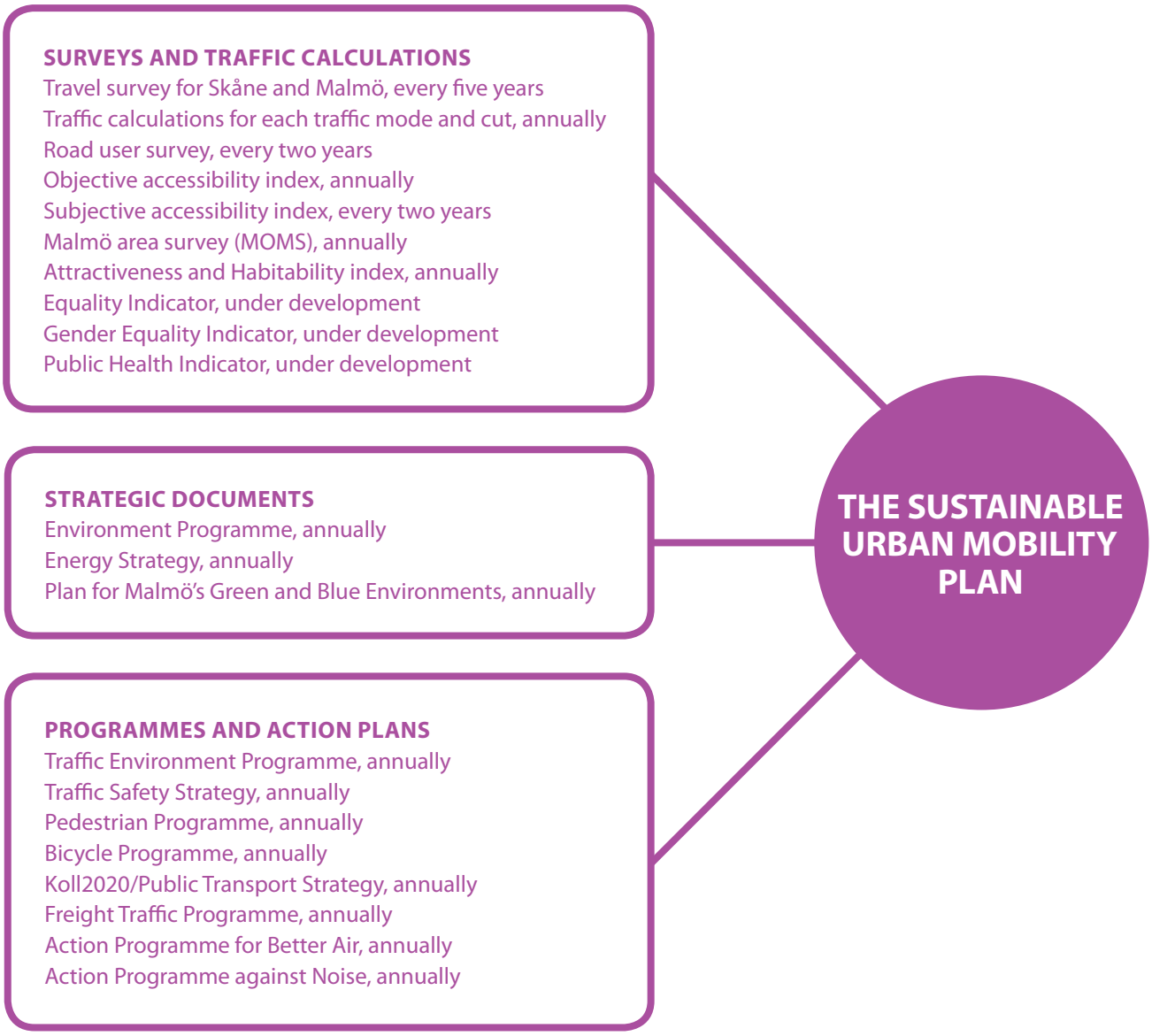
If no measures targeting more and safer trips on foot, by bicycle and public transport are taken, it will be harder for people, regardless of gender, age and income, to move and take part of the city's schools, workplaces and services. The social sustainability would not be strengthened.

Absence of measures and changed possibilities for travelling will, above all, lead to more congestion for car traffic and public transport, given that the population in Malmö and the region grows according to presented population projections. This influences travel time and reliability for these transport modes, which will have negative socioeconomic effects. An alternative to a changed modal split would be expanded infrastructure for motor traffic, which would make space claims, strengthen barrier effects, require expensive investments and weaken the possibility to move with other transport modes.

A population increase and an unchanged modal split imply an increase in the number of car travels in Malmö and the region. This would lead to negative environmental effects, both on a local scale in terms of noise, air pollution and increased energy use, and on a global scale in terms of increased climate impact.

6 FOLLOW-UP

- FOLLOW-UP OF THE SUMP GOALS AND INDICATORS

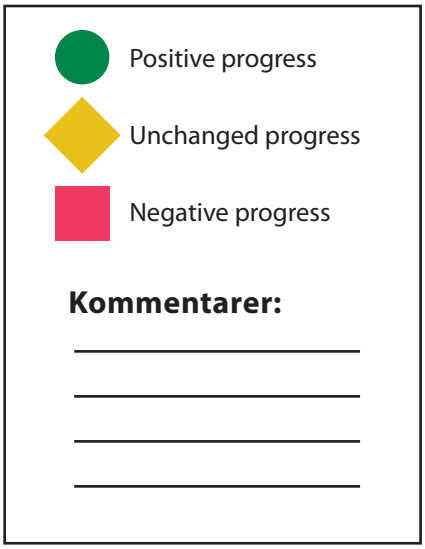


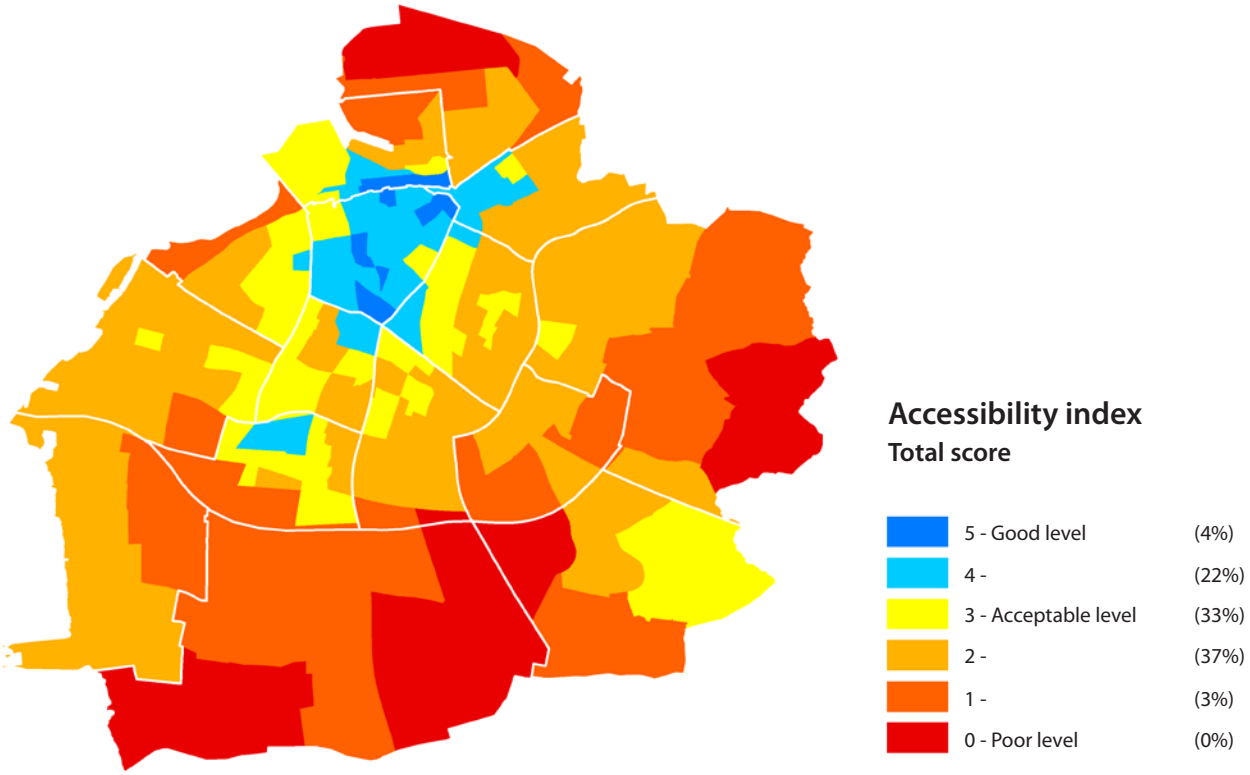
FOLLOW-UP OF THE SUMP GOALS AND INDICATORS

The development of Malmö's traffic, and its effects, should be evaluated on a yearly basis. Departing from the overarching goals set in the Sustainable Urban Mobility Plan, the person responsible for follow-up should each year develop an estimation of the development for the investigations, strategies, programmes, action plans and indicators presented in the figure below.

The follow-up of the development for each strategy, programme, action plan and indicator should consist of the direction the development is taking and a qualitative estimation according to the picture to the right. This should be carried out by the person responsible for each investigation, strategy, programme or action plan and be reported to the person responsible for follow up, who in turn will develop a gathered estimation of the development of sustainable transport in Malmö.

The gathered estimation should be reported to the Steering group, which in turn, or together with the person responsible for follow-up, report to concerned departments and political boards.





EXAMPLE OF INDICATOR

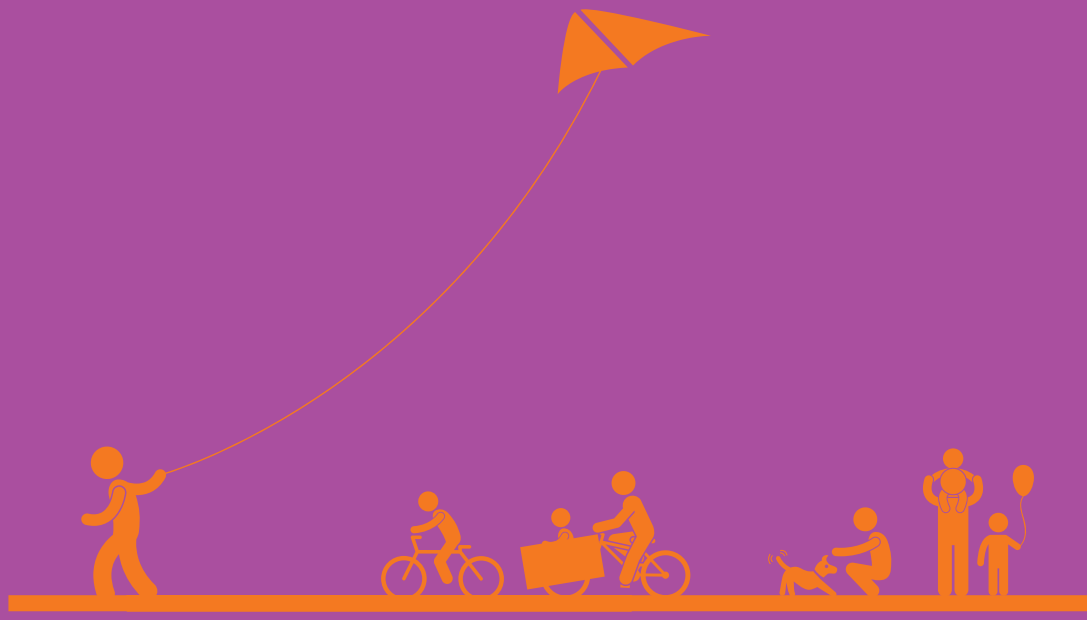
Accessibility Index

More Malmö for more people equals a more accessible Malmö – this is the main assumption in the work towards a more sustainable city and traffic system. The Accessibility Index below briefly describes today's accessibility in Malmö with maps and percentage value. The Accessibility Index can function as support for decisions in planning and in weighing different investments and actions. It also opens up for comparisons between different areas and population groups. The Accessibility Index can constitute support for follow-up of how accessibility in the transport system develops over time and thus be one of several indicators of how well SUMP goals are reached.

The following eight criteria for sustainable accessibility are included in the Accessibility Index.

1. Travel time by walking to 10 destinations
2. Travel time by cycling to 10 destinations
3. Travel time ratio bicycle/car to 10 destinations
4. Travel time ratio public transport/car to city centre, nearest commercial area/shopping mall, and nearest public transport node
5. Distance to nearest bus stop (with good headway)
6. Distance to nearest major public transport node
7. Distance to nearest car sharing facilty
8. Range of travel opportunities, i.e. access to several sustainable transport modes with good accessibility (freedom of choice)

In order to analyse today's accessibility, geographical data with Malmö divided into 225 zones is processed. The map below shows the 15 sub areas that constitute the SUMP areas. The result of the aggregated Accessibility Index from 2013 can be seen in the map and its legend below. In total, half of the areas have acceptable accessibility or better. 59% of Malmö's population live in these areas. Many of the areas with poor accessibility have relatively few inhabitants and low population density. For more background information and methods for the development of the Accessibility Index, see the report "Normative Index for a More Sustainable Accessibility in Malmö".



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