

Part of the Urban Mobility Strategy

# Stockholm Freight Plan



Stockholms  
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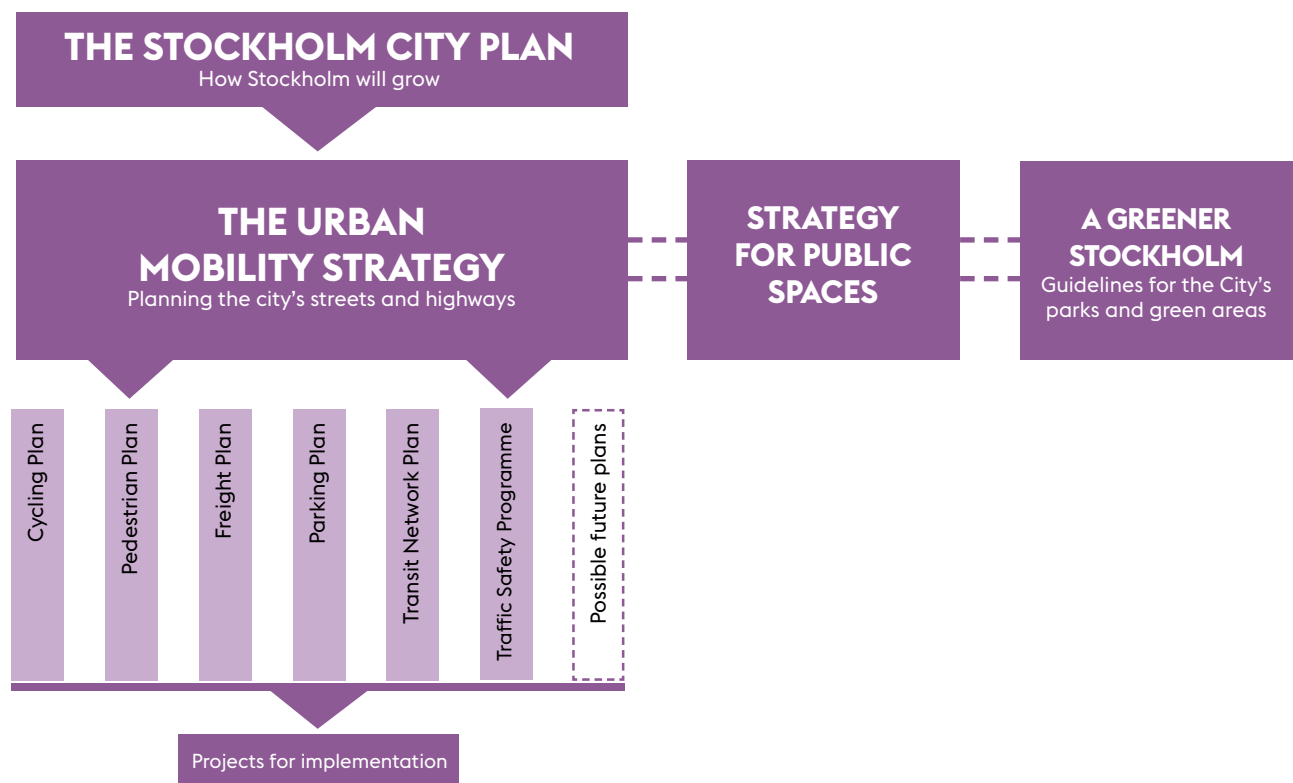
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# Introduction

The City of Stockholm forms the centre of a growing region, which constitutes the largest consumer market in Sweden.

As Stockholm grows, efficient and effective commercial freight transport is becoming increasingly important since we all depend on our goods being delivered and our waste being removed in an accessible city that is pleasant to spend time in.

The region's infrastructure is being expanded, but the population rise will still cause an increase in pressure on the system. This particularly applies to the City of Stockholm, which has a unique position in the region as a central regional core. The situation is reaching a critical point in the inner city, where the road infrastructure of the future will largely remain the same as it is now. This requires new thinking and innovation in developing new solutions for commercial freight transport. Together with numerous other key stakeholders, the City is jointly responsible for this development. The necessary deliveries must reach their destination while commercial freight transport needs to reduce its impact on the environment and climate.

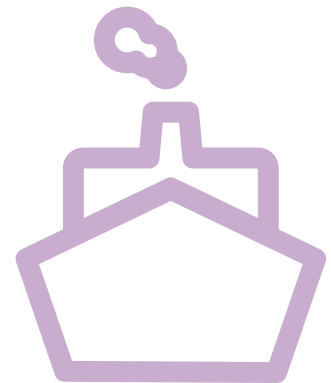
## Commercial freight transport today

The Stockholm region is dominated by a service-based economy and as such is reliant on imported goods – more of which need to enter the region than be transported out. Freight deliveries arrive in the region by sea, rail, road and air, but the final leg usually takes place by truck from one of the freight terminals outside the central city districts, from which return loads by truck generally leave the city empty.

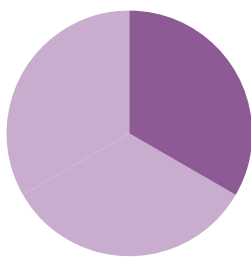
The region's ports represent an important element of commercial freight transport. The sea routes to Stockholm County mainly operate via the Port of Södertälje or the Ports of Stockholm in Nynäshamn, Stockholm and Kapellskär. In 2020, Norvik, Stockholm's major new port, will open north of Nynäshamn. The freight that currently passes through the ports of central Stockholm will then be redirected to other ports, with the exception of the RoRo freight that is carried on regular ferry services. Freight that arrives by sea will be transferred to trucks or trains. Norvik will generate new freight flows and an increase in road and rail freight to the rest of the region. At present, only a few carriers are using the inland waterways for freight transport, despite the fact that Lake Mälaren provides good conditions for this. Since 2014, it has also been possible to use barges for inland shipping in Sweden as the EU regulations for inland waterways were adopted into Swedish law. Inland shipping has the potential to become an important supplement to transport by road and rail.



In the City of Stockholm, the current population of about 950,000 inhabitants is expected to rise to about 1.3 million by 2040.



The region's ports represent an important element of commercial freight transport.



In Sweden, domestic freight deliveries account for about a third of greenhouse gas emissions.

Stockholm forms a hub in the national rail network, which plays a central role in the freight system because it enables rapid, capacity-efficient and environmentally-friendly freight deliveries. There are a number of smaller freight transfer points between rail and road in both the southern and northern parts of the county, with larger intermodal terminals located in Södertälje, Årsta and Rosersberg. In terms of capacity, a train is the equivalent of about 40 trucks. Lunda represents one of Stockholm's dedicated industrial areas, with good prerequisites for developing rail connections.

Freight terminals can be found in both the southern and northern halves of the county and are generally located adjacent to the overall road network. As a rule, major shopping centres and the Stockholm city centre provide underground loading bays for goods and waste handling, but a large proportion of freight deliveries depend on loading zones in public roads, which is why the management of so-called last-mile deliveries are such an important factor in Stockholm's challenges. A scarcity of accessible kerb space tends to result in double parking, with a subsequent negative impact on the occupational environment as well as on urban mobility and road safety.

## Trends and future challenges

Climate change is the key issue of our age. In Sweden, domestic freight deliveries account for about a third of greenhouse gas emissions. According to the climate policy framework adopted in 2017, Swedish emissions from the transport sector must decrease by 70 percent between 2010 and 2030, and Sweden's total emissions must hit net-zero by 2045. The City of Stockholm aims to become fossil fuel-free as early as 2040, and the City's climate strategy, the "Strategy for a fossil-fuel free Stockholm by 2040", paves the way to achieving this. In the road transport sector, it involves implementing measures for more energy-efficient vehicles and renewable energy as well as transport minimisation. E-commerce has caused consumer behaviour to change, thereby placing new demands on infrastructure and space in premises. The growth in e-commerce is also contributing to changing freight traffic flows, with more consignees receiving smaller deliveries, while the abundance of free returns has generated a reverse flow of shipments. In theory, e-commerce could reduce total transportation if consumers refrained from making private journeys. However, the reality often shows that consumers prefer to see products before purchasing them, so the result is often double transport.



With electric vehicles, both emissions and much of the noise can be reduced.

### E-commerce

In 2017, online purchases accounted for 8.7% of total retail sales, an increase of 16% on the previous year (E-barometer Annual Report 2017). Home deliveries frequently take place in smaller vehicles and during more hours of the day compared to regular goods distribution. Service points account for an increasingly larger share of parcel deliveries.

### Geofencing

The functions of a vehicle can be controlled by means of geofencing based on conditions set for a specific geographical area. This means that a hybrid vehicle could automatically switch to electric mode when it enters an environmental zone or that its speed could be restricted to walking speed in pedestrian environments.

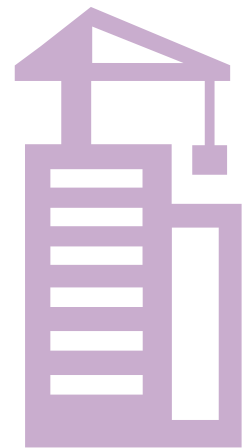
Digitalisation involves a societal transformation whose impact on social functions, industry and residents is increasing. The possibility of constant connectivity influences the design of urban environments and buildings as well as the efficiency of the transport system.

Moreover, digitalisation helps facilitate automation of the vehicle fleet. Increased automation across the freight transport chain can contribute to safer and more cost-effective transport. Connected vehicles also create opportunities for greater transport control on the City's terms, for example by means of geofencing.

Technological development and the use of alternative fuels is advancing rapidly. The electrification of the vehicle fleet is proceeding more quickly than expected, which changes the conditions for commercial freight transport. Fully-electric distribution trucks are now starting to come on the market, and Sweden lies at the forefront of the testing and development of electric highways. Electric vehicles minimise both emissions and much of the noise, which greatly reduces the negative impact of freight transport on the urban environment as well as creating opportunities for freight deliveries during more hours of the day. In urban logistics, the use of light electric vehicles such as forklifts and cargo bikes, which can frequently offer greater accessibility than cars in dense urban environments, is also increasing. Micro-terminals for crossdocking to smaller vehicles for the last mile are becoming increasingly common and can be combined with freight deliveries at night.

The rapid growth in the region has led to a sharp increase in ongoing and planned construction projects. The City of Stockholm aims to build 140,000 new homes between 2010 and 2030, and many other municipalities in the county have ambitious targets for housing construction. At the same time, a large number of major infrastructure projects are either in the planning stage or already underway, such as the Förbifart Stockholm bypass project, the Metro expansion, a new wastewater overflow tunnel under Stockholm and the Tvärförbindelse Södertörn link road. All of these projects generate a large number of shipments of excavated rock and construction materials that put a heavy strain on the existing infrastructure. As more and more projects are conducted in a limited area and in existing districts, a greater degree of co-ordination will be required.

Inland shipping on Lake Mälaren has great potential to replace transport by truck, with resulting positive effects such as higher energy efficiency, lower emissions and reduced congestion. For inland shipping to be profitable, it requires appropriate handling equipment for transloading as well as access to quay berths in strategic locations.



The City of Stockholm aims to build 140,000 new homes between 2010-2030.

# 70%

Swedish emissions from the transport sector must decrease by 70% by 2030 compared to 2010.





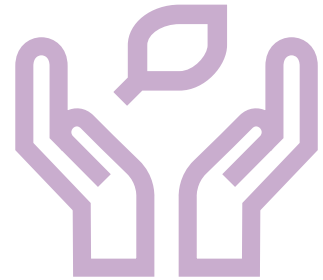


# Why a Freight Plan?

Efficient freight transport is a prerequisite for a vibrant city because it supplies the city with goods and services and ensures that waste and recyclables are transported away. Without freight transport, the life and attractiveness of any city rapidly fades.

However, freight transport is currently facing a number of challenges, not merely those of climate change and more stringent environmental and safety requirements. Consumer demand is rising due to the growing population and the booming e-commerce sector. Increased congestion contributes to poorer air quality and a greater noise impact, and at the same time it reduces urban mobility and efficiency for freight deliveries as journey times become longer and more unreliable. If this trend is allowed to continue uncorrected, there is a risk that the City's public spaces will become less attractive and that industry will be adversely affected. For this reason, it is important to challenge ingrained attitudes and find solutions that will facilitate more efficient, safer and more environmentally-friendly freight deliveries.

The purpose of the Freight Plan is to take a holistic approach to the City's goods-related work and point the way forward. By means of this plan, the City wishes to communicate its perspective on the development of freight transport clearly and create the right expectations amongst key industry stakeholders.



Freight transport is facing challenges related to climate, environment and accessibility.



**The purpose of the Freight Plan is to take a holistic approach to the City's goods-related work and point the way forward.**





# Who is responsible for what?

The City of Stockholm's freight-related work exists in regional and national contexts that impact prerequisites at municipal level.

## National level

In the National Infrastructure Plan 2018-2029, the government has established major national infrastructure investments for the upcoming 10-year period. The plan is multi-modal and will contribute to the transformation of Sweden into a fossil-free welfare state. The Stockholm region encompasses a number of major investments in public transport as well as rail and road infrastructure. In the national freight transport strategy, directions and priority actions have been identified whose aim is to create the prerequisites for efficient, high capacity and sustainable freight deliveries.

The Swedish Transport Administration is responsible for the long-term infrastructure planning of road transport, rail transport, shipping and aviation, as well as for the construction and management of public roads and railways. The remit from the government also includes developing instruments and stimulating innovation in the transport sector. The Swedish Transport Administration works continuously to find solutions that will enhance regional and national mobility for both commercial and passenger transport.

## Regional level

Commercial freight transport is largely a regional affair. The Council for the Stockholm Mälars Region is a cross-political collaborative organisation that promotes an internationally competitive and sustainable Stockholm Mälars region. Within the framework of the Council, a major regional freight strategy spanning seven counties is under development. In Stockholm County, the Stockholm County Council is responsible for regional planning via the regional development plan RUFS 2050, which was adopted in June 2018. In order to strengthen freight management in the Stockholm region, the County Council has also developed a regional freight strategy for the Stockholm region that will serve as a more in-depth supplement to RUFS 2050. The strategy will result in improved regional consensus regarding the County's freight management and a sharper focus on areas where collaboration and development efforts are required.



The Swedish Transport Administration works continuously to find solutions that will enhance regional and national mobility.



Within the framework of the Council for the Stockholm Mälars Region, a major regional freight strategy spanning seven counties is under development.



The collaboration between City administrations and companies is a prerequisite for ensuring the sustainable development of freight transport.

## Municipal level

As a municipality, the City of Stockholm has relatively good opportunities to influence freight transport in the city by means of regulations and instruments. Using local traffic regulations, restrictions can be imposed on both the permitted length and weight of vehicles and the times that transport is allowed. Regulations can be applied to the entire municipality or to individual streets. The emission requirements that apply to freight vehicles in designated areas can be controlled by means of environmental zones. Through the procurement of vehicles, transport services and goods, the City can set requirements for, for example, emissions and transport efficiency. During investment and development projects, the City is able to influence construction logistics and excavation material management through agreements and procurements. Furthermore, the City also has good opportunities to influence long-term land use within the municipality via the municipal zoning monopoly.





The City administrations have differing responsibilities for freight transport. For example, the Traffic Administration is engaged in ensuring that it is safe and easy to move around in traffic, but collaboration with other administrations and organisations is necessary for this work to succeed. At the Environment and Health Protection Administration, the City's vehicle and fuel management experts are engaged in, inter alia, influencing central procurements. The Development Administration can specify production prerequisites, thereby influencing construction logistics and excavation material management in the City's housing and development projects to a certain extent, while the Urban Planning Department determines land use. Via the Property Management Department, Sisab and the public housing companies, the City is also a major property owner, and the Ports of Stockholm and their related facilities also play an important role in the logistics of the entire region. Stockholm Business Region is responsible for marketing Stockholm as a destination for business and tourism. As a result, collaboration between various City administrations and companies is a prerequisite for ensuring the sustainable development of freight transport.



## Governing documents

The City of Stockholm has adopted a number of documents and plans that outline the direction for the city's development and how to support it. Vision 2040 – A Stockholm for Everyone describes the City's common goal for what Stockholm will be like in 2040, while the Stockholm City Plan provides support for how the city needs to grow for the vision to be achieved. The rapid growth is both a challenge and an opportunity that requires far-sighted planning of housing, workplaces, services, greenspace, streets and traffic.

The Urban Mobility Strategy contains principles and support for the planning of the city's roads and streets with the goal of realising Vision 2040. The gist of the Urban Mobility Strategy is that space-efficient transport needs to be prioritised as more and more people use the same space. Furthermore, the importance of highlighting the attractiveness of our streets and squares is concretised in the Strategy for Public Spaces. The Urban Mobility Strategy is further concretised in a number of underlying directional plans, including plans for transit networks, cycling, walking, parking and road safety. Stockholm Freight Plan is one of these plans and its purpose is to draw attention to the challenges that we face and formulate approaches and activities that contribute to fulfilling the goals of the Urban Mobility Strategy.

## The City also has other programmes and strategies that concern freight transport:

- The Environmental Programme
- The Strategy for a Fossil Fuel-free Stockholm by 2040
- The Strategy for Green Vehicles and Renewable Fuels
- The Quay Strategy for the Ports of Stockholm
- The Waste Plan
- World-class Business Parks
- Strategy for Stockholm as a Smart and Connected City







# Planning directions

The development of freight transport is influenced by a wide range of stakeholders and factors. The following planning directions aim to provide guidance in the activities undertaken.

## **1 Accessibility and predictability for freight transport must increase**

Freight deliveries in the city must be allowed to operate efficiently, with a good level of accessibility and predictability for stakeholders. Enhanced predictability can be achieved by easier access to goods receiving points and better urban mobility in the system as a whole.

## **2 The negative impact of freight transport on the environment and the city's attractiveness must be reduced**

The freight transport of the future needs to fulfil accessibility, safety, environmental and climate requirements. Solutions must be characterised by new thinking and innovation as well as an intelligent combination of transport modes depending on, for example, geographical location and type of traffic flow. By developing efficient and sustainable transport solutions, freight transport in the City's public spaces can be optimised, thereby contributing to its attractiveness.

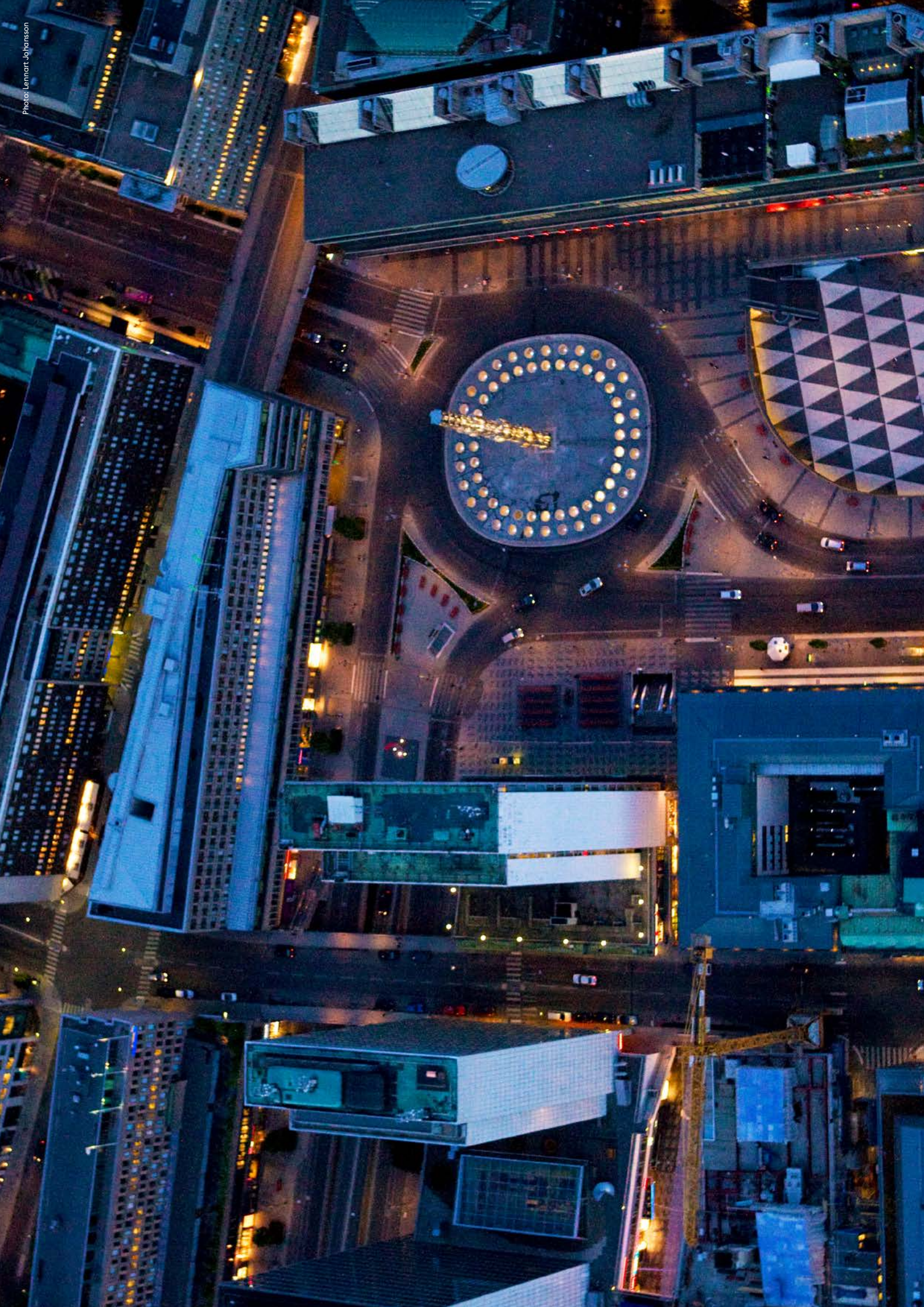
## **3 Freight transport must be developed through close collaboration between the City and other key stakeholders**

The City of Stockholm has limited right of disposition over the region's and the city's freight transport, which is why a broad collaboration between public and private stakeholders is necessary. New collaborations and models must be developed and tested, and academia also plays an essential role in this regard. Active knowledge exchange and competitive intelligence as well as close collaboration with other stakeholders are all crucial for the sustainable development of freight transport, and these are and must remain cornerstones of the city's goods-related work.



The freight transport of the future needs to fulfil accessibility, safety, environmental and climate requirements.



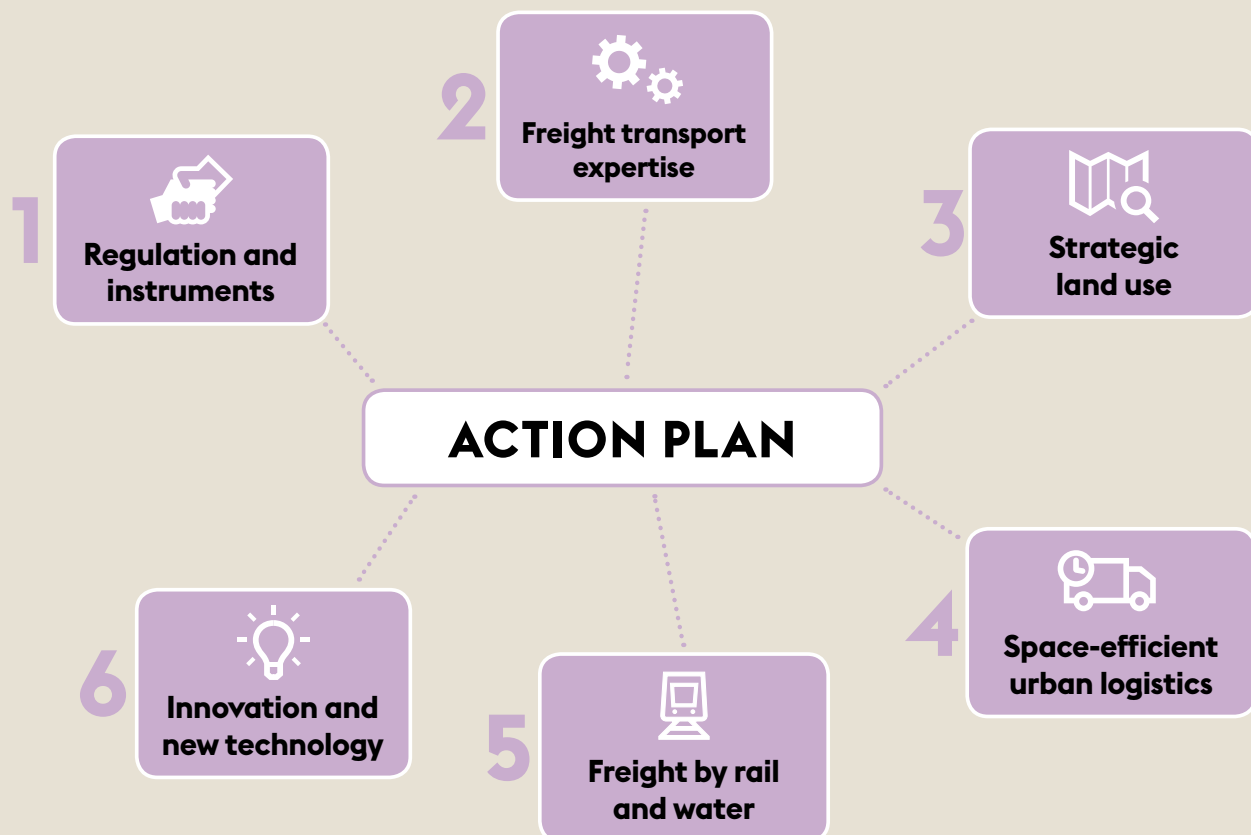




# Action Plan 2018–2022

The Action Plan has been organised into six focus areas. Each area contains a number of concrete activities, most of which are already in progress.

The list of activities is not exhaustive, and more may be included in the Action Plan during its course. The purpose of this is to enable adaptability to a living world in which conditions change rapidly. Work with the various areas takes place in parallel and continuously in close dialogue with other key stakeholders in order to allow potential synergies between different activities to be recognised when they arise.





Facilitating freight transport during the times of the day that the infrastructure is less congested can be an effective measure for achieving the goals of improved mobility and reduced environmental impact.



Highlighting the extent of freight flows in the city can increase understanding of the significance of freight transport.

## 1

### Regulation and instruments

The City will endeavour to increase its awareness and maintain its responsiveness to how decisions affect freight transport and how instruments can create better prerequisites for sustainable solutions. By means of intelligent, targeted utilisation of municipal instruments, we can make a major impact in terms of promoting long-term sustainable development of freight transport without compromising the city's attractiveness. Facilitating freight transport during the times of the day that the infrastructure is less congested can be an effective measure for achieving the goals of improved mobility and reduced environmental impact. Guidelines for where freight deliveries should be permitted at night and the criteria that should apply, as well as what form the City's procedures for management and follow-up should take, need to be established.

#### Examples of activities in this area

- Conducting more test projects for heavy freight transport at night, with a focus on enhanced knowledge of noise issues.
- Designing and implementing new regulations for heavy freight transport at night.
- Continuous review and evaluation of freight transport-related regulations, for example loading zones and vehicle restrictions.

## 2

### Freight transport expertise

The City's role in creating the prerequisites for efficient and sustainable freight transport exists within various administrations and companies and is determined at different stages of the planning process. In particular, the Traffic Administration intends to focus on raising awareness of and understanding for freight transport in the technical administrations. This will take different forms and be designed in dialogue with the intended target groups. Parallel to this, continuous discussions with other administrations and companies will be conducted.

An important element of enhanced understanding could be to illustrate the extent of freight transport and the amount of traffic that different activities generate. Existing information needs to be compiled and supplemented by means of new measurement methods in order to obtain a better basis for planning. A prerequisite for good results is collaboration with other key stakeholders that can contribute important data. Highlighting the extent of freight flows in the city can increase understanding of the significance of commercial freight transport.

#### Examples of activities in this area

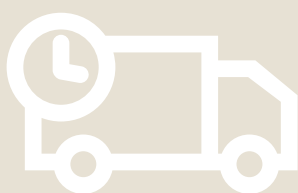
- Raising the level of knowledge and awareness of freight transport in the technical administrations within the city.
- Developing new methods of freight transport measurement so as to improve knowledge of its extent and development.







In order to reduce the need for transport, there will also be a need for temporary spaces for local management and recycling of excavated rock.



**#ÄLSKADESTAD** is a collaboration between the City of Stockholm, Ragn-sells, Vasakronan and Bring. More information is available at [alskade stad.se](https://alskade stad.se).

### 3 Strategic land use

As the city grows, competition for land use becomes more intense. The Stockholm City Plan describes how the City intends to use different spaces in the long term with a view to 2040. The locations of industrial areas, logistics terminals, comprehensive road networks, trunk lines and waterways create the prerequisites for freight transport. Different types of product and freight require different conditions, which is why optimum locations need to be established from a regional perspective. In order to avoid unnecessary deliveries and promote smart solutions, City administrations and companies need reach a consensus on how to develop dedicated industrial areas, where to locate operations that require the transport of hazardous goods, and what approach to take to the city's quays.

In order to reduce the need for transport, there will also be a need for temporary spaces for local management and recycling of excavated rock. More efficient management has the potential to generate significant effects for the city.

#### Examples of activities in this area

- Protecting and developing the City's dedicated industrial areas.
- Working to maintain the quays that are of the greatest significance to freight transport
- An excavation material management plan for the City, including developed mechanisms for better supervision of construction logistics in the City's projects.

### 4 Space-efficient urban logistics

Competition for the city's spaces is becoming fiercer, with denser built environment and more people in the same space. The future of freight transport needs to be increasingly co-ordinated and conducted with vehicles and aids that take up less space and cause fewer negative impacts in the urban environment. The development of more light electric vehicles such as cargo bikes and forklifts for last-mile transportation in the urban environment is necessary and can be combined with heavier freight deliveries at night to and from logistics hubs in suitable locations. With improved co-ordination, freight and waste from different stakeholders can be combined locally in city districts to ensure a vibrant city. Different locations and flows provide different conditions, which is why several streamlining models probably need to be developed in parallel.

A successful example of space-efficient urban logistics is the #ÄLSKADESTAD (beloved city) collaboration, in which two separate flows are combined and transported simultaneously in a slow-moving electric trailer. The City's hope is that #ÄLSKADESTAD will prove to be just the beginning of further development in space-efficient logistics solutions with more stakeholders and a wider geographical scope.

#### Examples of activities in this area

- Developing the #ÄLSKADESTAD collaboration further.
- Promoting the use of light electric vehicles for last-mile transportation









Årsta and Lunda industrial estates both have good potential in terms of rail transportation.



Geofencing is a technology designed to create a “virtual fence” inside which specific conditions apply in a limited area.

## 5 Freight by rail and water

Stockholm is a major hub in the national rail network and the City’s ports and quays are an essential element in Stockholm’s accessibility. Årsta and Lunda industrial areas both have good potential in terms of rail transportation, and the City is conducting discussions with property owners adjacent to the railway tracks on the most appropriate way to develop this.

The Stockholm-Mälars region also has the potential to transfer some road freight transport to inland shipping. The City will aim for this transfer by, for example, conducting pilot projects for water freight in order to increase knowledge and identify barriers and challenges.

### Examples of activities in this area

- Conducting a pilot project for transport of construction waste by water in urban environments.
- Conducting a pilot project for parcel deliveries that includes local shipping.
- Promoting the increased use of freight transport by rail to the region.

## 6 Innovation and new technology

Technological development is advancing rapidly, fuelled by electrification, digitalisation and increasing automation. New technology is crucial in the shift to a fossil fuel-free transport system, and its potential to contribute to a quieter, cleaner and safer city is substantial. We need to be respectful when facing the unknown and constantly ready to reconsider. New solutions are frequently developed in challenge-driven projects with partners from different sectors of society, academia and industry. Participation in these projects contributes to competitive intelligence and continuous knowledge-building and it enables the city to serve as a testbed for innovation and new technology.

Work is currently underway within the framework government remit of the Swedish Transport Administration regarding the testing and development of geofencing in urban environments. Using geofencing, it is possible to control factors such as speed, powertrains or permitted routes based on a vehicle’s position. The project will result in an action plan projected for 2030. Ring road logistics is another project in which the City, in collaboration with other stakeholders, is examining how freight transport can be prioritised for better urban mobility on access roads and ring roads in major cities.

### Examples of activities in the area

- Promoting the development of geofencing in urban environments through collaboration at national level.
- Investigating enhanced urban mobility for freight deliveries on access roads and ring roads.









Photo: Yanan Li



Photo: Yanan Li