TRAFIKVERKET

The Swedish Transport Administration's implementation plan

for the years 2019–2024

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Foreword

This is the Swedish Transport Administration's implementation plan for the years 2019–2024. The plan covers a six-year period and will be revised annually.

The plan shows the measures that the Swedish Transport Administration is planning to implement during the period and which will have a significant impact on the transportation system. The current long-term plans for the years 2018–2029, the Swedish National Transport Plan and county plans for regional infrastructure are the basis for the implementation plan. The Swedish Transport Administration has chosen to show in the plan the measures that have the greatest impact on the transportation system, both the consequences of the measures when they are implemented and the impact on traffic that may arise when they are implemented. The aim is for external stakeholders to be aware of future measures and their effects, including as a basis for their own planning.

Borlänge, February 2019

Stefan Engdahl
Head of business area Market and Planning

Reading directions

The measures that are shown are a selection of the planned measures, based on those that have the greatest impact on the transportation system, both the consequences of the measures when they are implemented and the impact on traffic that may arise when they are implemented.

Information about the Swedish Transport Administration's overall planning can be found on the Swedish Transport Administration's website *http://www.trafikverket.se*.

Information on specific measures: *http://www.trafikverket.se/nara-dig/Projekt/*

There is a list of measures and associated maps on pages 45 onwards of the Swedish version of the Implementation Plan. All start and end times specified in the document are preliminary and are based on approval and decisions being given according to schedule in the Swedish version. Information about measures in the first years has a higher probability than later years.

Introduction

The implementation plan is based on the current Swedish National Transport Plan 2018–2029, adopted county transport plans and other significant political decisions.

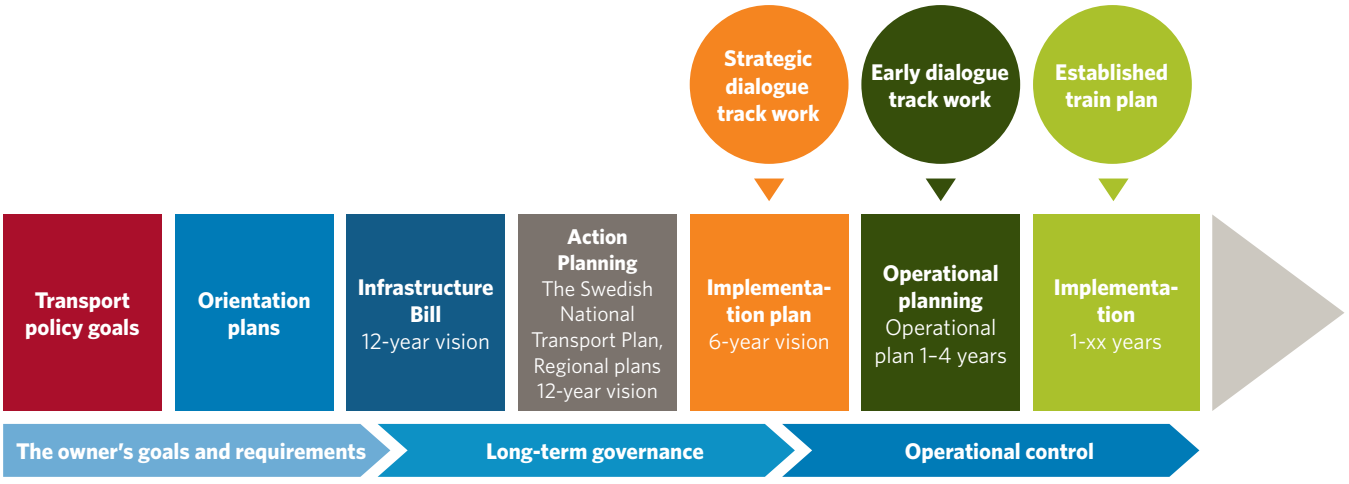
The implementation plan runs for 6 years and aims to bridge the distance between long-term planning and short and medium-term planning.

The implementation plan means that we contribute to meeting the requirements of the EU directive (SERA) that consultation shall occur with the relevant companies, organisations and authorities in connection with the establishment of the operational plan for railways.

The implementation plan is intermodal and includes measures for the national transport system, including the measures for which the Swedish Transport Administration provides central government co-financing. Information about measures in the first years has a higher probability than later years.

The implementation plan covers the measures that cause the most disruption to traffic or other priority measures and their consequences. This means that, for example, environmental measures, which aim to minimise the impact on the environment, are not reported to any great extent because they do not entail significant consequences for traffic. Measures on specially designated stretches of road or railway flows are also reported. The plan provides support for continued planing coordination between investment, maintenance and traffic and the dialogue that takes place with the railway industry in preparation for the planning of track work. The plan focuses on how the transport system changes and how this affects those using the system.

FIGURE 1 From the owner's goals to implementation



Strategic dialogue: Is a process aimed at reinforcing the dialogue with railway partners in a rolling five-year perspective in which the Swedish Transport Administration's planning takes place in harmony with the current and future traffic of the operators. Through this, the parties have early information on how traffic is expected to be affected by future measures, and can thus together make desirable adjustments and preparations.

Early dialogue: Occurs about three months before the application for a future train plan. The aim is to inform applicants of what capacity restrictions or other capacity-inhibiting measures or conditions will apply in the future train plan, so that the application can be adapted.

Starting points

The current long-term plans for the transport system were determined in 2018, which is the starting point for the implementation plan. External changes can bring about new or changed requirements for the Swedish Transport Administration's operations during the plan period. Here are some trends in the transport system.

External trends[1]

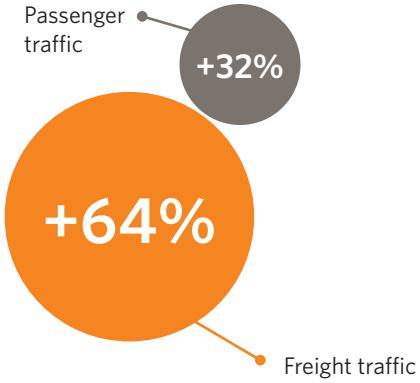
- *An increasingly digitally based and automated transport system.* With the aid of new technologies, the development is towards ever higher levels of automation in the transport system. The quantity of information is increasing, which will provide new types of decision support and services.
- *Requirements for fossil-freedom and reduced emissions are being tightened.* More and more demands are being made from various stakeholders to reduce the climate impact of the transport system and to phase out fossil fuels.
- *Continued pressure for high availability and good transport facilities.* Population growth, economic development and urbanisation, coupled with increased prosperity and global trade, are contributing to increased pressure on the transport system – both passenger travel and freight transport.
- *The transport system is increasingly being integrated into social development.* It is becoming increasingly clear that the development of the transport system has a central role to play in meeting many of the societal challenges that we face. These include, for example, climate impact, housing supply, the labour market, integration, gender equality, safety and security and transport services throughout the country.
- *Increased demands for societal safety and robust transport systems.* There are increasing demands to maintain the functionality of the system even in extreme weather conditions and at times of heightened preparedness. The need for information security and protective security is also increasing in line with increased digitalisation in the transport system.

Political orientation

- It is an ambition to promote the transfer of freight from road to rail and shipping. The development of road networks for 74-ton of trucks is an important complement.
- Expansion has begun of new main lines for high-speed trains so that Stockholm and Gothenburg and Malmö are connected together better.
- New start for Vision Zero, traffic safety work intensifies.
- Sustainable urban environments, urban environment agreements to promote increased use of public transport and cycling.
- Societal challenges in the Swedish National Transport Plan
  - The transition to one of the world first fossil-free welfare states.
  - Investments to increase house building.
  - Improve commercial conditions.
  - Strengthen employment throughout the country.
  - Be prepared for and utilise the effects and possibilities of digitalisation.
  - An inclusive society.

An increasingly digitally based and automated transport system.

1 Source: The Swedish Transport Administration's market analysis 2018.



Both passenger and freight traffic is expected to increase between the years 2014 and 2040.

Changing needs that set requirements for the transport system

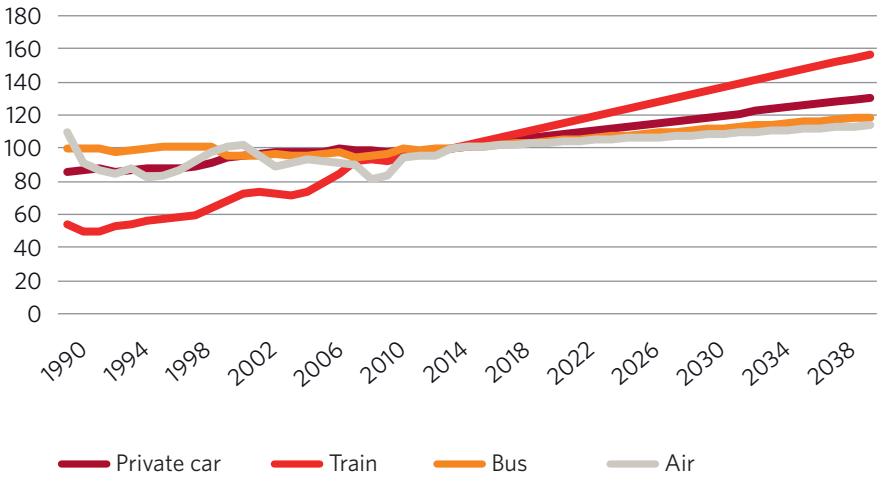
Society's constant and accelerating changes mean that the requirements for the physical design and function of the transport system also change at the same rate. A road or railway that was originally built and designed for one purpose may have another function over the course of time. Needs that set requirements for the transport system:

- New and expanded regional traffic systems in metropolitan areas of the railway system.
- New trade patterns and the establishment of new cargo handling terminals give rise to new or changed transport flows.
- Investments in new high-tech vehicles are placing higher demands on the infrastructure, so as to permit shorter journey times between Stockholm, Gothenburg and Malmö.
- Ambitions to improve the efficiency of freight transport by rail or in shipping mean, among other things, a requirement to be able to run longer, wider or heavier trains or for ports that can take larger vessels.
- The need to be able to live in one place and work in another requires a transport system that provides efficient commuting opportunities between home and work.
- Increased housing construction requires a higher degree of integration of infrastructure and housing planning.

Traffic development

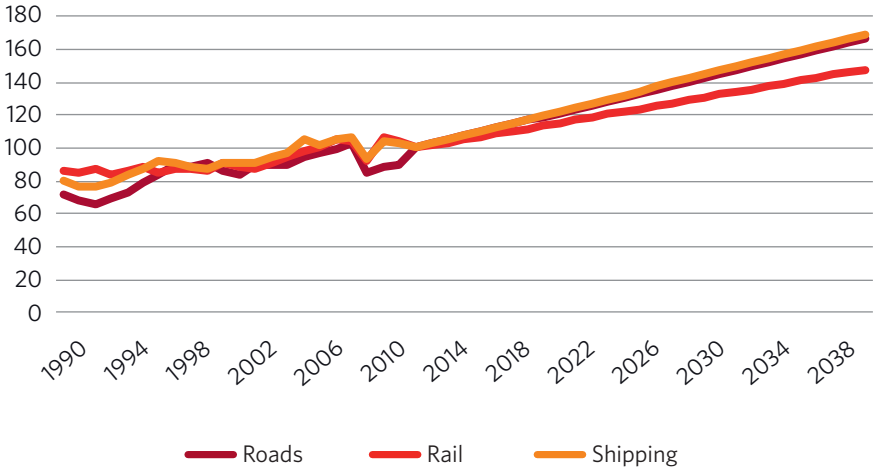
Both passenger and freight transport work are expected to increase. The increase is expected to be the greatest for freight transport. Road traffic is expected to dominate for passenger transport, while freight transport is judged to be more evenly distributed between modes of transportation.

DIAGRAM 1 Transport work Passenger transport, (Index 2014 = 100)*



* For this figure, statistics 1990–2014 + Basic growth forecasts 01/04/2018 apply

DIAGRAM 2 Transport work Freight traffic, (Index 2012 = 100)*



* For this figure, statistics 1990–2012 + Basic growth forecasts 01/04/2018 apply

DIAGRAM 3 Passenger traffic annual growth 2014–2040, %

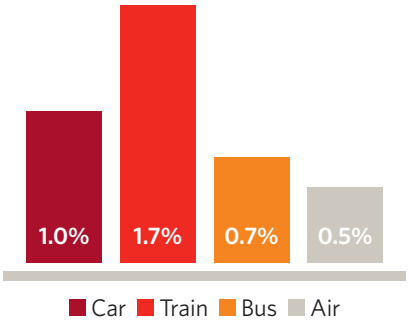
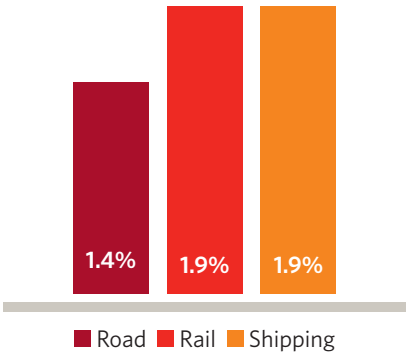


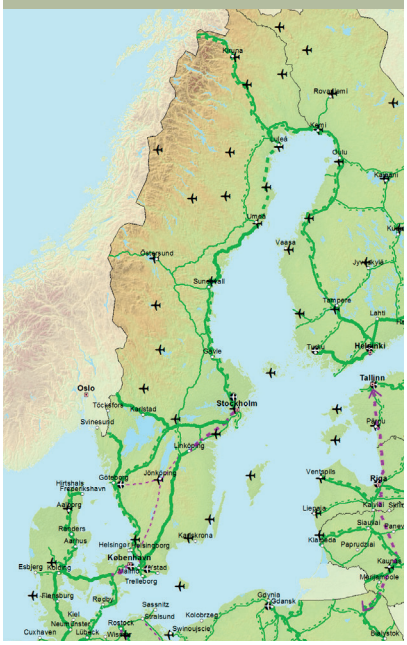
DIAGRAM 4 Freight traffic annual growth 2012–2040, %



Summary starting points of the implementation plan

- The proportion of preventive maintenance shall increase, so as to reduce the need for remedial maintenance.
- An increased focus on the environment, accessibility and safety in urban areas, as well as improved conditions for housing construction. This means, for example, improving the conditions for increasing public transport and safe cycling where the greatest potential exists. Urban environment agreements are a means of achieving this.
  - › The expansion of cycle paths is a way of making use of the transport system more efficient. A developed public transport can be linked to this.
  - › Improved accessibility in the road system gives more efficient use of the transport system and promotes housing development, for example through the increased use of public transport lanes on roads.
  - › Capacity increasing measures in metropolitan areas that enable increased traffic with high robustness, such as four-track development of Arlöv–Lund in Skåne.
- Environmental measures in existing infrastructure shall be prioritised during the period. The climate impact of the transport sector shall be greatly reduced from the current level.
- The life cycle cost (LCC) of installations shall be taken into account when planning measures.
- Improved conditions for business transport both nationally and internationally.
  - › The government has decided on a national freight strategy that illustrates the government's high ambitions in this area. Investments 4–6 years ahead will need to be prioritised to an even greater extent from a business perspective, where all modes of transport are balanced and co-modality is promoted.
  - › The Riksdag has adopted the government's proposal for new load bearing

In accordance with the guidelines for the trans-European transport network*, the core network for rail freight is to be capable of carrying 22.5 tonne axle loads and provide the possibility for traffic with 740-metre long trains. The core network is shown in the figure below.



*TEN Regulation (EU) No 1315/2013.
Source map: The European Commission, the map is cropped.

classes for roads (BK4) which enables transports up to 74 tonnes. The term load-bearing class 4 (BK4) was introduced and began to be implemented in 2018. The Swedish Transport Administration has opened up about 12 per cent of the national road network for BK4 during 2018. An in-depth review of the road network is under way, which will lead to further roads being able to be made available in summer 2019.

› The effective and coordinated use of existing terminals can help to enable and facilitate business start-ups. The need for freight terminals with road and rail connections is expected to increase, for example because internet shopping is increasing.

› Efforts are underway to strengthen the competitiveness of the railways by enabling longer, heavier and larger trains. In the Swedish National Transport Plan 2018–2029, funding was decided for two items relating to long trains. These were a small package of measures on the triangle between Hallsberg–Gothenburg–Malmö and a larger package of measures distributed over much of the country. Measures for extended loading profiles also fall within the Swedish National Transport Plan. This will allow traffic with a load profile P/C450 on the routes Trelleborg–Älvsjö, Trelleborg–Kornsjö and Gothenburg–Luleå.

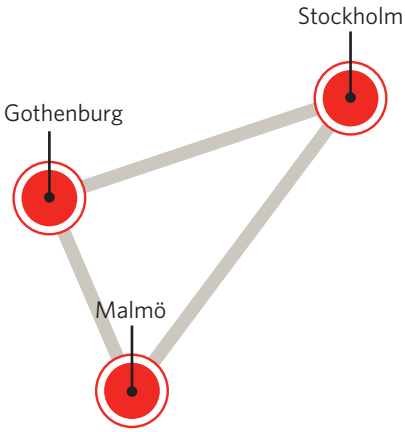
- The railway industry has announced investments in short journey times between metropolitan areas through investment in vehicles. This sets demands for higher speeds, which is done by speed increasing measures on the western and southern main lines, among other things.
- The construction of new main lines shall be carried out in a balanced manner, taking into account the overall needs of the entire transport system. Construction will start on the stretches Järna–Linköping (East Link), Gothenburg–Borås and Hässleholm–Lund during the plan period 2018–2029.
- Improved rail safety through continued investment in fencing and cameras and by eliminating and improving level crossings.
- Implement more preventive measures to reduce the risk of damage caused by climate change.
- The Swedish Transport Administration's strategy for digitalisation states that the Swedish Transport Administration shall use the new opportunities that digitalisation provides as a natural part of the operation to create customer values, efficiency and a sustainable transportation system.
- Coordinated planning and coordination of traffic-disruptive measures shall take place earlier, compared with present coordination. Interaction shall occur between the business areas and external parties, as well as within and between modes of transport.

Planned activities 2018–2029

The current long-term plans for the years 2018–2029, the Swedish National Transport Plan and county plans for regional infrastructure are the basis for the implementation plan.

The period 2019–2024 is characterised by an increase in volume of around 20 per cent. The increase in investment activities mainly relates to large railway projects. Maintenance activities are increasing as a result of increased appropriations for the maintenance of railways. This will increase rail reinvestment, which will not least be seen in the form of an increase in the number of tracks and rail replacements each year.

The next few years pose major challenges for the coordination of traffic-impacting measures on railways. As the budgetary framework increases both for the development and for the maintenance of railways, the number of traffic-impacting measures will increase. At the same time, rail traffic is expected to continue to increase. In other words, space will be at a premium – something that needs to be resolved with careful coordination in good time.



Over the next few years, there will major challenges for the coordination of traffic-impacting measures, which will mainly require a strong focus and cooperation on the Stockholm–Gothenburg–Malmö triangle.

A very great deal of the traffic-impacting measures over the next six years will occur in and around the Stockholm-Gothenburg–Malmö triangle. There will be projects with major traffic impact in all three corners, with the expansion of Mälarbanan north of Stockholm to a 4-track railway, the upgrading of Getingmidjan in central Stockholm (completed 2021), the construction of the West Link in Gothenburg and the expansion of the southern main line between Malmö and Lund to 4-track railway as examples.

The measures in the Stockholm–Gothenburg–Malmö triangle must be coordinated with each other and with other measures carried out in this part of the country. This concerns, for example, the double-track extension on the west coast line (partly in Varberg, partly between Ängelholm and Maria), as well as the double track extension on the freight route through Hallsberg and further south and the expansion of the high-speed East Link through Sörmland and Östergötland. It is also clear that there will continue to be overhead contact line replacement between Stockholm and Gothenburg for many years to come, mainly closest to Gothenburg to begin with.

The change of signalling system to ERTMS is expected, during its actual introduction, to have a major impact on traffic on Malmbanan between Luleå and the national border during the years 2021–2024, and on the Stockholm/Hallsberg–Copenhagen flow from 2023 onwards. The assessment at the present time is that the pattern of traffic-impacting measures will largely be governed by this in the coming decade.

Implementation of the long-term plans 2018–2029

On 31 May 2018, the government established the Swedish National Transport Plan 2018–2029. The plan describes how to maintain and develop the national infrastructure. These measures will contribute to a modern, efficient and sustainable transport system for people and businesses – today and in the future.

The investments for 2018 follow the plan as a whole. The specified investments are lower than the National Transport Plan's accumulated values and this is particularly true of aviation and road investments. This is mainly due to the assigned appropriation framework and the actual progress of investment objects. The outcome for trimming and environmental measures is overall higher than the values of the National Transport Plan and this is because the outcomes of the safety measures exceed the plan for 2018. This is assessed to be due to allocated appropriation ceilings and the great need for measures in the area of safety.

During 2018, the regional planning authorities decided on 21 new county transport plans that the Swedish Transportation Administration is responsible for implementing. The forecast is that 8 per cent of the allocated funds for the twelve year plans have been accrued in 2018. The proportion varies between counties because larger projects were under way in some counties that required a larger share of funds in order to be implemented effectively. Other things that have had an effect are appealed plans and adaptation to the measures of other stakeholders.

TABLE 1 Share of accrued funds in county transport plans up to and including 2018

County	Plan 2018–21029 SEK million (Price level 02/2017)	Proportion* accrued to 2018	County	Plan SEK 2018–2029 SEK million (Price level 02/2017)	Proportion* accrued to 2018
Norrbotten	780	13%	Södermanland	1,122	5%
Västerbotten	957	8%	Västra Götaland	6,470	6%
Jämtland	485	21%	Östergötland	1,648	9%
Västernorrland	896	11%	Jönköping	1,270	7%
Gävleborg	880	6%	Kalmar	904	4%
Dalarna	1,057	12%	Gotland	248	2%
Värmland	986	10%	Halland	1,258	8%
Örebro	1,120	13%	Kronoberg	729	22%
Västmanland	728	4%	Skåne	4,527	6%
Uppsala	1,535	6%	Blekinge	550	2%
Stockholm	8,490	8%	**Total**	**36,638**	**8%**

* Accrued funds out of the county's total volume

The condition of the entire surfaced road network has been more or less unchanged during the period 2012–2016. Within each road type, there are roads that have improved and others that have become worse. The increased deviation 2017 and 2018 for metropolitan roads refers to a few road sections where measures are planned.

DIAGRAM 5 Development of proportion of road length that deviates from maintenance standard per road type, per cent

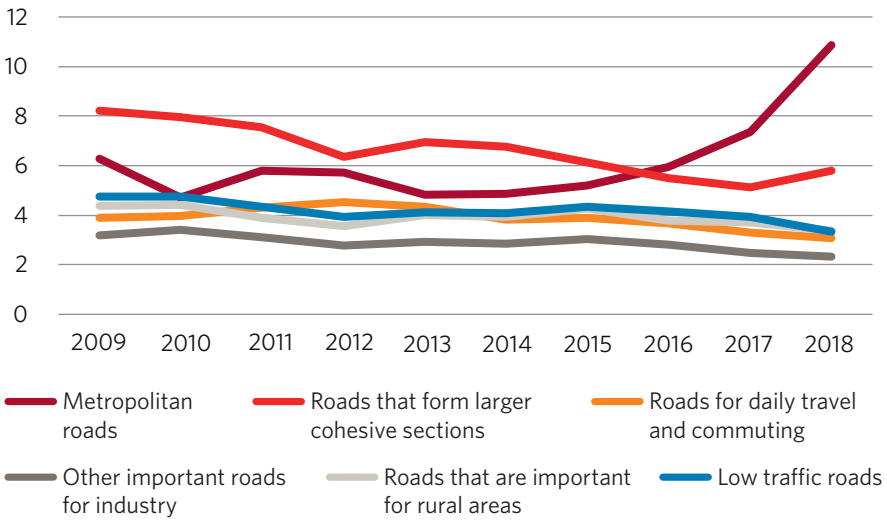
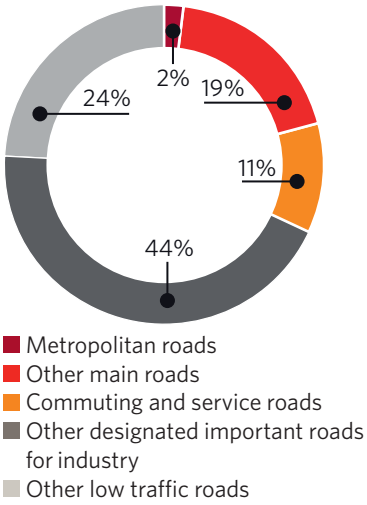


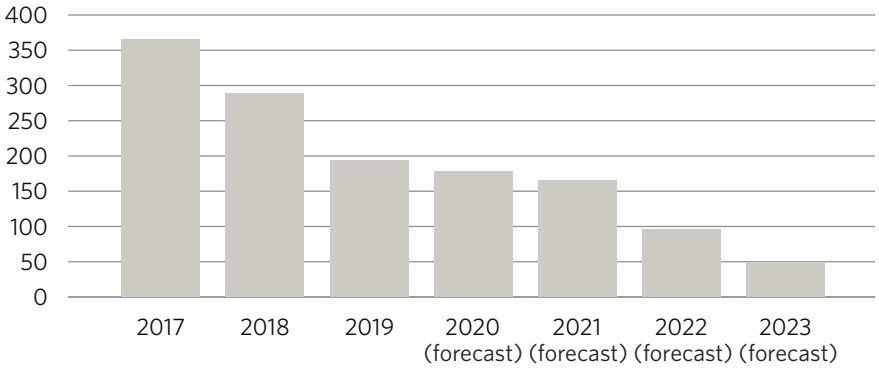
DIAGRAM 6 Road types' proportion of total road network, per cent



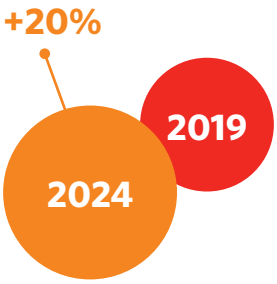
The number of road bridges that are in such poor condition that they are unable to carry the loads for which they were built has decreased during the period 2015–2017. This reduction is due to an increased focus on taking the right measure at the right time. In this way, resources have been released to improve bearing capacity within existing appropriations. For drivers of particularly heavy vehicles, the improvement means that they can now use a larger part of the road network than in the past, which has a positive impact on the usability of the road system.

The number of kilometres of track with speed reduction due to poor track or poor rails showed a steep increase in the period up to 2017. This was largely due to an ever faster degradation of the so-called VSP rails – rails that were manufactured until the beginning of the 80s which had manufacturing defects. In other words, the downward trend from 2017 is a trend, resulting from the replacement of these and other rails. However, it is worth noting that the forecasts for the years 2020–2021 are based on the assumption that none of the risks of further reductions, which are announced in the railway network description (JNB), are incurred during the next few years.

DIAGRAM 7 Speed reduction due to poor track or poor rails, kilometres at the beginning of the year



Finance and risks



The period 2019–2024 is characterised by an increase in volume of around 20 per cent.

The Swedish National Transport Plan for transport infrastructure for the years 2018–2029 includes SEK 622.5 billion (2017 price level), of which SEK 333.5 billion refers to the development of the transport system and SEK 289 billion relates to the maintenance of the transport system. In addition to the plan, approximately SEK 90 billion is added from rail fees, congestion taxes, infrastructure fees, loans and co-financing.

The Swedish Transport Administration's implementation plan shows the most significant investments in the years 2019–2024. Up to and including 2021, the space is based on the Swedish Transport Administration's operational planning. The following years are based on the level of appropriations provided for in the Swedish National Transport Plan for transport infrastructure. The volume from the implementation plan also includes measures financed by loans and fees.

Investment funds have shown an increase in 2021–2024 mainly due to increased rail investment.

The funds for the maintenance of roads and railways indicate a significant increase in 2020. In subsequent years, further increases are expected for both road and rail maintenance.

Investments financed by congestion taxes and loans show an increase during 2020–2022. The increase is mainly explained by the Stockholm Bypass Project, which is in an intensive production phase during these years.

At present, the annual volume of purchases y the Swedish Transport Administration is approximately SEK 40 billion, of which investment and maintenance (road/rail) accounts for approximately SEK 35 billion. All in all, we are going from buying investment and maintenance (road/rail) from the current level, SEK 35 billion per year, to about SEK 48 billion on average (at current prices) during the period 2018–2029 (converted to fixed prices, the purchase volume amounts to an average of about SEK 43 billion per year in the period 2018–2029).

TABELL 16 Financial scope SEK million, current price

Activity	2019	2020	2021	2022	2023	2024
Development of State transport infrastructure	**22,500**	**24,500**	**30,450**	**27,500**	**27,800**	**28,300**
Investments in regional plan	3,000	3,700	3,800	3,600	3,800	3,800
Major investments in national transport plan	16,100	17,000	21,750	19,000	18,800	19,500
Road	4,800	5,600	6,200	5,800	4,200	2,600
Rail	10,400	10,800	15,500	13,200	14,600	16,800
Shipping and aviation	900	600	50	0	0	100
Other investments	2,700	2,900	3,700	3,800	4,100	3,900
Urban environment agreement	700	900	1,200	1,100	1,100	1,100
Maintenance of State transport infrastructure	**24,800**	**26,400**	**28,500**	**29,700**	**30,500**	**30,900**
Road	13,400	14,100	14,400	14,900	15,200	15,600
Railway incl. track access charges	11,400	12,300	14,100	14,800	15,300	15,300
Investments financed by congestion taxes and loans	**5,500**	**9,600**	**8,600**	**7,400**	**5,500**	**5,000**
TOTAL	**52,800**	**60,500**	**67,550**	**64,600**	**63,800**	**64,200**

General risks
The following uncertain factors can cause postponements or increased costs of operations.

Resources

- Digitalisation and increased volumes of operations can create resource and skills shortages for both the Swedish Transport Administration and its contractors. They can also lead to risks for work environment and quality.

Planning

- Large and complex projects can involve more time-consuming planning processes and an increased risk of plans being appealed.
- Coordination with municipal zoning plans and municipal co-financing requires negotiations with external parties, which may affect the planning process.

Execution

- Access to working hours on tracks can be hampered by increased traffic volumes, as well as an increase in the number of track jobs.

Procurement

- Increased operational volumes and greater complexity in the installations could lead to a deterioration in the competitive situation and thus fewer tenders and higher prices. The risk is considered to be greatest in metropolitan areas.
- Increased operational volumes may involve more review procedures of procurements.

Other external factors

- Raw material prices may increase.
- Actual or expected climate change can lead to both extra requirements for the design and dimensioning of installations and accelerated degradation of installations.
- Increased traffic volume may require increased maintenance efforts.

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