



Ministry of the
Environment Finland

Development Perspectives for Land Use in Finland

Towards a Sustainable Regional and Urban Structure

Publications of the Ministry of the Environment 2024:21

Development Perspectives for Land Use in Finland

Towards a Sustainable Regional and
Urban Structure

Ministry of the Environment Helsinki 2024

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Development Perspectives for Land Use in Finland Towards a Sustainable Regional and Urban Structure

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Abstract

This report presents the first development perspectives on land use, produced as an outcome of the continuing monitoring, anticipation and futures work of the Ministry of the Environment. It is composed of a description of the current situation and future of land use, presented more broadly in the separate attachment, and a development scenario that describes the development of the regional and urban structure set as the target and the actions needed to achieve this.

The report on the development perspectives is the outlook review of public officials, drawn up by experts of the Ministry of the Environment in extensive interaction with the Finnish Environment Institute and relevant stakeholders. The perspectives are intended to be used e.g. in the planning processes of municipalities and regions and in the preparation of national land use objectives, contract procedures and housing and climate policies, and when drawing up strategies concerning or related to land use in other administrative branches.

The development perspectives derive from the need for sustainable development in the regional and urban structure and factors of change, some of them with fast impact, that require capability to change the structures. All this requires constant maintenance of the situational awareness and outlook for the future and preparedness to reconsider the view of a future that we aim to achieve.

Keywords land use, regional structure, urban structure, planning

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Yhteisötekijä Ympäristöministeriö ja Suomen ympäristökeskus

Kieli englanti

Sivumäärä

81

Tiivistelmä

Tämä raportti on ensimmäinen ympäristöministeriön jatkuvan alueidenkäytön seuranta-, ennakointi- ja tulevaisuustyön tuloksena syntynyt alueidenkäytön kehityskuva. Se koostuu alueidenkäytön tilanne- ja tulevaisuuskuvesta, jotka on laajemmin raportoitu erillisenä liiteaineistona sekä kehittämiskuvasta, jossa kuvataan alue- ja yhdyskuntarakenteen tavoiteltavaa kehitystä ja sen edellyttämiä toimia.

Kehityskuva on ympäristöministeriön asiantuntijoiden virkamiesnäkemys, jota on laadittu yhteistyössä Suomen ympäristökeskuksen sekä sidosryhmien kanssa laajassa vuorovaikutuksessa. Kehityskuva on tarkoitettu hyödynnettäväksi mm. kuntien ja maakuntien kaavoituksessa, valtakunnallisten alueidenkäyttötavoitteiden, sopimusmenettelyjen ja asunto- ja ilmastopoliittisten linjausten valmistelussa, sekä muiden hallinnonalojen alueidenkäyttöä koskevien tai sivuavien strategioiden laadinnassa.

Kehityskuvan taustalla on tarve alue- ja yhdyskuntarakenteen kestävästä kehityksestä sekä osin nopeastikin vaikuttavat muutosilmiöt, jotka edellyttävät alue- ja yhdyskuntarakenteelta muutoskykyä. Mainitut seikat edellyttävät jatkuvaa tilanne- ja tulevaisuuskuvan ylläpitoa sekä valmiutta tarkistaa käsitystä tavoiteltavasta tulevaisuudesta.

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Utvecklingsbild för områdesanvändningen Mot en hållbar region- och samhällsstruktur

Miljöministeriets publikationer 2024:21**Tema**

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81

Referat

I denna rapport presenteras den första utvecklingsbilden för områdesanvändningen. Utvecklingsbilden är ett resultat av miljöministeriets kontinuerliga uppföljnings-, prognostiserings- och framtidsarbete i fråga om områdesanvändningen. Rapporten består av en läges- och framtidsbild av områdesanvändningen, om vilka rapporterats i större utsträckning i de separata bilagorna, samt en utvecklingsbild som beskriver målen för utvecklingen av region- och samhällsstrukturen och de åtgärder som uppnåendet dessa förutsätter.

Utvecklingsbilden har utarbetats av miljöministeriets sakkunniga som tjänsteuppdrag i samarbete med Finlands miljöcentral och i bred växelverkan med intressentgrupper. Utvecklingsbilden kan utnyttjas bland annat i kommunernas och landskapens planläggning, vid beredningen av riksomfattande mål för områdesanvändningen, avtalsförfaranden och bostads- och klimatpolitiska riktlinjer samt vid utarbetandet av strategier som gäller eller tangerar områdesanvändningen inom andra förvaltningsområden.

Bakgrunden till utvecklingsbilden är behovet av att skapa förutsättningar för en hållbar utveckling av region- och samhällsstrukturen samt stödja region- och samhällsstrukturens förmåga att reagera på även snabba förändringar i omvärlden. Dessa omständigheter förutsätter att läges- och framtidsbilden upprätthålls kontinuerligt samt att man har beredskap vid behov att se över målen som ställts för framtiden.

Nyckelord områdesanvändning, regionstruktur, samhällsstruktur, planläggning**ISBN PDF** 978-952-361-179-5**ISSN PDF**

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FOREWORD

In the 1990s, 2000s, and 2010s, the Ministry of the Environment has prepared the development perspectives of land use and regional structure. The latter also addressed the transport system as part of the regional structure. These development perspectives have been one-off projects that have been widely used to support regional planning, the preparation of national land use guidelines, and the long-term planning of different administrative branches.

At the beginning of the 2020s, the Ministry of the Environment stated the need to launch continuous monitoring and anticipation of regional and urban structure, drawing on the high-quality land-use data available in Finland. At the same time, it was decided to approach issues related to land use in a scalable manner at the levels of both regional and urban structure. The aim is to render the work on the development perspective of land use into a continuous process based on the co-development of different administrative branches and stakeholders, in which the different parts of the development perspective are updated in each government term, as necessary.

This report contains the first version of the result of continuous development perspective work. It consists of a situational, future and development perspective of land use. Based on comprehensive data and research, the first two sections extensively describe the state of regional and urban structure and possible future development trends. These sections have been drafted by the Finnish Environment Institute Syke. They have also been reported as separate appendices. The development perspective discusses the desired development of regional and urban structure and the measures required by it. The development perspective has been prepared in the Ministry of the Environment and Syke as specialist work, drawing on the views of stakeholders, which have been obtained through several workshops and surveys. The draft development perspective report was also widely available for comments in summer 2023, and the feedback has been used in the finalisation.

On behalf of the Ministry of the Environment, I express my gratitude to all those who have participated in the development perspective work in different ways.

Helsinki, January 2024

Juhani Damski
Permanent Secretary
Ministry of the Environment

1 Introduction

1.1 Regional and urban structure as a changing and developed platform

The regional and urban structure lays the foundation, preconditions and opportunities for developing the living conditions of the population, business life, competitiveness and environmental sustainability. The regional and urban structure affects how the challenges posed by climate change can be met in different parts of the country. The functioning of communities is affected by the location of different functions and by the transport, energy and telecommunications networks that combine them. The regional and urban structure and transport system create a framework and opportunities for the development of Finland and its different regions.

Regional and urban structure refers to the location of different activities, such as housing, jobs, services, leisure activities, transport and other infrastructure, and their interrelationships. Above all, the question is how different functions interact with each other and what kind of functional entities they form.

The urban structure comprises an area of people's everyday activities, i.e., daily activities, that is based on transactions, commuting or, for example, a common housing market. It can extend from an individual built-up area to a broader urban region. In the regional structure, the location of activities is examined on a wider scale than the urban structure, within the framework of the entire country, region or part of the country. The regional structure identifies urban regions and smaller communities of different sizes and functions in different parts of the country, as well as transport and communications connections that connect and serve them and other technical infrastructure.

structure in issues of national importance. The agreements between the state and the largest urban regions on land use, housing and transport (MAL) are key tools for developing a sustainable urban structure and transport system as well as housing production that meet the needs.

The development of regional and urban structures is also influenced with transport system planning and regional development, public and private investments, and by allocating state funding. Placement decisions by central government, municipalities, wellbeing services counties, and companies affect the service network. That is why it is important for both the public and private sectors to work in the same direction and to create the capacity to respond to future needs while promoting economically, socially, ecologically and culturally sustainable development.

Sustainable development of regional and urban structure requires a broader view of possible futures and factors affecting each other than the traditional approach. Understanding the change factors and phenomena affecting the regional and urban structure and tackling the related wide-ranging systemic changes are at the core of development perspective work.

1.2 Development perspective of land use - a tool for anticipating and jointly developing regional and urban structure

It is important that the development of regional and urban structure is based on a view of long-term development. The development and functioning of the regional and urban structure depends on several factors affecting each other over different time spans. This requires a transition to the continuous and systematic monitoring and anticipation of regional and urban structures that is based on co-development. The development perspective of land use provides information on the realised development of regional and urban structure, possible future developments, their sustainability and the necessary measures to support sustainable development.

In spring 2021, the Ministry of the Environment prepared a proposal for initiating regional development perspective work. The feedback was mainly positive, so the actual developmental perspective work was launched in autumn 2021. At the same time, the government's research and study project Possible futures of Finnish regional and urban structure, PERUS-SKENE, was launched and completed

in autumn 2022. The project identified possible scenarios on future regional and urban structure, assessed their sustainability, and created an operating model for the continuous monitoring and anticipation of regional and urban structure.

In the workshops held in summer and autumn 2022, key actors affecting the development of regional and urban structure were invited to jointly develop an understanding of what has happened in Finland's regional and urban structure and what may happen in it. Co-development was used to find as acceptable and effective methods as possible to improve the sustainability of communities. The workshops organised during the work identified and defined the development needs and objectives of regional and urban structure and measures supporting sustainable development together with various stakeholders.

The Ministry of the Environment has been responsible for preparing the development perspective in cooperation with the Finnish Environment Institute. The work is a continuation of previous perspectives, the most recent of which was completed in 2015, titled *A regenerating and enabling Finland: Development of regional structure and transport system 2050*. The difference is that the development perspective work launched now is continuous and examines not only the regional structure but also the development of the urban structure in a scalable manner.

The purpose of the regional development perspective is to produce up-to-date information on the development of Finland's regional and urban structure in the government's shared knowledge base to support national (ministries and state agencies), regional (regions, wellbeing services counties) and local (municipalities) planning and decision-making.

In the Ministry of the Environment's sector, the development perspective can be used, for example, in updating national land use guidelines, in the preparation of legislation on land use, urban development, urban construction, and construction, in the preparation and monitoring of MAL agreements, and in housing and climate policy. The development perspective can be used in the preparation and implementation of the national transport system plan (Liikenne 12) together with the transport system analysis prepared by the Finnish Transport and Communications Agency Traficom. In addition, the development perspective can be used in the planning of the service network, the development of urban and rural areas, the preparation of decisions on regional development, municipal policy and other central government work. The development perspective also provides

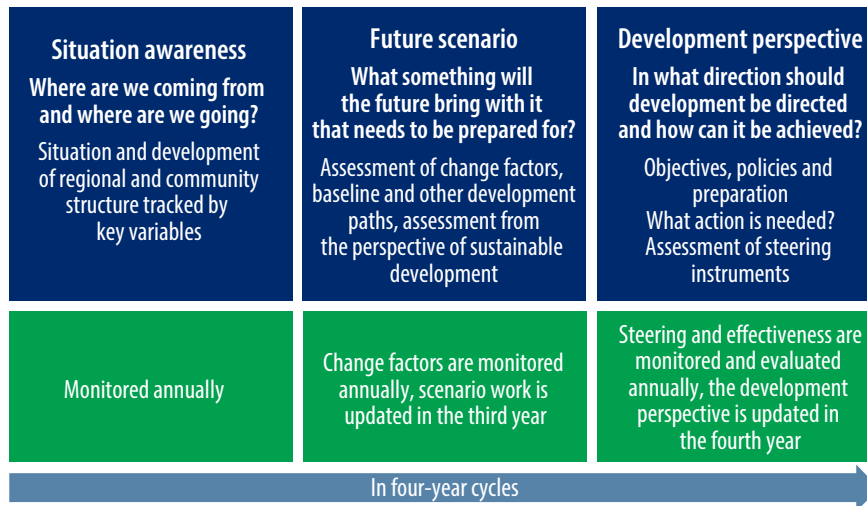
a knowledge base for the entire government’s monitoring and anticipation work, which is carried out under the leadership of the Prime Minister’s Office in the government’s anticipation working group.

Continuous development perspective work interprets emerging phenomena, anticipates the future development and needs of regional and urban structure, and helps different actors in society to make their activities more sustainable.

Figure 2. Developmental perspective of regional land use as part of the government’s monitoring, development, and future-oriented work.

Ministry of Transport and Communications Liikenne12, transport system analysis (Traficom)	Ministry of the Environment Regional land use development perspective, legislation on regional land use and construction, national targets for regional land use, MAL agreements and decision-making on housing and climate policy	Ministry of Agriculture and Forestry Development of rural areas
Ministry of Employment and the Economy Situation and development perspective of regional development, regional development guidelines 2040, regional development decision		MEC/MSAH Service network
	Prime Minister’s Office Report on the future	MF Municipal policy and finances
Other central government Other central government, ELY centres, Syke, ARA, transport administration, etc.		
Other society Municipalities, regions, wellbeing services counties, research institutes, business, etc.		

Figure 3. Parts of the regional land use perspective. The development perspective is prepared in four-year cycles.



The development perspective consists of three parts. The continuously-maintained situational perspective examines the key changes in regional and urban structure and the factors behind them. The future outlook outlines possible future developments that must be prepared for in the development of regional and urban structure. A further aim is to identify future scenarios that are unlikely but, if realised, could have a significant impact on regional and urban structure development. The development perspective describes the desired development of regional and urban structure and identifies development needs.

Specialists from the Ministry of the Environment and the Finnish Environment Institute have been responsible for preparing the development perspective report. Participants from the Ministry of the Environment were Mikko Friipyöli, Petteri Katajisto, Kaisa Mäkelä (until 31 July 2023), Juha Nurmi, Mika Ristimäki, Mikko Saukkomaa (1 May–31 August 2022) and Timo Turunen, and participants from the Finnish Environment Institute were Ville Helminen, Kia Kautonen (as of 1 June 2023), Elina Nyberg (until 14 May 2023), Kari Oinonen, Juha Peltomaa (until 31 January 2023) and Antti Rehunen.

2 Situational and future perspective

2.1 Change factors affecting regional and urban structure

Identifying and understanding the drivers of change affecting the development of regional and urban structure is important for the sustainable development of regional and urban structure. Recent international crises have also emphasised the importance of preparedness and security of supply. The following figure identifies change factors affecting regional and urban structure.

Figure 4. Change factors affecting the development of regional and urban structure.



The operating environment affecting regional and urban structure may change in many ways. One way to divide phenomena into forces of change is to identify trends, weak signals, and wildcards. Trends represent path-dependent development, so they can be considered predictable. The likelihood of weak signals being realised is low and thus difficult to predict, but their impacts may be significant when the phenomenon is realised. A wildcard is a unique single event that changes the course of events and makes it more uncertain. In scenario

work, the most essential aspect of a wildcard is not predictability as such, but the ability to identify the risks and sustainability threats associated with the prevailing development that can be achieved through the imagination of different wildcards.

Responding to change phenomena requires continuous anticipation, which takes into account the impacts, probabilities, uncertainties and surprises of change phenomena. In addition, different phenomena of change are related to each other, forming interdependencies at different levels. Due to the different natures of change phenomena, their impacts on regional and urban structure may be predictable or remain open depending on other factors. Change drivers can be observed and anticipated, but their impact on regional and urban structure may remain open.

Change drivers in the nationwide regional structure resulting from trend development include the development of the population of the whole country, regional differences in population structure and demographic development, urbanisation, and regional disparities which can be seen in the concentration of services and deterioration of accessibility. The population structure is also a factor behind the sustainability gap in government finances. Adaptation to low birth rates, the ageing of the population, and immigration have a wide impact on different functions of society. In population projections, immigration is expected to increase steadily. However, it is likely that, in the future, migration movements caused by different reasons will constitute difficult-to-predict changes in demographic trends.

By using digitalisation and technological development, the adverse effects of regional disparities can be prevented and mitigated. In terms of regional and urban structure, significant drivers of change related to technological development include the transformation of work, multi-location work and the green transition. Technologies and the economy are linked to globalised international development, in which production chains may also face surprising shocks, which in turn have an impact on Finland's position in international networks and locally on different sectors.

Climate change and biodiversity loss affect not only nature but also human habitats and the economy. The need to control them affects people's activities and how they are taken into account in regional land use. The green transition is needed to make human-built systems sustainable within the limits of adequacy of natural resources and sustainability of energy use. From the perspective of regional and urban structure, the green transition means, in particular, different types of investments

targeting specific regions and creating regional impacts. International and national connections that have a long-term impact on regional structure development are essential for investments.

Due to increasing differences in regional development and urbanisation, the urban regions face challenges of sustainable growth and shrinking. There are many issues related to the growth and housing needs of large urban regions that must take into account people's everyday lives, the transport system, regional disparities and the green and blue structures. In the urban structure, change phenomena particularly affect how different issues are valued in decision-making in urban regions. Urban development can be proactive, or reactive to cumulative problems. Climate change mitigation will significantly steer the future development of urban structure. In planning, adaptation to climate change must also be taken into account, for example with regard to the green environment.

The polycentricity of large urban regions creates preconditions for regional availability of services and jobs and a more sustainable everyday life. In increasingly dense urban areas, the importance of green and blue structures for people's well-being is emphasised. The COVID-19 pandemic changed people's behaviour, increasing remote work, for instance. At the same time, many virtual ways of communicating and working were adopted, which have changed people's binding to specific locations in the urban structure. These changes have had an impact on, for example, the use of public transport and, consequently, the prerequisites for organising it in different areas. A change in the transport system towards electric transport may affect people's mobility in many ways and, consequently, result in different choices in urban structure.

In shrinking regions, the decline in services and the underutilisation of buildings and infrastructure challenge sustainable urban development and require painful choices in municipalities. According to trend scenario, however, growth is not the prevailing trend in a large part of the country, even if change phenomena would bring local growth pulses to smaller municipalities in the form of various investments.

In addition to the phenomena of change, regional conditions and special features have a significant impact on the development of regional and urban structure. Identifying the different natures of change phenomena and regions is important in order to develop the regional and urban structure sustainably from the starting points and needs of each region.

2.2 Situation and future perspective of regional and urban structure

The situation and future perspective of the regional and urban structure prepared by the Finnish Environment Institute has been reported as a separate appendix. This chapter summarises its key observations. In the future, the situation and future perspective will be updated periodically. Other reports on the situation and future of regional and urban structure have also been compiled on the website of the regional development perspective.

Situation and future perspective of regional structure

Urbanisation has accelerated in the 2000s. The fastest growth was concentrated in less than ten of the largest urban regions. In many medium-sized and small urban regions and rural areas close to a city, the population has started declining gently, and elsewhere in rural areas the decline has been faster. Urbanisation will continue in the coming decades, but the ageing of the population will slow down development. The urbanisation rate was 73% in 2020 and will rise to 79% by 2050 if the development follows the current trend. Population growth is concentrated in increasingly fewer regions. About 87% of the future population growth in urban regions will take place in the four largest urban regions.

Figure 5. Population change 2000–2021 and trend forecast 2021–2040. The forecast is based on Statistics Finland’s population forecast by municipality and the urban structure monitoring data of the Finnish Environment Institute on trends in regional types within municipalities. Source: Statistics Finland and Syke.

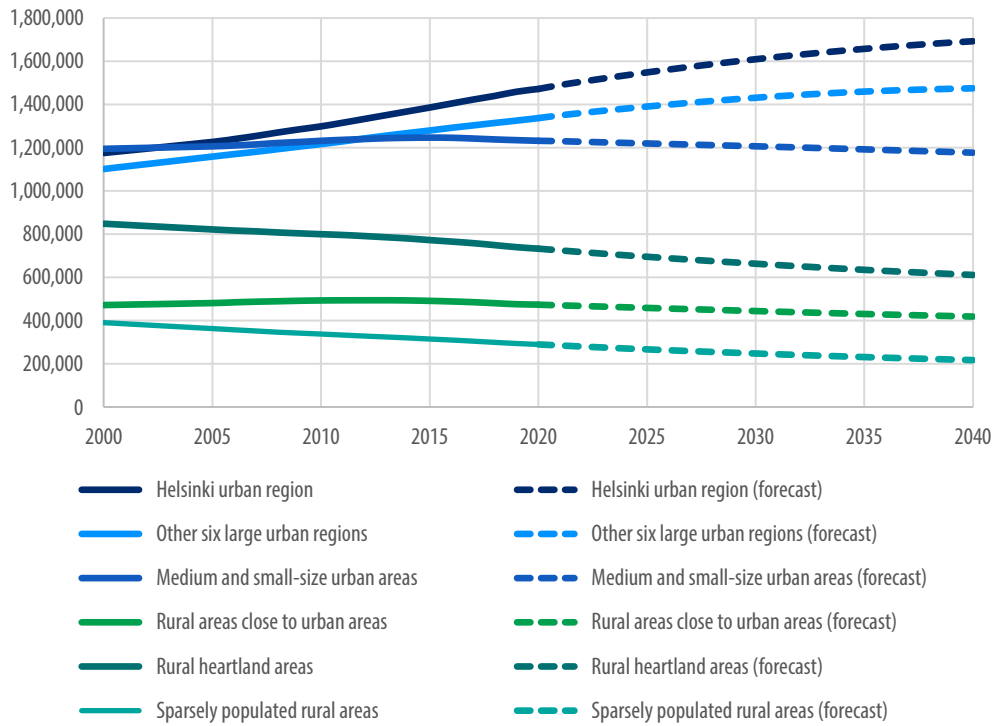
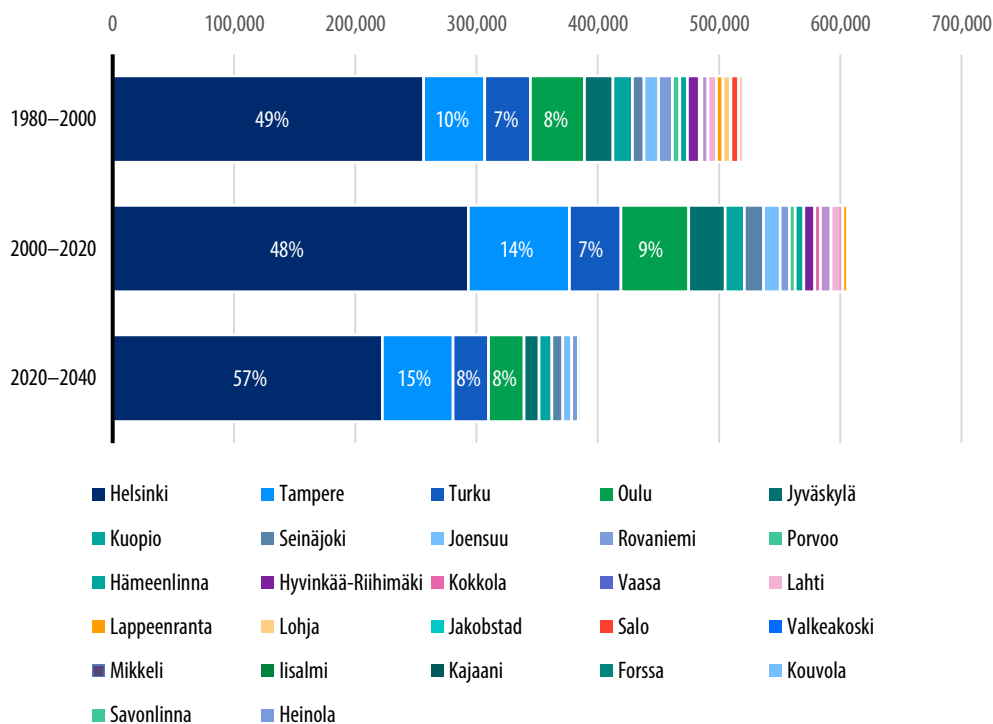


Figure 6. Population growth in different urban regions in 1980–2020 and trend forecast 2021–2040. The forecast is based on Statistics Finland’s population forecast by municipality and the urban structure monitoring data of the Finnish Environment Institute on trends in regional types within municipalities.
Source: Statistics Finland and Syke.

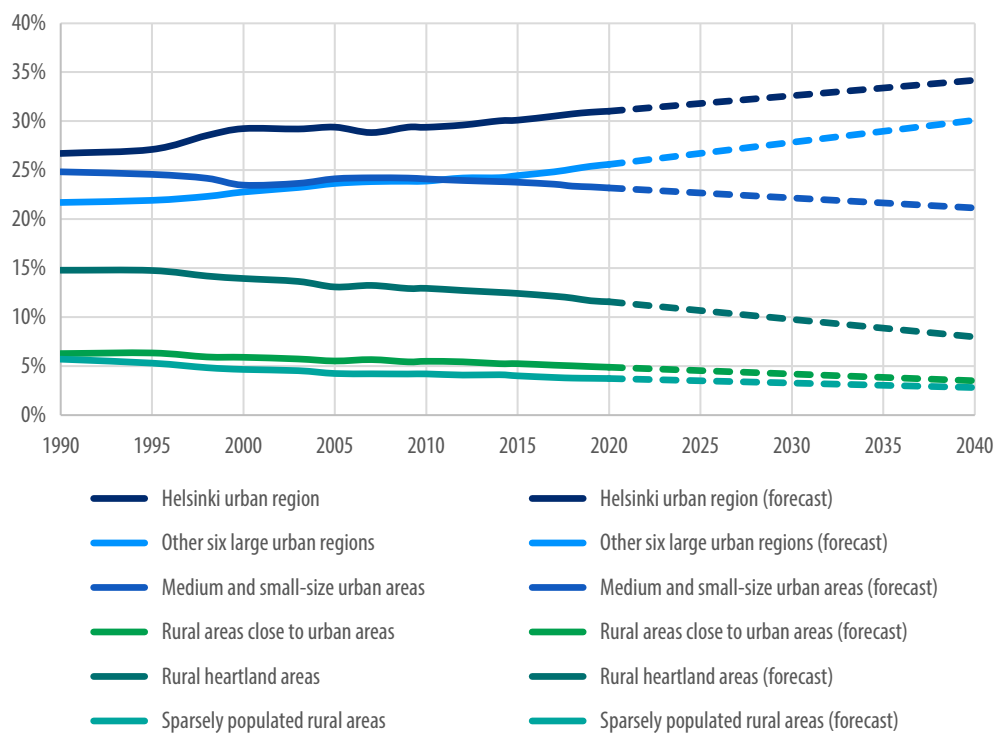


The greatest uncertainties in urbanisation are related to the amount of immigration. A significant increase in immigration may accelerate urbanisation, as the majority of immigrants will settle in cities. On the other hand, rural areas suffering from labour shortages can also gain the workforce they need from immigrants. The increase in multi-local housing may slow down urbanisation and increase the number of residents, especially in attractive areas of recreational housing and tourism, where seasonal populations have a significant impact on, for example, the demand for and supply of services in urban centres. Remote work can be expected to remain at a level higher than before the COVID-19 pandemic.

Jobs are more concentrated than the population in urban regions. 80% of jobs are located in urban regions. The growth in the number of jobs takes place especially in knowledge-intensive services, which focus on the largest urban regions. The green transformation will increase the volume of industrial investment, and industry

and logistics will remain a major source of employment in many medium and small urban regions. The need for social welfare and health care services will grow throughout the country and especially in urban areas. Rural areas will continue to play an important role in a wide range of industries, such as agriculture and forestry, industry, construction, and energy production.

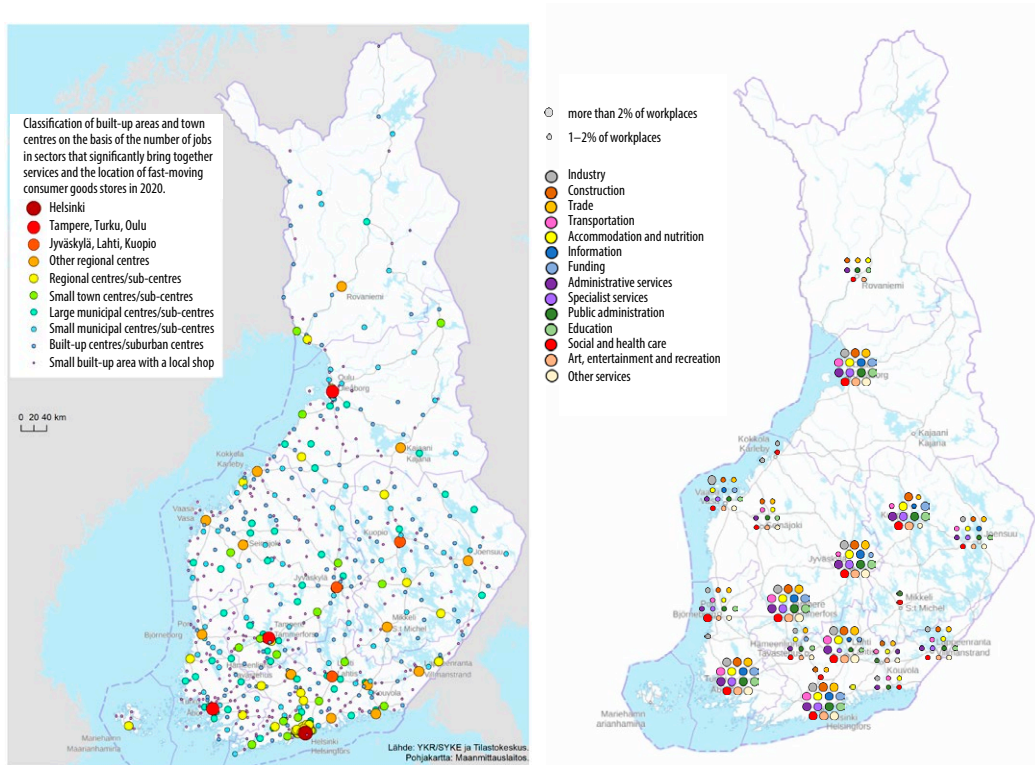
Figure 7. Workplace development 1990–2020 and trend forecast 2020–2040. Source: Statistics Finland and Syke.



The availability of skilled labour will become a challenge throughout the country. There are various possible trends related to meeting labour needs, the availability of foreign labour, the direction of investments and the development of different sectors. The good availability of highly skilled labour particularly supports the growth of the largest urban regions. Large investments in the green transition will significantly support the development of the targeted regions. In western Finland, the emphasis is on investments in wind power, energy solutions and the metal industry, while in eastern Finland, the renewal of the forest industry, among other things, is emphasised. The growing need for social welfare and health care services

Finland's regional structure has remained polycentric. In addition to the capital region, there are several large and growing urban centres in the country. Each region has at least one significant urban centre, and many sub-regional centres also have extensive areas of influence. In the future, an increasing number of regional and sub-regional centres will lose their population, which will be reflected in the supply of services, the availability of skilled labour, the construction of housing and premises, and the prices of housing. The network of centres is developing strongly in the Helsinki region and around the other largest centres. In these areas, sub-centres and municipal centres are growing in services similar to small and medium-sized cities. If regional concentration accelerates from the current level, the result may be increasing migration from small and medium-sized urban regions to the largest urban regions and population loss in declining centres.

Figure 9. Network of centres of different sizes in Finland and centres with more than 2% and 1% of jobs in different sectors in 2020. The network of centres of different sizes is based on the classification of city centres and agglomerations on the basis of the number of jobs in sectors that bring together services significantly and the location of fast-moving consumer goods stores. Source: Finnish Environment Institute.

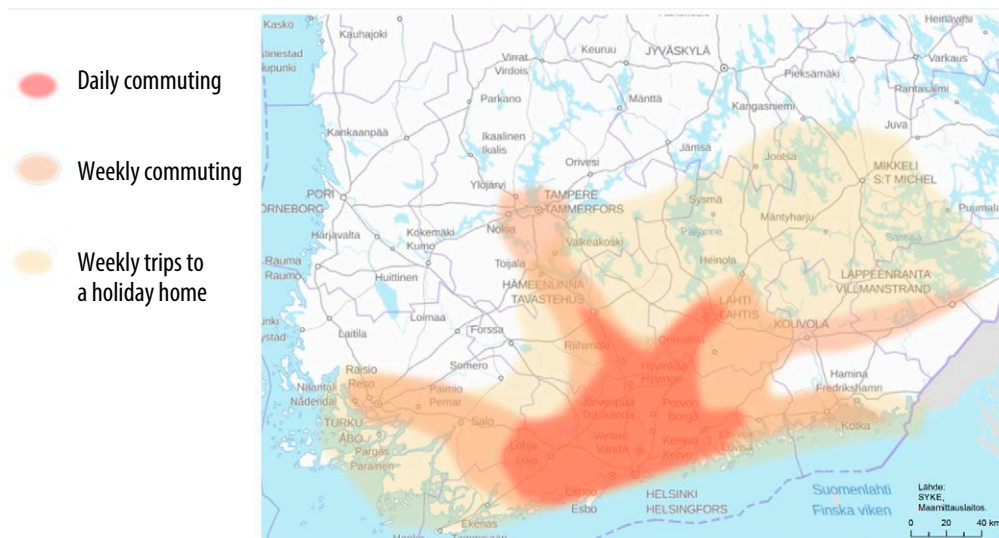


Specialised services and university education are increasingly concentrated in the largest urban regions, which emphasises the need for good transport connections from the surrounding regions to these centres. The regional centres mainly maintain their position as functional centres in their regions, for example in well-being, education and trade services, which emphasises the importance of their accessibility within their surrounding area. In the future, there may be a need to reorganise the services of regional centres and their areas of influence in areas of the declining population. Changes in the location of specialised services have a wide-ranging impact on the centres and their areas of influence as well as the connectivity needs between the centres. In small urban regions and rural areas, the development of the centres follows changes in the number of residents and other users in the surrounding area and the use of local strengths. From the perspective of the vitality and well-being of these regions, it is important to maintain the local network of centres, as well as connections to regional centres and the national transport network.

The area of influence of the Helsinki metropolitan region has expanded significantly in recent decades. The capital region, other urban centres in southern Finland and rural areas between cities have become functionally linked to a single metropolitan region, and the development seems to continue in the future. Improved rail and road connections and the spread of remote work have enabled longer commuting. Employment between regions has become more common in the metropolitan area, but more frequent mobility is weekly, not daily.

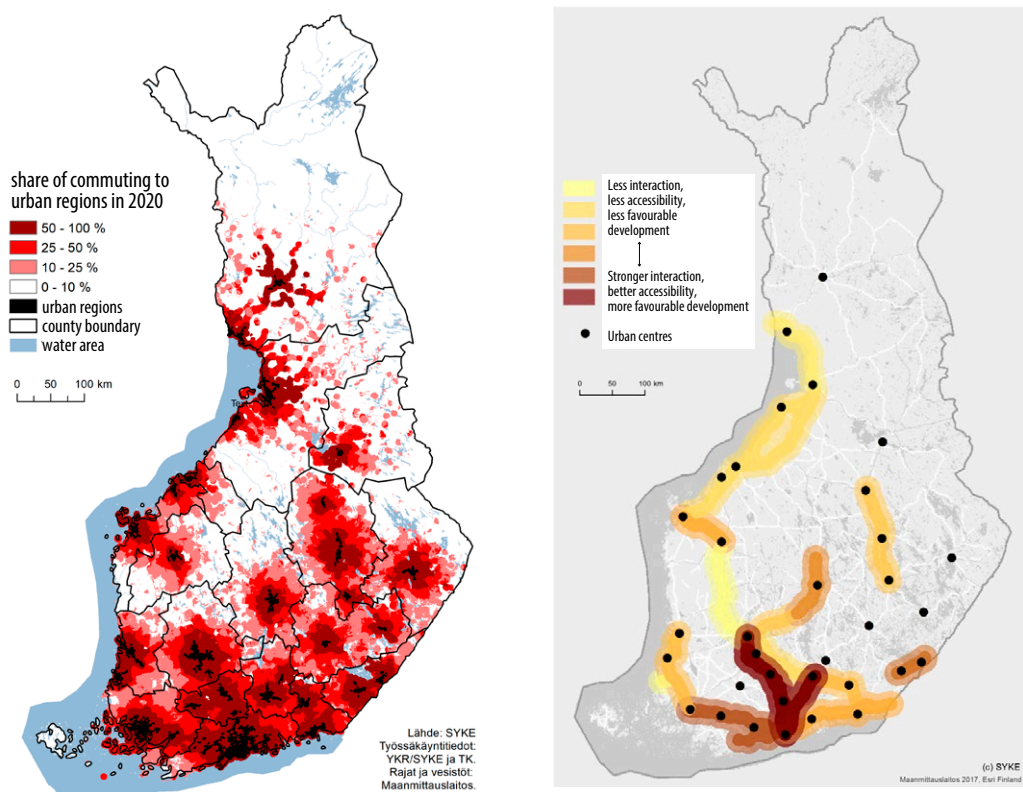
In leisure time mobility, the functional urban area of the Helsinki metropolitan region extends to the coast and the southern parts of Finland's lake district. The closeness of interaction between regions depends on the development of housing, working practices, restrictions on time use and smooth mobility. The scope of everyday life also becomes differentiated between residents.

Figure 10. An indicative description of the impact area of the metropolitan area based on daily and weekly employment and leisure time housing. Source: Final report of the PERUS-SKENE project.



Similarly, in other parts of the country, the commuting areas of urban regions have expanded and become interconnected. On the basis of good transport connections, development corridors have emerged between many regional centres and sub-regional centres. They have provided economies of scale and growth opportunities and improved the availability of skilled labour. In the future, the expansion of commuting areas will probably take place mostly in connection with growth zones. Smooth rail connections increase commuting between cities and interaction between companies. In rural areas, small commuting areas will be linked to larger entities, as skilled labour has to be sought from a distance. The decline in the relative share of the working population and place-independent work reduce interaction between regions, while mobility related to business activities, services and leisure time increases it. The future of commuting areas and development corridors varies greatly from region to region.

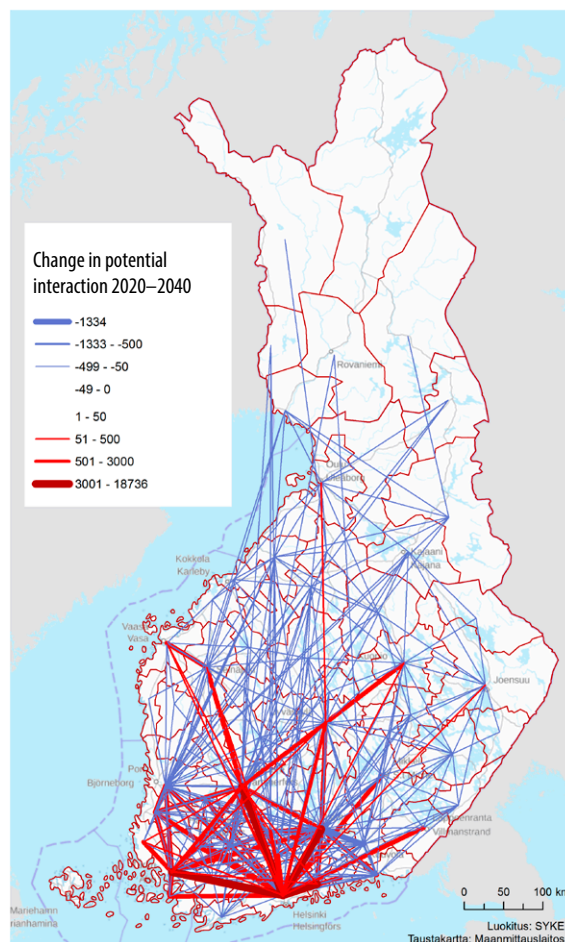
Figure 11. Proportion of commuting to urban areas in different regions; a guideline comparison of growth zones based on factors related to interaction, interaction potential and growth and development. There will be close commuting corridors between urban regions that offer commuting opportunities in several urban regions. Sources: Finnish Environment Institute and Statistics Finland.



In the past decades, several transport projects have been carried out in Finland to improve passenger transport connections between the largest urban regions and different parts of the country. Road and rail connections from industrial concentrations to the most important export ports and the connections needed for transporting industrial raw materials are emphasised in freight transport. In the future, passenger traffic between regions will increase between the largest urban regions, especially in southern Finland. In the future development of the transport system, the focus will be on improving the railway network, accelerating train connections and maintaining the main road network. In areas that lose their population, the development of transport is influenced not only by the demographic development of the region but also by multi-local living, tourism and

other business activities. Changes in the service network, for example in education and social and health care services, may cause rapid need for change in transport services.

Figure 12. Change in potential interaction between sub-regions based on the results of the PERUS-SKENE project. Interaction describes, for example, passenger traffic. Interaction increases between growing regions and is strong over short distances. Source: Finnish Environment Institute.



The summary of the baseline development of the regional structure is summarised in figure 13. Key changes include the progress of urbanisation, yet at a slowing pace, the strengthening of the position of the largest centres and the development of a networked regional structure in southern Finland, linking to the Helsinki metropolitan area. Connection needs are affected by increasing connections

of growing regions, the need for specialised labour, and multi-local living and working. Rural development is differentiated as local strengths, multi-locality and attraction factors vary between regions. Railway projects, electrification of vehicle traffic, freight transport needs and international connections are emphasised in the development of the transport system. Renewable energy and industrial projects in the green transition are widely reflected in land use across the country. Climate change, biodiversity loss and security of supply affect the utilisation of natural resources and the preservation of continuous natural areas.

Figure 13. The baseline development of the regional structure based on the results of the PERUS-SKENE project, supplemented with feedback received in connection with the development perspective work. Source: Final report of the PERUS-SKENE project.

		Baseline of the regional structure			
		Urbanisation		Networked hubs	
Yhteystarpeet, toiminnalliset alueet		The urbanisation rate will rise from 73% to 79% in 2020–2050.	The proportion of urban areas in jobs will increase from 80% to 85% in 2020–2050.	Population growth is concentrated in only the four largest regions instead of the previous 6–8 regions.	The metropolitan development will be strengthened and the urban network and polycentric structure of sub-centres connected to it will expand.
		The pace of urbanisation will slow down to less than half in 2020–2040.	Urbanisation is the fastest among middle-aged people, children and retired people.	Specialised expert services are concentrated in the largest university towns.	The importance of regional centres will remain strong in health, education and trade services.
		Connection needs will increase in the networked regional structure of southern Finland. The competitiveness of connected regions will improve.	The daily commuting areas of urban regions will no longer expand significantly except in the area of growth corridors.	Living in multiple locations reduces the urbanisation rate by about 3 percentage points.	The vitalising effect of multi-local housing is uneven and polarises rural areas.
		The need for specialised workforce increases long-distance commuting, business travel or remote work between regions.	Multi-locality and remote work expand the areas of weekly mobility , especially in southern Finland.	Interaction between urban and rural areas is focused on leisure time , and business travel becomes two-way.	The position of many regional and small towns close to large centres and without attraction factors will deteriorate.
		In the transport system, the focus will be increasingly on railway projects.	While passenger cars will remain the main mode of transport in most parts of the country , vehicle technology will reduce most of the emissions,	The production and transmission of renewable energy , a hydrogen economy and the green transition of industry have a wide impact on land use and transport.	The use of natural resources remains intensive, but climate change mitigation and prevention of biodiversity loss are increasingly taken into account.
		The flow of goods uses a large road and street network, but is concentrated on main roads, railways and the most important ports.	The cessation of connections with Russia and security of supply increase the significance of international connections in western and northern Finland.	Due to climate change, uniform blue-green connections between different parts of the country are increasingly important.	Security of supply emphasises self-sufficiency in energy and raw materials and the utilisation of the country's various resources.
		<i>Transport system</i>		<i>Land use, nature and natural resources</i>	

Multi-locality, rural areas

Development of regional structure involves a variety of uncertainties and alternative development paths. The development may exceed or fall below the baseline trend for many different reasons. Increased or reduced immigration will have a significant impact on the speed of urbanisation. In the development of the network of urban centres, the emphasis may be on metropolitan development

or the emphasis of growth on other large cities and the preservation or sharp reduction of the network of regional centres. The development of industrial structure and the growth of the service sector has affects which areas will grow. The focus of connection needs in growth areas or security of supply are reflected on the development of areas. Mobility may increase with increasing interaction between regions or decrease with remote work or online services. Multi-local living may become widespread or only be limited to the growth of tourism. Interaction between cities and rural areas may also increase in different activities or decrease as a result of declining rural development. In transport, the growth of public transport or the proliferation of electric cars may be emphasised as a trend. In the transport system, alternatives may include new rail connections or sticking to improving the current ones. Green transition projects can become more common throughout the country or focus only on western Finland. The use of raw materials may increase or the development of natural resources may face increasing constraints

Figure 14. Alternative trends in regional structure based on fluctuations in the baseline variables and the results of the PERUS-SKENE project, supplemented with feedback received in connection with the development perspective work. Source: Final report of the PERUS-SKENE project.

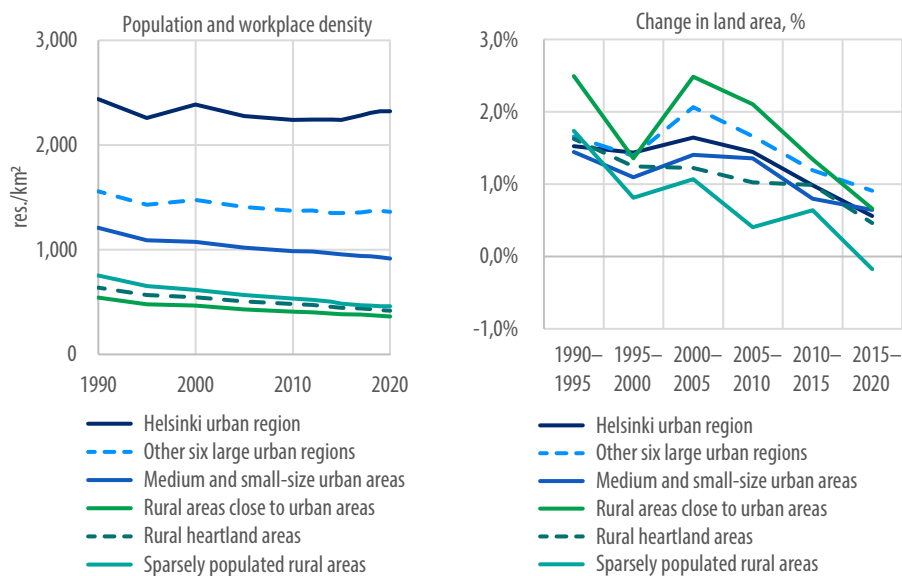
		Alternative regional structure scenarios			
		<i>Urbanisation</i>		<i>Networked hubs</i>	
<i>Connection needs, functional areas</i>		Immigration will increase, which increases the population and the number of jobs. The urbanisation rate will rise to 83%.	The scarcity of work-related immigration turns the population and the number of jobs to a decline. The urbanisation rate will rise to only 77%.	The Helsinki region will get most of the growth of the population and jobs thanks to diverse labour markets and good connections.	Other large towns will increase their attractiveness compared to the Helsinki region due to factors such as price levels and attractive living environments.
		The development of knowledge-intensive industries and other service sectors only accelerates the growth of the largest cities, while other towns decline.	Industrial investments in the green transition will strengthen the position of many medium-sized and small towns.	The network of hubs will get sparser as specialised services are centralised and regions are merged. Some regional centres will become sub-regional centres.	Regional centres will maintain their position on the basis of service demand in their area. Efforts will be made to distribute activities into different regional centres.
		Connection needs will only increase in the metropolitan area, where the growing towns in southern Finland and the centres of the peripheral areas will be linked together.	Security of supply and the development needs of different parts of the country will steer the improvement of connections extensively between different regional centres.	Multi-local living will become more commonplace and increase vitality in many areas, especially seasonally. Empty homes are used for leisure.	Recreational housing will decrease and some of the cottages will not be used. Tourism and rental cottages will become more common, but only in certain target areas.
		Commuting and service areas will expand in the metropolitan area and elsewhere in the country. Mobility will increase, especially between growing urban regions.	The increase in remote work and the growth of online commerce will reduce daily mobility and traffic flows as a whole.	The interaction between urban and rural areas will increase in energy production, business, work, services and leisure time.	The decline in rural settlement, production, services and infrastructure will also reduce interaction with towns in many areas.
		The supply, competitiveness and share of mode of transport of fast train and bus connections will increase between towns.	Electric cars will become more common and offer affordable mobility, which increases the amount of motoring and reduces the use of public transport.	Green transition projects, such as wind power construction and the battery industry, will particularly focus on western Finland. Eastern Finland will be not included in the development.	Green transition projects will be implemented throughout the country. Radar surveillance will be resolved so that wind power construction will increase in eastern Finland, as well.
		New rail connections will speed up traffic between towns. Regional rail transport will be developed in all major urban areas.	Rather than building new rail connections, existing ones will be improved. Only limited demand for new rail transport services.	Europe's pursuit of self-sufficiency in critical raw materials will significantly increase mining projects in northern and eastern Finland.	Blue and green connections, improving the status of waters and preserving cultural environments increasingly restrict the use of natural resources.
		<i>Transport system</i>		<i>Land use, nature and natural resources</i>	

Situation and future perspective of urban structure

Settlements have concentrated in urban areas. The proportion of urban population has grown for a long time and will continue to grow in the future. In 2021, the proportion of people living in urban areas was almost 87%, and according to the trend, this share will increase to 90% by 2040. Within built-up areas, an increasing number of residents live in a densely populated area, which typically have local detailed plans and where the municipality is responsible for municipal technology. However, multi-local living reduces the population density of urban areas and increases the number of residents in sparsely populated areas seasonally. Multi-locality is likely to increase due to urbanisation, ageing and the increase in place-independent work.

Within urban areas, sprawl has continued for a long time. A long-term decline in population and workplace density reflects the sprawling development. The reason for this development has been an increase in living space per capita and housing construction in sparsely built outskirts of urban areas, which has also resulted in significant expansion of the built-up area. In recent years, the expansion of urban areas has slowed down to less than half of its former rate. The urban structure of the largest urban regions have begun densifying in the 2010s. Infill development has become more common, and housing construction has increasingly focused on city centres, their edges and sub-centres. In the future, the urban densification trend will also depend heavily on demographic trends. The decline in population and jobs makes the structure sparser in many urban areas.

Figure 15. Development of population and job density and land area in built-up areas 1990–2020. Source: Final report of the PERUS-SKENE project.

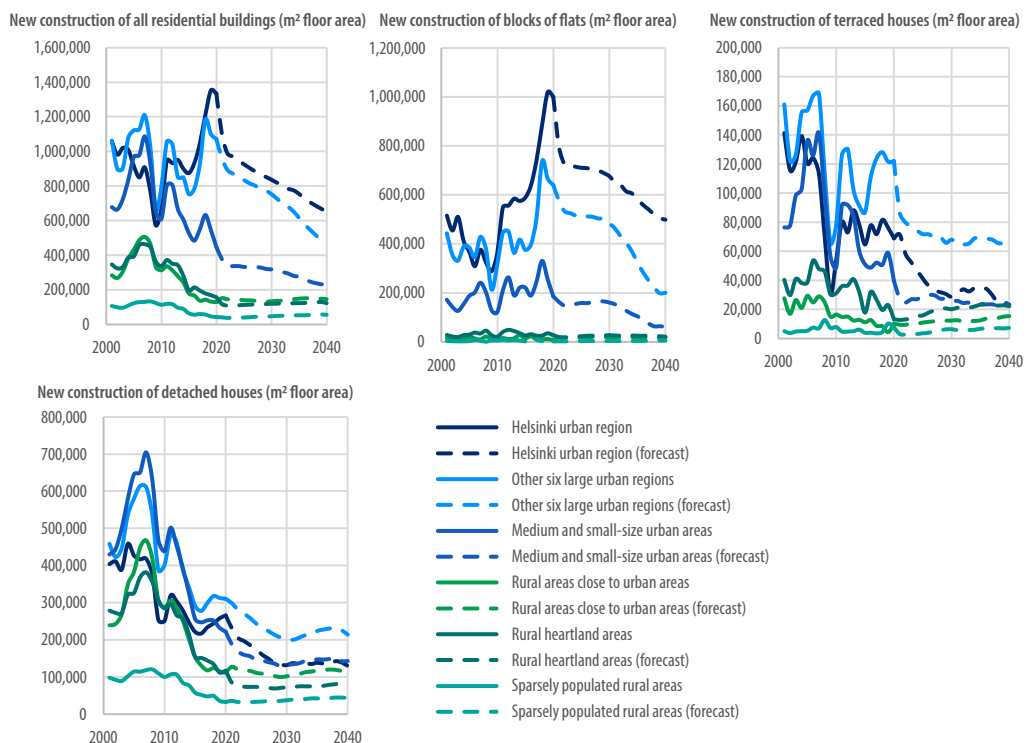


In the future, infill development will continue particularly in the largest urban regions. The ageing of the population and the increase in the number of solo-dwellers will increase the demand for apartment block housing and local services. The aim is to direct infill development to built-up areas and to densify their land use. Some of the new construction is located in green areas in built-up areas, and securing their uniformity and accessibility poses challenges in the most densely built areas. The objectives of climate change mitigation and adaptation and biodiversity loss will affect the development of built-up areas in the future. The tightening of national and EU-level targets may place more restrictions on construction in urban areas.

The underutilisation of buildings and infrastructure will become more common in areas that lose their population. The number of empty housing units doubled between 1990 and 2020. Residential buildings have been left empty particularly in urban fringes and sparsely populated areas, and by older residents. Apartments in block buildings and terraced houses, as well as older business premises, have remained largely unused in many urban areas. In the future, the trend towards the vacation of rural housing will continue to be fairly high. Demolition of buildings will also become more common.

New housing construction concentrates on the largest urban regions and apartment block housing. The number of people living in single-family houses will grow mainly in the largest urban regions and especially in their surrounding municipalities. The ageing of the population will increase the popularity of apartment block living both in urban and rural areas. Many aged people will live at home as long as possible. In the future, the proportion of elderly people will also increase in many detached house areas. In addition to new construction, renovation of dwellings will be increasingly important, and there will be plenty of renovation-aged dwellings. In the future, the quality and sustainability of housing and living environments will be emphasised more than before.

Figure 16. New construction of residential buildings (square metres of floor area) in total and by type of building in different types of areas in 2000–2020 and a trend forecast 2020–2040 based on the results of the PERUS-SKENE project. Source: Final report of the PERUS-SKENE project.



Employment areas in built-up areas have expanded significantly in the early 2000s. New employment areas have emerged in different economic sectors such as trade, transport, industry, construction and knowledge-intensive services. Old industrial and transport areas have been converted into residential areas in many places. Recreational services have also been located in employment areas.

In the future, the expansion of employment areas will be limited and will focus on certain emerging sectors, such as energy production, circular economy and logistics. However, individual projects can be large. The use of office areas will become more efficient with the help of remote working, and the development of old office areas will pose questions in many municipalities. Conversion of employment areas to housing will still take place, but there is also a desire to mixed-use development.

City centres have lost their position as places of employment, but have increased their share in housing. In Helsinki metropolitan region, the share of people living in sub-centres and the fringe of the city-centre has increased, and the urban structure has become more polycentric. In other large urban regions, growth has been particularly directed towards the fringe of the city centre. Services previously city-centre-oriented have moved away from the city centres to retail areas, for instance. The growth of shopping centres and hypermarkets has vacated commercial spaces in residential buildings. The growth of e-commerce reduces the need for store retail facilities but requires the organisation of logistics. In the future, the importance of well-accessible city centres will increase as a place for meetings, events and experiences. New types of workplaces, such as remote work facilities, will become more common in city centres. City centres and sub-centres will remain as popular places for living also in the future, as a result of ageing.

The development of public transport zones will vary according to the size of the urban region. In the largest urban regions, the intensive public transport zones are of great importance. Furthermore, railway projects have strengthened public transport corridors, which are subject to significant new construction. In medium-sized and small urban regions, the population of the public transport zone has declined and the service level has deteriorated. Therefore, the possibilities to support their development with infill construction are limited and may only be found from certain centres located in the public transport zone. The proportion of jobs that locate in the public transport zone has grown in many regions as jobs have moved away from the city centres. However, there is plenty of room for improvement in the utilisation of public transport on commuting in many areas.

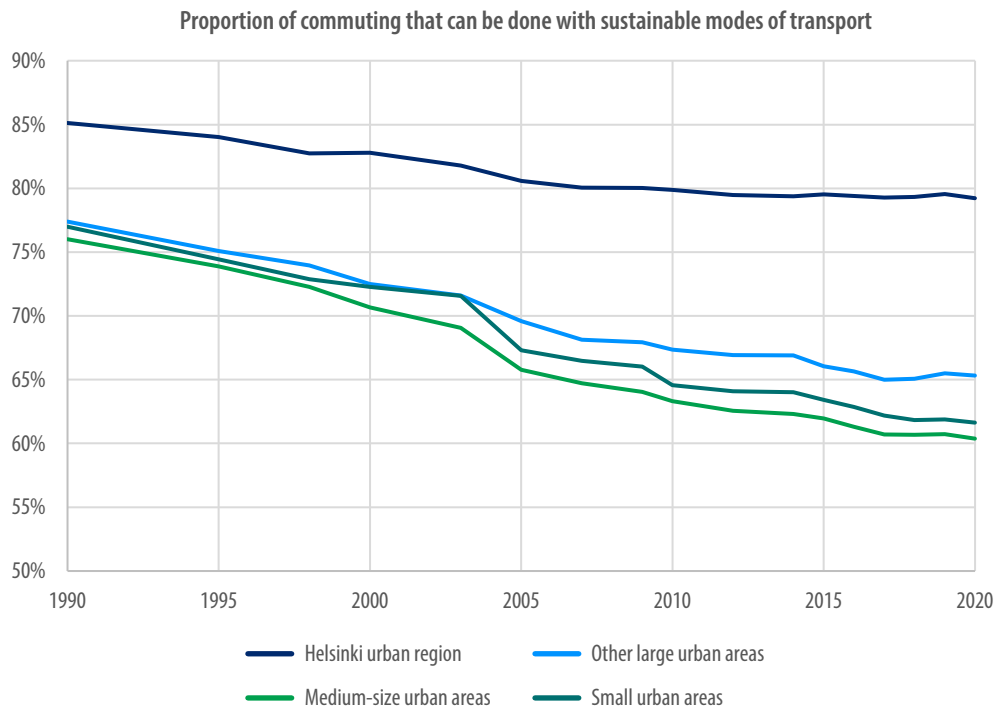
In car zones, the population mostly lives in detached houses and the detached house areas cover a large part of the zone. The proportion of the car zone in the population varies according to the size of the urban area. The population share of the car zone grew until the early 2000s and then started declining. According to the current trend, there is no end of the growth of the share of the placement of jobs in the car zone. However, many workplaces emphasise accessibility through sustainable means of transport, which may have a greater impact on the location of companies in the future.

Figure 17. Population in urban structure zones 1990–2020 and forecast 2020–2040. Based on the results of the PERUS-SKENE project.
Source: Final report of the PERUS-SKENE project.



It is expected that duality will remain in the development of urban structure in the future. The city centres and intensive public transport corridors will develop, but growth will continue to take place in the car zone of the urban fringe. Previously, prerequisites for the use of sustainable modes of transport were deteriorated in all regions. However, in recent years, urban sprawl has slowed down. Within urban regions, the focus in transport system projects will shift to the development of public transport, walking and cycling routes, which will improve the preconditions for sustainable mobility, especially in the largest urban areas. However, the financing of large projects involves uncertainties due to fiscal challenges.

Figure 18. Development of the prerequisites for sustainable modes of transport in urban areas of different sizes in 1990–2020. In the inspection, commuting is classified as sustainable if both the place of residence and the workplace are located in a pedestrian or public transport zone or at a maximum straight-line distance of 4 km from each other. Source: YKR/SYKE and Statistics Finland.



The expansion of built-up land in urban areas is mainly directed at forest areas and fields and other natural areas. The expansion of built-up land has slowed down in the 2000s, especially in rural areas. Significant green spaces have also remained inside urban areas. More than half of the country's entire built-up area is unbuilt forest or agricultural land. The accessibility of areas suitable for recreation is good in built-up areas, with the exception of the areas that are the most densely built. Housing, workplace areas and transport routes fragment nature areas, which means that in urban areas only a small proportion of all green spaces are large and connected. In the future, fewer green spaces will be taken into use in construction, but the pressure to develop green spaces remains, especially in the best locations in terms of urban structure.

The degree of urbanisation continues to increase in rural areas. In addition to the housing structure, the accessibility of services, transport and data connections, and demographic changes will also shape the urban structure of rural areas. Municipal centres and other service centres and the surrounding areas offer an opportunity for short daily trips. In sparsely populated areas, the proximity of the main road network attracts residents with access possibilities guaranteed by a higher maintenance category. The rural areas see mainly development in these areas. There is mainly pressure to develop rural areas close to growing urban regions. Therefore, there may be a need to limit building outside of the built-up area and directing growth to areas with a local detailed plan or village centres.

The summary of the baseline development of the urban structure is summarised in figure 16. Key changes include the infill development and densification of the largest urban agglomerations, emphasis on apartment block construction due to ageing, and the vacation of housing stock in declining areas. The importance

and functions of city centres will change, the development of sub-centres will be significant in the largest urban regions, and projects in growing sectors will also situate in workplace areas. The population is concentrated in the city centre and its fringe while workplaces will be concentrated on the public transport and car zones. The accessibility of services will remain good in the largest cities, but will deteriorate elsewhere. The number of passenger cars in daily mobility will decrease. Time spent in residential areas will increase, renovation needs of housing will increase, and segregation will continue. Infill development will consume some green spaces, but the expansion of the built-up area will be slower than before. Green structure integrity and adaptation to climate change will be emphasised.

Figure 19. The baseline development of the urban structure based on the results of the PERUS-SKENE project, supplemented with feedback received in connection with the development perspective work. Source: Final report of the PERUS-SKENE project.

Baseline in urban structure				
<i>Built-up area development</i>		<i>Housing and housing stock</i>		
<i>Centre areas and workplace areas</i>	The expansion of urban areas will continue slow , at less than one percent per year.	The share of supplementary construction is high , and dismantling supplementary construction also becomes more common.	The number of households will increase by 290,000 in apartment blocks, and only by 50,000 in single-family houses in 2020–2040.	Nearly 190,000 flats will remain empty in 2020–2040, increasingly in apartment blocks.
	The population density of urban areas and built-up rural areas will increase by more than 10% in the largest urban areas.	In smaller urban areas and built-up rural areas, the population density will decrease .	In rural areas, the increase in living space per capita will remain about 10% higher than in towns.	The very slow increase in living space per capita in the Helsinki region will turn to a growth due to the space needs of remote work.
	Urban centre areas will strengthen their position as places of residence and entertainment , and commerce will increasingly move online.	Sub-centres will develop as service centres similar to urban centres in the largest areas.	The share of pedestrian zones and urban outskirts of the population will increase by about 2% in 2020–2040.	The share of public transport zones in workplaces will increase by about 1% , while the share of car zones will increase by 2% .
	Jobs in some sectors are still concentrated in the centres , in other sectors in workplace areas outside them.	The expansion of workplace areas will slow down , but significant growth will take place in clusters of energy, industry and logistics.	Urbanisation and condensing urban structure will reduce passenger car transport performance by about 3% .	Accessibility of local services will remain unchanged in large cities and deteriorate elsewhere.
	The housing market will become differentiated between growing and declining regions, which will be reflected in the financing of renovations.	The repair needs of the built environment will increase in old apartment block suburbs and single-family house areas.	The growth of built-up urban areas will slow down by about one third by 2040.	The most important parts of urban green and blue structures will be preserved and the quality will be improved .
	Remote work and ageing will increase the time spent in residential areas. The importance of recreational opportunities and local services will increase.	The segregation of residential areas will continue in urban areas, for example, as disadvantage accumulates.	Supplementary construction will consume green areas , even though the reuse and greening of areas already built will increase.	Climate change will increase storms, floods, droughts and heat waves. Adapting to changes requires, for example, nature-based solutions.
<i>Residential areas, segregation</i>		<i>Land use, green and water areas</i>		

Mobility

Development of regional structure involves a variety of uncertainties and alternative development paths. The development may exceed or fall below the baseline trend for many different reasons. The densification of urban structure may continue and focus on very central locations, or sprawl can increase as remote work increases the need for space at home and does not require daily visits to the workplace. Infill development may mainly take place in built-up areas, or a large number of forest and field areas may be needed for new green field development. In housing production, immigration and ageing may increase the emphasis on apartment blocks, or row houses and single-family houses may become popular forms of housing. New housing production may remain at a high level in the long term, or the focus may be on renovation of the existing housing stock.

The urban centres may increase their attractiveness as places of entertainment and housing, or their attractiveness may diminish. A lot of regeneration may take place in employment areas or the need for premises may decrease. The proportion of sustainable modes of transport may increase significantly, or the proliferation of electric cars may place the emphasis of modes of transport on driving. In peripheral and rural areas, the development of travel chains may increase the use of public transport, or car dependence may continue to increase. Differences in residential areas may be compensated or segregation may accelerate even further. Green areas in urban regions may decrease significantly due to infill development and new industrial projects, or green spaces can be preserved and built-up areas can be greened.

Figure 20. Alternative trends in urban structure based on fluctuations in the baseline variables and the results of the PERUS-SKENE project, supplemented with feedback received in connection with the development perspective work. Source: Final report of the PERUS-SKENE project.

Alternative developments in urban structure				
<i>Built-up area development</i>		<i>Housing and housing stock</i>		
<i>Centre areas and workplace areas</i>	Communities will become condensed around the town centres. In smaller areas, suburbs located further from centres will experience under-utilisation.	The urban sprawl will increase again as remote work and space needs attract residents to single-family house areas farther away from the centres.	Accelerated immigration and ageing accelerate the popularity of apartment block construction. However, the average size of apartments will increase.	More than at apartment blocks, demand for housing will be targeted at terraced and single-family houses, where different models of urban single-family houses will be developed.
	Supplementary construction will become highly more widespread and focused on areas already built in order to save urban green areas.	New construction will mainly take place in forest and arable areas, as reuse of previously built areas is too challenging.	New housing production will recover and remain at a high level. New apartments will be attractive. More and more old apartments will be left empty.	New housing production will decrease due to high costs. The focus will shift to the renovation of old dwellings.
	The liveliness of the town centres will increase as local population grows and as services related to entertainment and experiences get emphasised.	In large cities, sub-centres and shopping centres, teleworking and e-commerce feed the attractiveness of the city centres.	In increasingly dense cities, sustainable modes of transport will become significantly more widespread. Public transport will be improved. The electric bike will also replace the car in commuting.	The proliferation of electric cars will increase the share of passenger car transport. The easiest way to travel is by car when the destinations are in different parts of the area.
	There will be a lot of new facility construction in the workplace areas related to the development of new growth sectors and the modernisation of office and production facilities.	The need for office space will decrease when working at home and using office space more efficiently. Old office buildings will become vacant.	The flow of public transport travel chains and park-and-ride facilities will be improved in urban peripheries and rural centres.	The concentration of services and reduced accessibility, and increasing tourism and leisure-time housing will increase the use of cars.
	It is possible to limit the segregation of residential areas by means of determined housing policy and zoning.	Many residential areas will face a vicious circle of deterioration, and better-off residents owning their residences will move away.	Supplementary construction and new business areas and infrastructure projects will significantly deteriorate green connections.	The green areas of cities will mainly be maintained with the support of national and EU-level guidance.
	Housing renovations and energy reforms will generate demand in the construction sector, and the building stock will be renovated comprehensively.	Energy poverty will increase and some residential areas will remain unrenovated, as access to finance is difficult and some of the dwellings are empty.	Investments in the green transition will significantly increase changes in land use in economic areas at the edges of communities.	The net-zero objective of land use change will lead to greening in buildings' outdoor areas, traffic areas and public areas.
<i>Residential areas, segregation</i>		<i>Land use, green and water areas</i>		

Mobility

2.3 Sustainability of regional and urban structure

Regional and urban structure has different impacts on ecological, social and economic sustainability. Some of the changes may advance one sustainability objective, but at the same time they are challenging from the perspective of another. In the pursuit of a sustainable structure, the best overall solution must be sought.

In the built environment, the focus of environmental impacts is shifting from emissions from the use of buildings to emissions from new construction. Greenhouse gas emissions caused by heating the buildings will diminish, as electricity and district heating will have lower emissions and the energy efficiency

of buildings will improve through new construction regulations and renovation. Emissions from the manufacture of construction materials decrease more slowly than emissions from heating. The significance of land use change and infrastructure in environmental impacts is also emphasised. In transport, greenhouse gas emissions will decrease due to the power source transition of vehicles, even if the transport performance and mode of transport distribution themselves remain relatively unchanged.

New construction meets the needs arising from the development of both regional and urban structures. The number of new dwellings constructed annually is about half as high as the number by which the number of households increases, which means that a significant part of the dwelling stock is left empty annually. In addition to vacation of housing, the living space per capita will increase in areas that lose their population, as many dwellings previously used by families are only occupied by one or two people. The concentration of the population in urban areas explains some of the new construction and vacation of dwellings. Some of the development is caused by changes in the population within municipalities and regions, as the share of the population living in urban areas has increased and new housing has been needed to meet the current housing needs.

The emission impacts of urban construction can be reduced by anticipation and planning. The rapid and significant acceleration of urbanisation would clearly increase environmental impacts through accelerating new construction and accelerating vacation and underutilisation of buildings. Urban construction mainly targets dense areas where the proportion of block building production is large and the average size of dwellings relatively small, which reduces the emission impacts of new production per square metre of floor space.

From the perspective of social sustainability, continuing urbanisation maintains regional disparities. The concentration of population growth in fewer regions affects the regions' capacity to provide services to residents. If the services are mainly concentrated in centres, the equal availability of services outside large urban areas and regional centres will be jeopardised. The position of families with children in rural areas will deteriorate if some local schools are closed down as the number of children decreases.

Distance is a significant cost factor for people in rural and sparsely built urban areas. Changes in the cost of mobility in car-dependent areas may weaken people's financial situation. Long distances have a significant impact on time use and consequently on well-being. Digital solutions may facilitate mobility challenges, but especially for the ageing population, the use of rapidly developing new digital tools may be an obstacle to the deployment of services.

The most pressing social sustainability issue in the near future will be meeting the service needs of older people. Differences in the service level, the sufficiency of carers, and the age-friendliness of living environments are easily created between regions.

The green transition will bring about rapid changes in society with many regional impacts. Individuals can experience them, for example, as changes in the cost of housing or mobility. Due to differences in regional development, the impacts of these changes may be very different. Benefits and savings are achieved in many situations, but negative impacts may appear, too. These may include energy poverty, mobility poverty, and differences in the development of property values.

The concentration of the population in urban areas brings more people to areas where there are diverse mobility opportunities through different modes of transport, and at the national level, more people live in areas with diverse services. Multi-locality can even out regional disparities. Multi-locality provides individuals with more choices for choosing their own place of residence or workplace between different regions. It also enables many people to choose work and leisure locations that increase their well-being.

In growing urban regions, infill development changes local environments, which affects the comfort of living environments. The increase in apartment block housing increases the significance of shared green and recreational areas as a comfort factor. In growing, diversifying cities, developing communality is important for promoting social sustainability. Mitigating urban segregation and increasing security are preconditions for a socially sustainable city. The sufficiency of housing, the right type of housing production, and the price levels have a significant impact on people's ability to choose their place of residence in a growing city.

The renovation needs of the ageing building stock and infrastructure will bring significant costs to residents. The economic conditions of people and the location of their place of residence affect the economic burden these investments cause. If the value development of properties in the area is negative, it may be difficult to obtain the financing needed for investments. In growing areas, the increase in housing costs is targeted at residents in different stages of life in different ways.

From the perspective of economic sustainability, urbanisation brings cumulative benefits and increases economic growth. Sector-specific clusters promote productivity and production growth. Furthermore, the diversity of the economic structure of the urban area and the size of the urban area create productivity benefits for business activities. The growth of the urban area will increase the sales of companies and continue to attract new companies to the region. This particularly applies to companies serving local consumer demand. The availability of highly educated labour, especially in larger cities, increases the growth potential of high-productivity companies and increases the average income level.

A balanced residential and workplace structure provides preconditions for the use of local resources in different parts of the country. In particular in agriculture and forestry, industries based on local raw materials or competence base, and tourism, the vitality and services

of regions support business activities. Poor availability of labour and the lack of subcontractors may slow down companies' growth opportunities. Therefore, rapid urbanisation may also undermine economic sustainability, especially in shrinking regions.

The development of urban structure has a significant impact on the sustainability of the finances of municipalities and wellbeing services counties. The costs of building and maintaining municipal technology and the street network, as well as home care for school transports and the elderly, depend on how dwellings and other functions are placed in relation to each other. In addition, the location of public and commercial services affects the mobility needs of residents and the amount of income left to be spent on local services after mobility costs. A denser urban structure will improve economic sustainability. Underused structures burden the economy in many areas, and there is a need to reduce them from the perspective of economic sustainability.

3 Developmental perspective – needs of regional and urban structure development

3.1 Toward a regional and urban structure that supports sustainable development

Finland is committed to supporting the implementation of the UN Sustainable Development Goals (Agenda 2030). The general objective of the Land Use and Building Act (as of 1 January 2025, the Regional Land Use Act) is ecologically, economically, socially, and culturally sustainable development. Only developments in which all the aforementioned aspects have been taken into account so that they can be implemented simultaneously are sustainable.

Figure 21. UN Sustainable Development Goals. Objective 11 on sustainable cities and communities is the most important for the development of regional and urban structure. Other key objectives are 3 (health and well-being), 8 (decent work and economic growth), 9 (sustainable industry, innovation and infrastructure), 10 (reduction of inequalities), 13 (climate action) and 17 (partnership for the goals).



The basic precondition for sustainable development is preserving biodiversity and the functionality of ecosystems and adapting human economic and material activities to the carrying capacity of nature in the long term. The ecological sustainability of the regional and urban structure requires climate change mitigation, carbon neutrality and resource efficiency of the built environment, sustainable mobility, safeguarding biodiversity, and achieving good environmental, soil, water, and air status.

Social and cultural sustainability requires equal opportunities for well-being between different regions and population groups, the transfer of preconditions for well-being from one generation to another, and the safeguarding of intangible and material cultural heritage. From the perspective of regional and urban structure, it is essential to prevent and mitigate the disparities between regions. This requires the accessibility of various services, such as health services and schools, and the network of urban centres and services and transport services that support it. Furthermore, mitigating regional disparities requires the health, safety, integrity, and comfort of the living environment, as well as housing opportunities suitable for different life situations and the preservation of cultural traditions. The accessibility of green spaces is a further key factor in terms of the quality of the living environment and the well-being and health of people.

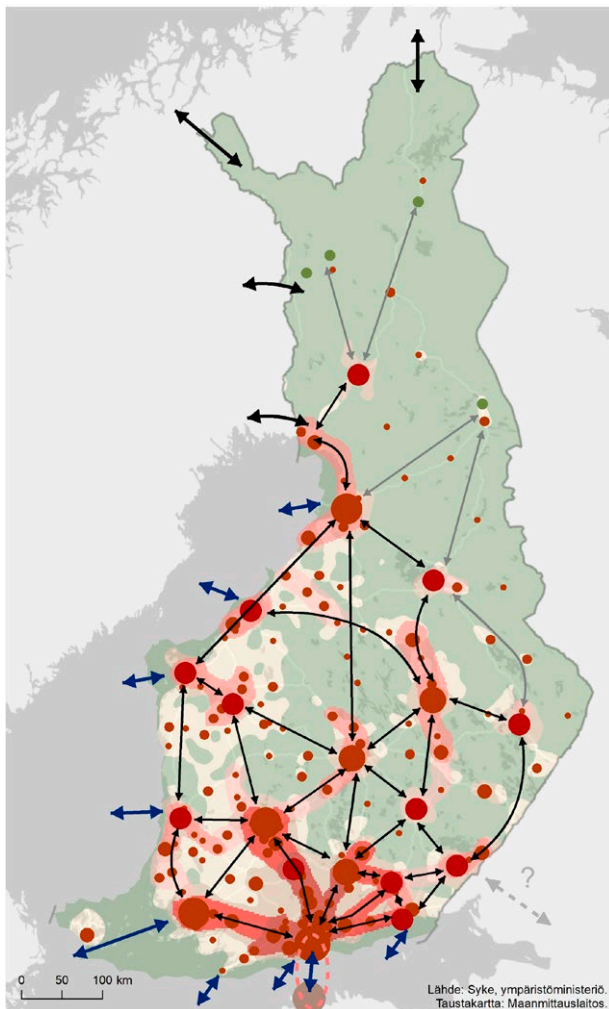
Economic sustainability is growth balanced in content and quality, not based on long-term indebtedness or the depletion of reserves. The economic sustainability of the regional and urban structure requires taking care of the built environment, its resource-efficient use, productive and efficient investments, good operating conditions for business activities, enabling technological development and good accessibility, and securing the availability of raw materials. Economic sustainability is also affected by the preconditions for renewable energy production, opportunities for energy efficiency and a circular economy, and adopting consumption and production methods that are less harmful to the environment.

In addition to the UN Sustainable Development Goals, Finland is committed to the objectives and implementation of several international environmental agreements. These include international agreements on climate, biodiversity, air pollution control, ozone layer, chemicals and hazardous waste, marine and water protection and environmental impact assessment. Finland is also bound by EU environmental legislation.

3.2 Polycentric and networked regional structure

Finland's regional structure is based on functional centres, a dynamic countryside and their multifaceted networking and interaction with each other. The following figure shows the objectives for a polycentric and networked regional structure. The map shows the most significant international, national, regional and urban regional centres, development corridors and connections.

Figure 22. Objectives for a polycentric and networked regional structure.



- The regional structure will be developed in a balanced manner, drawing on the strengths of different areas in Finland and taking the situation and characteristics into account
- Location-independence enabled by digitalisation improves the sustainability of the regional structure
- The largest urban regions and regional centres will be developed as national and international nodes of a networked regional structure and as centres of their own impact area
- Development zones promote networking and division of labour between urban and larger regions
- The Helsinki region and other urban areas in southern Finland will be developed as an internationally competitive network metropolitan area
- Regional towns, rural and tourism centres and various rural areas utilise their strengths in interaction with other regions
- Functional national and international connections support the sustainability of the regional structure and the vitality of the regions

3.2.1 The regional structure will be developed in a balanced manner, drawing on the strengths of different areas in Finland and taking the situation and characteristics into account

The dominant trend in regional structure is the continuation of urbanisation and the concentration of population growth and jobs in the largest urban regions. The long-standing trend of concentration is partly in line with the challenge of increasing international competition to create economies of scale and increase productivity. However, increasing regional disparities cause many problems related to well-being and economic and ecological sustainability in both growing and declining regions. This may weaken the country's competitiveness and security of supply.

In order to alleviate the dispersion of the regional structure, it is important to promote a networked regional structure and to ensure the sufficiently balanced development of Finland's regional structure. This is increasingly important in terms of the Finnish economy, especially value chains that generate export revenue, in a situation where the new industrial policy in Europe is to cover the entire production chain from rare raw materials to industrial production and high-skill research and development. In particular, the green transition will steer investments in different parts of the country more strongly than before.

A balanced regional structure strengthens Finland's security and security of supply, provided that connections between regions and connections abroad are ensured. From the perspective of the guiding the future orientation of Finland's regional structure, it should be noted that eastern and northern Finland are connected also to the rest of the country and to each other through transport, telecommunications, energy and other networks, and the areas are not only dependent on connections to the Helsinki Metropolitan Area. In order to develop the regional structure, it will be necessary to develop the regional and urban trans-regional structures of eastern and northern Finland at the same time by examining the development needs of the transport system, for example, owing to the situation with Russia.

Finland's regional diversity and different strengths offer significant development opportunities for a more balanced and networked development of the regional structure and for promoting the division of labour between regions. The different strengths of the regions are based on the industrial, educational and service structure, location, natural resources, accumulated knowledge, cultural heritage, the transport system and international connections as well as local conditions. A regional structure based on strengths makes use of the potential of different economic opportunities and a more balanced development of the regional

structure, and helps prevent excessive concentration and reduce inequalities between people and regions. Location-independent activities will become more central factors in regional development. The challenges arising from the long distances and sparse population of remote and sparsely populated areas can be mitigated by developing communication networks and services and through multi-locality.

Sustainable exploitation of natural resources is an important viability factor in many areas, and it is important to identify this as part of the balanced development of the regional structure. Resolving climate and natural crises requires a reduction in the use of non-renewable natural resources, the use of existing structures and a transition to a circular economy, as well as significant investments in the green transition, such as renewable energy production. They can also be used to promote self-sufficiency, security of supply and overall safety and economy. Finland's special strength lies in the diverse ecosystem services provided by nature, which offer development opportunities throughout the country. Ecosystem services are important for the development of industries, the well-being of the population, and the sustainability of the environment. Ecosystem services require a good state of ecosystems, physical and functional connections between green and water areas, and the preservation of biodiversity. When using them, it is important to identify the challenges and opportunities posed by the special characteristics of each region. The development of ecosystem services requires regional and national surveys of, for example, significant ecological connections.

It is necessary to develop the regional structure nationally as an interactive and balanced network of centres of different sizes and rural areas so that the strengths, location factors and resources of different regions can be utilised. It is particularly important to identify the development of economy and needs of businesses and to create regional preconditions for the renewal of industries and improving productivity, taking into account the functioning of production value chains between regions.

A key starting point for the development of regional structure is the conditions in different regions and the special needs resulting from them. In areas with a declining population, it is necessary to create preconditions for smart adaptation in order to maintain and improve vitality. In growing urban regions, preparations will be made for housing production and sustainable steering of growth required by population growth.

The diverse ecosystem services provided by nature are a special strength for the entire country in terms of the balanced development of the regional structure. It is necessary to ensure the sustainable use of ecosystem services by ensuring biodiversity and, as part of it, the physical and functional connections of green and water areas and the sustainable use of natural resources.

In the development of regional structure, attention must be paid to overall economy and resource efficiency, making the most of existing infrastructure and other structures.

Preparing for security threats requires taking care of the vitality, stability and standard of living of different areas of Finland and ensuring the preconditions for national defence and security of supply in regional land use.

3.2.2 Location-neutrality enabled by digitalisation improves the sustainability of the regional structure

With digitalisation and technological development, many functions have transitioned or are transitioning to information networks. Location-independence can mitigate the impacts of polarisation in the regional structure and utilise the existing building stock and infrastructure. The COVID-19 pandemic accelerated the development of digitalisation and, as a result, place-independence and multi-locality. Telecommuting and online shops in particular gained strength. The change has significant impacts on work and business, services and housing, people's mobility needs and behaviour, and the transport system in general.

Rural structural change will be adapted by means of location-independence and promoting sustainable multi-locality. Physical accessibility can be partly replaced by interaction and remote functions enabled by information networks. From the perspective of a sustainable regional structure, it is crucial to promote both daily physical accessibility based on everyday physical activity and weekly accessibility, partly based on digital connections, to centres of diverse work and education offerings.

The increased location-independence of remote work has significant impacts on the space needs of dwellings and premises. Conversion of premises into other uses or the construction of new facilities that enable flexible use are needed. The

impacts are particularly strong in the central areas of urban regions, where the increase in remote work and online commerce have significantly reduced the commercial demand of the centres.

Technological development will challenge the definition of sustainable mobility in the coming decades. The development of location-independence is part of the change, and more monitoring and foresight information is needed on the impacts on regional and urban structure. Current monitoring data does not sufficiently identify the phenomenon.

In the development of regional and urban structure, it is important to take into account and promote the capacity of digitalisation and technological development for accessing services, housing, working and studying in a place-independent manner. Functional and country-wide communications connections are a key means of improving the preconditions for place-independence and also offer opportunities for maintaining the vitality of shrinking regions, the carrying capacity of the urban structure and the availability of services.

It is necessary to prepare for the impacts of location-independence and multi-locality in the development regional structure and land use. Among other things, it is essential to create flexible and adaptable solutions that take into account the seasonal nature of housing, working and leisure time housing and make the most of existing structures. Statistics compilation, monitoring and impact assessment related to multi-locality need to be developed.

In terms of land use, it is important to direct recreational housing and tourism activities to support rural settlements and village networks and the use of infrastructure as far as possible. It is necessary to strengthen the use of sustainable modes of transport and the preconditions for emission-free mobility on increased leisure trips. Cost-effective investments in transport and communication connections can contribute to the sustainability of multi-locality.

3.2.3 The largest urban regions and regional centres will be developed as nodes of a networked regional structure and as hubs for their surrounding areas

The development and coverage of the urban network is of particular importance in Finland's circumstances. From the perspective of a balanced regional structure that makes use of the strengths of different regions, it is important to ensure the preservation and development of a comprehensive urban network. A regionally comprehensive network of centres of different sizes best guarantees the well-being of the population and the use of regional resources, strengths and potentials in different parts of the country. Large and medium-sized towns across the country act as national and international nodes of a networked regional structure with close interaction with surrounding areas. Strong growth centres are needed in different parts of the country so that the centres can bring spillover effects to a more extensive area and ensure the availability of urban services and functions in different parts of the country. This will increase the importance of smooth connections between the largest centres within the country and abroad.

The prerequisites for maintaining and developing a polycentric regional structure are reasonably well met in Finland, as services related to education, competence and well-being are quite evenly distributed in different parts of the country. In addition to the capital region, the country has several large and growing urban centres, and each region has at least one significant urban centre with diverse functions. The possibilities of these towns for regional, national and international cooperation vary across the country, creating different roles and opportunities for them. Similarly, the preconditions and opportunities for utilising natural resources and natural conditions are different in different parts of the country.

The polycentric network relies largely on the current regional structure and infrastructure. With constant changes in the role of the centres and their relations, it is important to ensure that the regional structure as a whole and the network of urban centres develop in a balanced manner. Each centre and region has its own special characteristics and strengths. Specialised and complementary areas form a diverse entity that can adapt to changes and renew itself. Good connections enable synergies between regions. Urban areas must have a well-functioning urban structure, good accessibility and an attractive living environment.

In the long term, the national regional structure will be maintained and developed as polycentric, and a strong, uniform and well-functioning urban network with different centres and regions supporting each other will be promoted.

The largest urban regions and regional centres need to be developed as national, regional and international nodes, centres of expertise and diverse areas of housing, services and businesses.

Investments will be made in the development and profiling of the largest urban regions and regional centres based on their special characteristics, strengths and location factors. In land use, their role in promoting the green transition, a circular economy and new types of competence clusters and innovation ecosystems will be strengthened, and the functionality of the urban structure and the quality of the living environment will be ensured.

3.2.4 Development zones promote networking and division of labour between urban regions and broader regions

Networking between urban regions can be promoted with development zones based on good transport connections. There are many connections and mobility between towns and other centres in a development zone, such as commuting, studying, business and the use of services. Areas between towns strive to benefit from their location and be included in the division of labour between centres. Development zones link centres and their surrounding areas with each other and promote and direct cooperation. Functionally stronger market and cooperation areas and supra-regions can be formed by developing the zones. The opportunities for developing and offering increasingly specialised services will also improve. Transport services and connections provide companies with an opportunity to optimise their location as needed. The functional diversity of the zones varies in different parts of the country. The most diverse zones can be found in southern Finland, where the network of centres is relatively dense. Areas developing as zones exist also outside large cities based on natural conditions or, for example, different sectors of business, such as tourism, minerals or industry, and circular economy.

The objective of the cooperation between urban regions and regions broadly based on zones is to systematically strengthen the operating conditions and attractiveness of the regions in terms of the location of activities, more efficient

use of the transport system or, for example, the production of local food and the development of tourism. In zone-based development, finding a common strategic vision across administrative boundaries is essential for avoiding the risk of sub-optimisation in development solutions. The best basis for development is formed when there is enough varying interaction and development potential between centres and regions. It is therefore necessary to establish regional interaction as part of the development of regional structure. From the perspective of eco-efficiency, attention should be paid simultaneously to reducing the need for mobility and improving the efficiency of the transport system. All transport networks and modes of transport both inside and outside a zone must be taken into account in the planning of infrastructure and logistics.

In the development zones, urban regions and their impact areas are linked to each other, and cooperation is promoted and directed. Functionally stronger market and cooperation areas can be formed by developing the zones.

It is important to identify development zones at different regional levels and to use them especially in attracting investments and increasing cooperation between different actors across administrative boundaries. Through the zones, the aim is to perceive the flows and connections between regions and the development opportunities associated with them.

Development zones will be developed on the basis of thematic entities arising from the strengths of the regions, based on the common interests and commitment of actors at the national and regional levels. Shared opportunities can be found in areas such as land use, housing and transport, as well as competence and economy.

In development zones, it is necessary to pay attention to reducing the need for mobility, the functioning of the transport system and the promotion of sustainable modes of transport.

3.2.5 The Helsinki metropolitan region and other urban areas in southern Finland will be developed as an internationally competitive network metropolitan area

In the global economy, vibrant and active metropolises have a significant impact on the international competitiveness of the whole country. In Finland, the Helsinki metropolitan region covers one quarter of the country's population and one third of its gross domestic product, which means that the developments in its land use and regional structure are exceptionally important for the future development of the whole country. As an international metropolitan area, the Helsinki metropolitan region competes with other European metropolitan areas in attracting businesses and workforce, productivity and innovativeness of companies as well as in the well-being of residents. In Finland, metropolitan development and international competitiveness can be strengthened by developing a networked metropolitan area based on interaction between urban regions in southern Finland and a functioning transport system. This requires the cross-regional planning of the regional and urban structure and transport system, in a cooperation between municipalities, central government and other actors in southern Finland.

From the Helsinki metropolitan region, with good transport connections, the most important development zones open up in the coastal direction and inland and further to Tallinn, Stockholm and the Baltic Sea region. In the region of southern Finland, where the network of urban centres is relatively dense, the zones offer excellent opportunities for diverse cooperation and division of labour between the functionally strong urban regions in the region. The Helsinki metropolitan region and other largest urban centres in southern Finland, such as Tampere, Turku, Lahti, Hämeenlinna, Kouvola and Kotka, as well as rural areas between cities, are functionally linked as a single interactive area. New and improved rail and motorway connections and the spread of remote work have enabled longer commuting, and commuting between regions has become more common in the metropolitan area and is increasingly weekly. The majority of recreational dwellings of the Helsinki region's residents are located outside the region, and the area of recreational dwellings extends to the coast and the southern parts of Finland's lake district.

A networked metropolis enables a wider labour and housing market and offers different alternatives for the placement of companies and residents. Thus, the rapid growth of the Helsinki region may also be directed in a more balanced manner towards connections that function in other urban regions, especially rail connections. Developing rail connections and the proliferation of remote work open up new development opportunities for the regional structure and land use

of southern Finland. Closer cooperation and division of labour in southern Finland strengthen the development of the Helsinki region as a metropolitan centre serving the whole country and enable the development of other urban areas in the region based on their own strengths.

In order to strengthen Finland's international competitiveness, the networked metropolitan area of southern Finland will be developed as a network of Helsinki Metropolitan Region and other overlapping commuting areas of the southern Finland and as an internationally attractive, competitive and well-accessible European metropolitan area.

With the help of developing transport and communication connections and travel chains, the southern Finland networked metropolis will be increasingly connected as a region of weekly commuting, consisting of towns and the surrounding countryside.

In terms of the development of the southern Finland networked metropolitan area, it is important to ensure the service level and reliability of the transport system. For this reason, preparations must be made in regional land use for the needs of important infrastructure such as commuter train depots and rest stops for heavy traffic.

When developing the networked metropolitan area of southern Finland, the connections of the urban regions of southern Finland to the rest of Finland, Tallinn, Stockholm and, in the long term, St Petersburg will be taken into account. The development of Helsinki and Tallinn as a twin city promotes international connections and the achievement of economies of scale as a supranational commuting area.

3.2.6 Regional cities, rural and tourism centres and various rural areas utilise their strengths in interaction with other regions

The regions form an entity that is functionally and economically appropriate. In addition to regional centres, the regions have different sub-regional towns and rural centres as well as rural areas, and often also tourism centres, which play an important and complementary role as part of the networking structure of the regions and the entire country. In order to develop strong functional areas, attention must be paid to the opportunities, needs and conditions of each

centre and rural area and to mutual networking. As digitalisation and location-independence increase, the centres will create direct national and international connections, which will improve their development opportunities.

Regional towns and other rural centres provide services, offer places of study and act as centres of employment for their surrounding area. Regional towns are mutually different and develop in different ways. Many regional towns have special expertise and industrial production, which are of national and international importance. The strengths of sub-regional towns and rural centres include the existing infrastructure and affordability of housing as well as the quality of the living environment. They also often have good transport connections to larger centres. It is important to promote the role of these centres as part of the polycentric network of the entire country and regions. Particular attention must be paid to their competence base, the availability of skilled labour, the versatility of business life and the functioning of connections to other areas. Some of the centres interact with a large nearby hub, which means that cooperation and division of labour need to be supported and strengthened.

The strength of rural areas lies in expertise and business activities related to the use of natural resources. In many areas, service provision plays a significant role as a source of rural employment. Rural development builds on diversifying industries, for example, growing bioeconomy, diversifying food production and energy production. New types of units specialising in decentralised production will emerge alongside agriculture and forestry. Local food production that makes use of regional strengths responds to growing consumer demand and supports security of supply. The self-sufficiency of small-scale rural industries and agriculture will improve as natural raw materials are used in nutrient recycling and local bioenergy production. In food production, it is important to maintain a high level of self-sufficiency.

Farming and other related business activities in the vicinity of cities and other built-up areas will be an important opportunity for local food production in the future. Remote work and services enable the availability of services, gainful employment and entrepreneurship regardless of their location. The preconditions for sustainable rural living will be secured by ensuring the natural and cultural environment, vitality and connectivity. Recreational housing becomes a resource for rural areas. The development of existing tourism centres and areas will strengthen and diversify the service network both regionally and nationally. Rural local centres form a comprehensive network of centres that serves as the backbone of the provision of basic services. Cost-effective mobile services will be used to replace some of the services if necessary. In rural areas close to towns, it is possible to use the job and service offerings of urban centres.

Regions will be developed as functionally coherent areas where cooperation, networking and division of labour between cities, rural areas and their centres and tourism centres will create development opportunities for all regions. There is a need to strengthen cooperation in planning across regions, paying attention to the functioning of the transport system and the availability of services in the wellbeing services counties.

Regional towns will be developed as secondary regional centres, hubs of their region and economic area, which can provide a growth platform for business life and act as centres of services and expertise in their area of influence. Key measures for the availability of skilled labour include increasing the offering of accessibility, part-time remote work and rental housing as well as supporting the renovation of housing stock, taking into account the development of guarantee values in housing.

In rural and archipelago areas, attention should be paid to the preservation and diversification of business activities and other operating bases. It is important to take into account the preconditions for agricultural production in land use planning and to secure sufficient areas for agricultural use.

Demand for nature tourism can be used especially in northern and eastern Finland and in the archipelago, where tourism centres play an important role as part of the service network of sparsely populated areas. By supporting the networking of tourism centres and areas and the development of leisure zones, it is possible to create functional and attractive service packages.

3.2.7 Functional national and international connections support the sustainability of the regional structure and the vibrancy of the regions

The transport system and mobility play an important role in the green transition, i.e., climate change mitigation and solving the sustainability crisis. Transport and transport infrastructure play a role in safeguarding biodiversity, as well. Transport will be freed from fossil energy through both changes in the power source and a shift in the mode of transport. In particular, the latter is strongly linked to land use,

which creates the conditions for sustainable mobility. The power source transition in road transport over the next 1–2 decades will affect how the sustainability of different modes of transport is viewed in urban areas and outside them. The national transport system plan drawn up for each government term outlines the development of the transport system at the national level (Liikenne 12). The development perspective of land use aims to contribute to bringing inputs and ideas to this preparation from the perspective of land use.

From the perspective of both environmental and economic sustainability, it is necessary to strengthen the use of the existing transport infrastructure connected to the regional structure and to ensure that its condition meets the needs of transport. The implementation of new significant infrastructures often causes significant climate emissions, the compensation for which may take decades, depending on the project. Due to biodiversity loss, the commissioning of entirely new areas for transport needs should also be carried out with great care. According to the so-called four-step model, significant new investments will only be made if boosting the efficiency of the utilisation of existing infrastructure or improving the infrastructure do not achieve a service level that meets the transport needs. The model also essentially includes influencing transport needs to reduce development pressures on infrastructure, in which land use plays an essential role.

In urban regions, especially in their core regions and at least in commuting between the largest urban regions, it will make sense to develop high-quality public transport in the future, as this will support the development of environmentally and economically sustainable urban and regional structures. The power source transition is expected to lower the costs of using passenger cars, which is why attention should be paid to the competitiveness of public transport in long-distance traffic between towns. It is also necessary to strengthen the role of walking and cycling in urban areas and even in smaller built-up areas in order to mitigate the environmental impacts and costs of transport (e.g., space requirements) and because of their positive impacts on human health. In other areas, the role of passenger cars in regional structures such as the one in Finland will probably remain strong even in the coming decades. Other negative environmental impacts of car use will not be eliminated with carbon dioxide emissions, but outside densely populated areas, the space requirement for car transport infrastructure is a smaller problem than, for example, in the centres of cities or smaller built-up areas. The desired role of different modes of transport in different areas, as well as different mobility needs, should therefore be considered and investigated in the future, as the electrification of traffic challenges the traditional view of the sustainability of different modes of transport. Even lower-emission motoring still requires other urban and transport planning that mitigates environmental impacts.

The power source transition will also apply to air traffic on some schedule. In the future, electric or other fossil-free air transport may develop into a sustainable solution for intra-Finland mobility or international transport to neighbouring areas. Due to Finnish geography, air transport connections are needed not only in international connections but also within Finland. However, from the perspective of the sustainability of the transport system, the aim would be that as many regional centres as possible would have a train connection that is competitive with air traffic as a whole. Competitiveness should be considered more extensively than only from the perspective of travel time, as a significant reduction in travel times often requires expensive and environmentally problematic infrastructure solutions.

Due to the development of communications connections and the spread of remote work, some of the physical traffic may be replaced by other forms of communication. Remote work and e-services change part of previous daily physical activity to weekly activity. The partial replacement of physical transport by electronic services requires high-quality data connections across the country.

The decline in population growth and its concentration in only a few large urban regions will affect interaction between regions and, in particular, the future needs of passenger transport. In southern Finland, interaction between the Helsinki metropolitan area and other centres is increasing. From the perspective of interregional interaction, connections from Helsinki to the regional centres of northern Finland and to the western coast also emerge. The international security situation and the resulting change in the situation in eastern Finland will increase the importance of east–west connections for both passenger and freight transport.

Changes in the economic structure affect the location of business activities and jobs. The mainstream is service domination, which centralises activities in growth centres and contributes to reducing the need for transport. In the long term, the transport performance is not expected to increase from the current level. However, the sustainability transition and the green transition will bring new business activities to the bioeconomy and energy production sectors, for example, whose location decisions are important for the development needs of the transport system, also in areas where population development is negative. Tourism is a significant industry affecting the transport system in areas that lose their population, especially in northern Finland.

With regard to international connections, the change in the security environment caused by the war launched by Russia and Finland's membership in NATO further emphasise the importance of land transport connections between Finnish Lapland and Sweden and Norway. Interaction with Russia seems to be losing its significance, perhaps for a longer period of time.

The green transition will significantly increase land use needs due to the growing production of renewable energy and the development needs of transmission networks. The growth of renewable energy production poses particular challenges to the balance of the electricity network both in Finland and internationally, as a significant share of renewable energy production is located remotely from energy consumers.

It is important that land use solutions support the use of existing transport infrastructure, especially by strengthening connections based on good public transport between large urban regions.

The international accessibility of different parts of the country is also important from the perspective of passenger transport needs, business life, national security and security of supply. At the moment, particular emphasis is placed on the need to connect eastern Finland to the rest of the country and to international connections, and the land connections of northern Finland to Sweden and Norway.

The sustainability of the transport system is affected by the power source transition in transport and the partial replacement of physical transport as remote work and services increase. These developments should be monitored and taken into account in planning and decision-making. These matters are also linked to transport taxation and pricing as well as the funding base. Moreover, the increasing share of leisure trips in traffic performances should be taken into account, especially in the organisation of public transport.

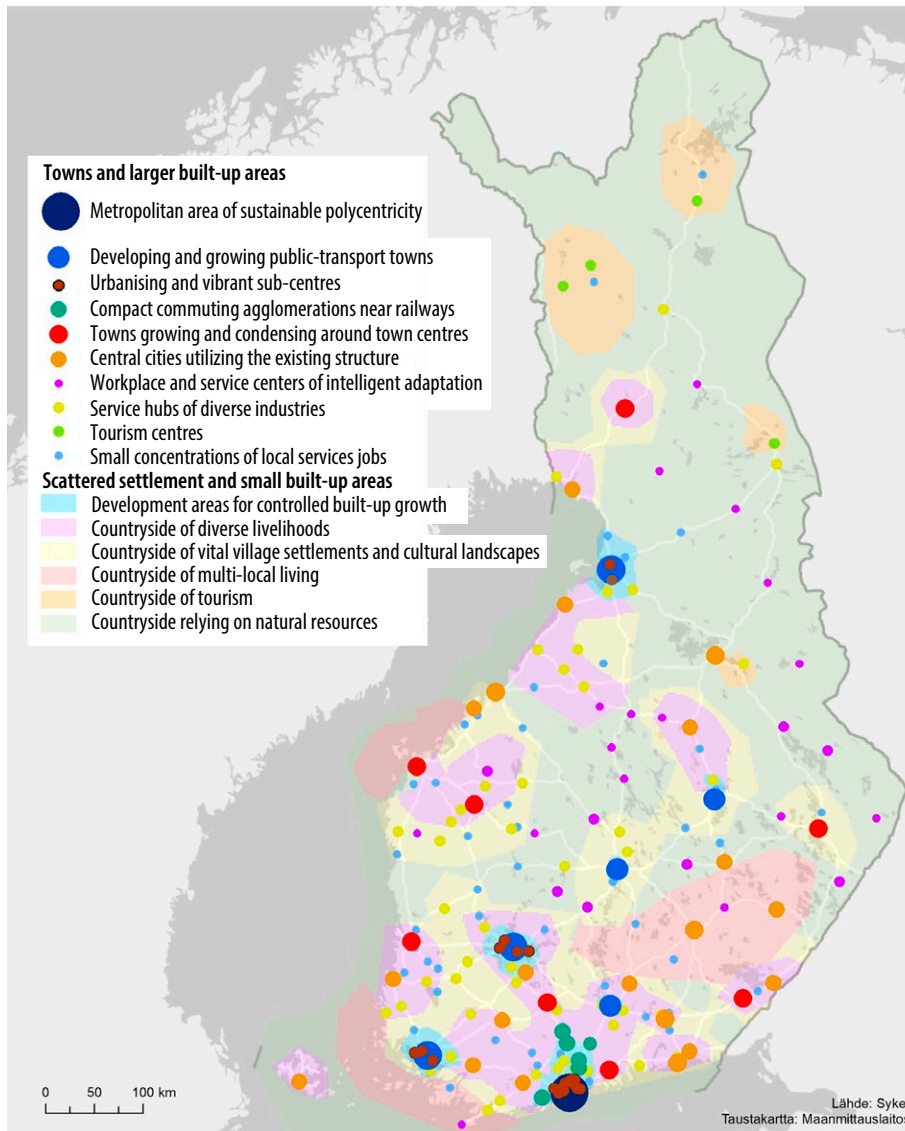
The green transition creates new types of needs for land use, mobility and transport alike. It is necessary to prepare for these in a proactive manner through cooperation between different actors, aiming to find sustainable location solutions for the activities in terms of regional structure and transport.

Finland has ambitious targets for renewable energy production and its storage. In land use, it is important to take into account the regional needs of wind power and other green energy production, energy transmission networks and, for example, hydrogen production. For energy-intensive operations, it is advantageous to find locations that reduce the need for the transfer of energy.

3.3 Sustainable urban development

In terms of the sustainability of urban development, the development of the largest urban regions and their fringes is particularly important. In them, the need for developing the steering of urban structure is also the greatest. In other areas, the development of urban structure is influenced by the impact area of a large centre in which the built-up area is located and how the carrying capacity of basic services can be secured. In rural areas, it is possible to support the development of villages and rural industries by guiding the development of urban structure and participatory planning, taking seasonal variation into account. The declining capacity of services can be adapted to, for example, by developing remote functions and mobile services.

Figure 23. The characteristics of towns and urban areas.



The following figures identify the needs to develop urban structure in areas with growing and declining populations. In growing areas, there is an emphasised need to densify the urban structure to sustainably steering growth. Similarly, it is necessary to find sustainable and flexible adaptation methods to lower demand and utilisation rates in declining areas, taking into account increasingly strong seasonal variations.

Figure 24. Needs to develop urban structure in growing areas.

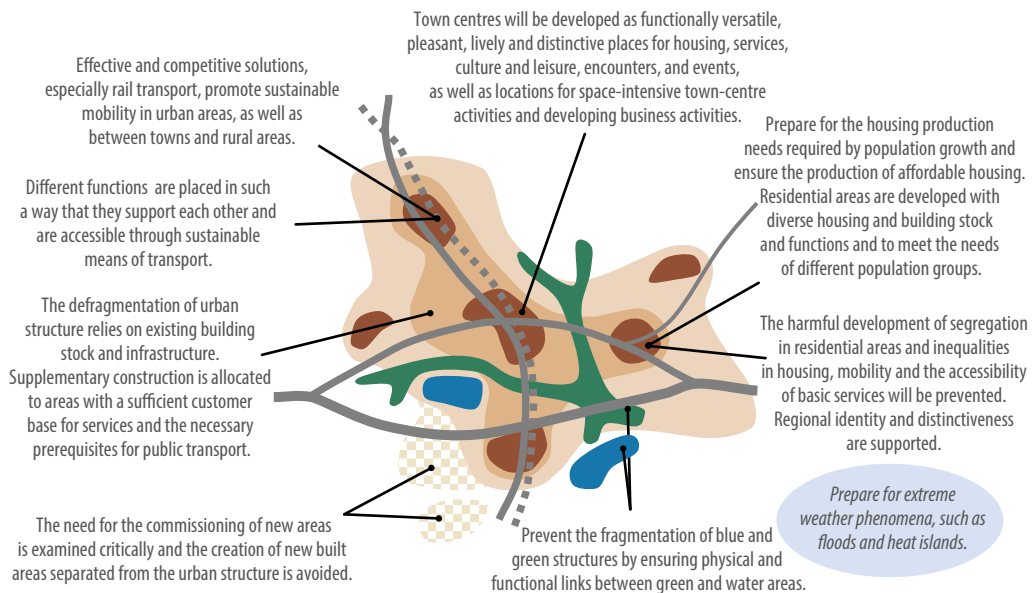
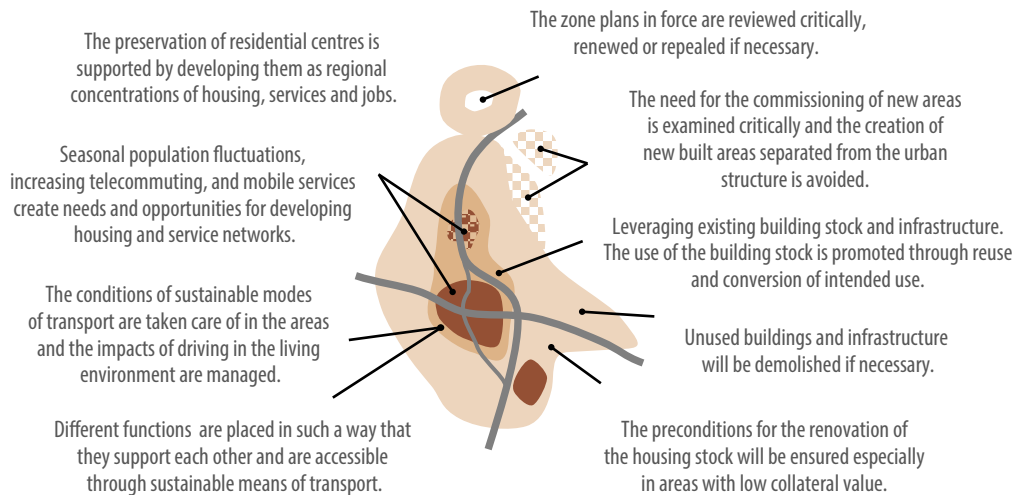


Figure 25. Needs to develop urban structure in declining areas.



3.3.1 Strengthening the cohesion of the community structure

In this context, strengthening the cohesion of the community structure refers to the physical and functional improvement of urban areas by promoting socially, economically, ecologically and culturally sustainable development. It is a key means of improving the sustainability of urban and community development.

The cohesion of the community structure can be strengthened by utilising the existing urban structure, building stock and infrastructure as well as infill development. The prerequisites for infill development should be taken into account in land policy, land use planning and the implementation of plans. By making use of existing structures, climate change mitigation can be promoted and biodiversity loss and deforestation can be curbed. This is because construction accounts for a significant share of greenhouse gas emissions and natural resource consumption. Strengthening the cohesion of the community structure is also important for the sustainability of the national economy, as the majority of our national wealth is related to buildings and the built environment. In some cases, the demolition of buildings and infrastructure may be justified. Before demolishing existing buildings and infrastructure, however, it should be considered whether they can be used in the future, for example by converting them to other use.

In areas where the urban structure has expanded to unfavourable locations, corrective planning is needed to link the areas to the existing structure in a sustainable manner. Utilising the existing urban structure is important in declining regions for securing the carrying capacity of various functions, such as services and the functioning of the infrastructure. Particular challenges include incomplete areas included in local detailed plans, the renewal of which to meet the changed demand requires the renewal of plans and, in some cases, the revocation of existing local detailed plans and local general plans.

In terms of strengthening the cohesion of the community structure, it is important to strive to improve the quality of the living environment, to take into account local conditions and characteristics and to uphold the values associated with them. The quality of the living environment can be improved by eliminating harm and problems related to human health and well-being or the cityscape. Especially in infill development, sufficient opportunities for residents to participate in the development of their living environment must be ensured.

In areas with growing population, the preconditions for infill development are better than in declining areas. However, growth and infill development may increase the need for space for transport and other infrastructure. Emissions from construction and the use of natural resources should be minimised in new construction, and energy-efficient solutions should be sought at the same time.

When improving the cohesion of the community structure, the diversity of housing construction must be ensured in order to meet the changing housing needs of the population. A diverse housing stock that meets different needs must be ensured in areas with growing and declining populations to ensure the availability of labour and regional security of supply.

The adaptation of the under-used building stock to low demand can be promoted through re-use and the conversion of dwellings to part-time use. Sometimes demolition allows the adaptation of a parcel to a new demand-responsive use. It is important to develop models for the controlled discontinuation of housing companies to respond to the changed operating environment. Adaptation of the infrastructure to decreasing utilisation rates and growing seasonal variation also requires the development of new practices. It is essential to identify the infrastructure necessary for the functioning of communities and to look for ways to maintain it.

Repair construction accounts for more than 50% of construction. The collateral values of the building stock are decreasing in increasingly large areas in Finland, which makes the renovation of the building stock more difficult. Similarly, the repair backlog of the infrastructure will increase. Life cycle emissions from buildings and infrastructure will affect the achievement of climate targets in the long term. Material efficiency in construction and utilising existing building stock and infrastructure can reduce the consumption and emissions of natural resources. Recycling building materials and surplus masses requires increasing attention in regional land use planning.

The European Commission is in the process of reforming the Energy Performance of Buildings Directive. The Construction Act, which will enter into force on 1 January 2025, guides construction towards low-carbon methods, i.e., to take into account the climate disadvantages and benefits generated during the entire life cycle of the building. The act strengthens circular economy in construction. According to the new essential technical requirements, buildings must be designed to be long-lasting and adaptable. In new buildings and buildings to be demolished, the materials used and released as well as the soil and aggregates to be transported away from the construction site and the amount of hazardous waste must be determined. The promotion of wood construction supports climate objectives due to the impact of carbon sequestration and is particularly suitable for low and medium-efficiency construction.

Key means of strengthening the cohesion of community structure include infill development based on existing building stock and infrastructure, preventing urban sprawl, and avoiding the creation of new built-up areas that are separate from the existing urban structure. In terms of the functioning of communities, it is important to place different functions in such a way that they support each other, ensuring that they can be reached with sustainable modes of transport.

When improving the cohesion of the community structure, it is also necessary to preserve environmental and nature values and to take into account regional identity and uniqueness. Adaptation to climate change requires preparedness for extreme weather phenomena, such as floods and heat islands, flood risk management and securing the functionality of infrastructure essential for the functioning of communities in case of disruptions. In terms of the quality of the living environment, it is important to prevent environmental and health hazards and to promote biodiversity and the connectivity of green areas in communities.

In areas with growing populations, the urban structure can be integrated by guiding infill development primarily to the existing urban structure. This supports the polycentric structure, an adequate customer base for services, the accessibility of services and the preconditions for public transport. It is important to identify underused areas and buildings whose sustainable use can be promoted, for example through converting them to other uses.

In areas of declining population development, it is necessary to find ways to promote sustainable and controlled adaptation to population loss. Adaptation may require even difficult choices in the development and maintenance of the building stock and infrastructure, critical examination and renewal of existing plans and changes in the uses of the existing building stock. In some cases, the demolition of buildings and infrastructure may also be justified. Seasonal population fluctuations, increasing telecommuting, remote services and mobile services also create needs and opportunities for developing housing and service networks in areas with declining populations.

3.3.2 Responding to the differentiating housing needs of the population and preventing harmful segregation in residential areas

Responding to the challenges of the housing market requires continuous goal-oriented and long-term development of housing policy. At the same time, the impacts of the comprehensive development of different regions on the cohesion and functioning of the urban structure, climate policy objectives and the future of diverse socially sustainable residential areas should be taken into account.

Housing markets are particularly affected by urbanisation, the ageing and low birth rates of the population, immigration, climate change and digitalisation. The regional polarisation of the housing market on the one hand and the segregation of residential areas in large urban areas on the other have increased. Housing policy and land use planning can promote the reduction of inequalities and increase of housing equality.

The aim is to promote the provision of housing that meets different needs both quantitatively and qualitatively in cities and in rural areas alike. The housing stock and living environment must be accessible, of high quality, healthy and safe. It is important that young people get started on their housing path and that older people can live in their own homes for as long as possible. The diverse and multigenerational population structure of residential areas contributes to preventing negative segregation. Inclusion and communality as well as a uniqueness support the vitality and well-being of residential areas. Local nature and the cultural environment play a significant role as a factor affecting the comfort of living. The vitality of rural village communities requires the renewal of housing stock.

A well-functioning and integrated community structure promotes the accessibility of services, jobs and mobility. Major differences in housing costs between different regions of the country must not be an obstacle to labour mobility. The housing market must be examined as a whole as a commuting area instead of individual municipal boundaries. Adequate housing provision and a favourable investment environment for companies will be promoted through regulation, land use planning and land policy as well as cooperation between municipalities and the state.

Housing policy ensures the development of housing conditions throughout the country. If necessary, the housing market in regions with a declining population should adapt to changing demand in a controlled manner. In areas with low collateral values, it is necessary to maintain and develop housing stock and infrastructure, for example through state guarantees and renovation

and demolition grants. Problems arising from low collateral values need to be investigated in extensive cooperation and models need to be developed for shutting housing and real estate companies down in low-price areas in a controlled manner.

Industrial and employment policy can influence the magnitude and direction of the change in demand. Government measures need to support the functioning of the market and address market failures. Public authorities provide support for housing for those who find it difficult to organise their living on market terms. Different forms of housing are treated as equally as possible in support policy, avoiding market disturbances. Subsidies on housing demand, taxation, and supply should be as efficient, effective, and transparent as possible. It should be possible to prevent and anticipate central government risks in good time. Another key issue is the development of service networks and the location of public services in wellbeing services counties, for example. The concentration of services may accelerate differences in regional development.

Adequate, versatile and high-quality planning of housing and housing supply can be used to meet the diverse housing needs of the population. At the same time, it is important to take into account the housing, service and recreation needs of different population groups, especially the ageing population, and the accessibility of local nature. A well-functioning housing policy and a sufficient supply of housing is a key precondition for the availability of skilled labour.

In growth centres, it is necessary to prepare for rapid population increase with sufficient housing production. In housing production, the quality of housing and the living environment should also be taken into account.

We must find ways to promote the preconditions for the renovation of housing stock, especially in areas with low collateral value.

Reducing inequalities in housing, mobility and the accessibility of basic services are key means of preventing the harmful segregation of residential areas. It is also important to develop existing residential areas with diverse housing and building stock and functions and to meet the needs of different population groups.

In the land use planning and the siting of new functions, it is necessary to take into account the existing housing stock and service structure.

3.3.3 Urban centres, sub-centres and rural centres are kept vibrant

Urban centres play a special role as meeting places and areas of housing, jobs and services with diverse functions. In the centres, it is possible to reach various functions and travel by walking, cycling and public transport. The vibrancy of the centres is based on large customer flows that enable the operating conditions of specialised trade.

The vibrancy of the centres has been challenged by a number of factors in recent years: the placement of large retail units along arterial highways and ring roads, the increasing transfer of specialised trade to online commerce, and, most recently, the growth of remote work due to the COVID-19 pandemic, which, at least partly, has transferred many administrative and specialist tasks to home offices. The changes have significant impacts on work and business, services and housing, people's mobility needs and behaviour, and vibrancy of urban centres in particular. The most recent transformation in urban centres is the conversion of office spaces to housing as a result of increased remote work.

At the same time, the industrial, warehouse and logistics areas surrounding urban centres have converted into housing. Similarly, many urban waterfront have been redeveloped. Several services are also located in urban fringes. These areas provide opportunities for expansion for different activities and are highly accessible from the centres and their surroundings through different modes of transport. The development of the urban centres is strongly influenced by how the transforming areas around the centres can be connected to the town's central area as a functional entity.

In the future, the importance of urban centres as meeting places and arenas with experiences will be emphasised. This requires the development of venues for events as safe mobility environments for pedestrians, cycling and new forms of electronic mobility. In order to guarantee customer flows and purchasing power, the accessibility of urban centres must be improved for all modes of transport, taking into account the priority, safety and accessibility of pedestrians. The centres must once again "shed their skin".

The differences in the development of the centres will increase as a result of the polarisation of the national regional structure. The vibrancy of the centres in large urban regions is increased by the new residential areas in the town centre and the partial conversion of offices to housing. Especially the Helsinki metropolitan region will become more polycentric, which will make city centre functions more accessible on shorter journeys throughout the urban area. In medium-sized and smaller urban areas, the vibrancy of the main centre is greatly affected by how the

prerequisites for fast-moving consumer goods trade in the centres can be secured and developed and how the service level of public transport to the centre can be maintained.

In declining regions, adapting the town centres to a smaller number of customers requires a concentration in town centre functions to an increasingly smaller area. In the town centre areas of small towns and villages in rural areas, the centre areas will become an area of basic services and fast-moving consumer goods trade, and the importance of senior homes of the ageing population will be emphasised in particular. The meeting places for the development of the centre concentrate in a smaller area and multipurpose buildings. Fluctuations of seasonality are great, especially in rural centres, and are closely related to tourism services.

The need to continue and further develop the monitoring of the vibrancy of the centres due to the rapidly changing operating environment has been identified in connection with the development perspective on work.

The status of urban centres and sub-centres in urban regions needs to be developed as versatile locations for public and private services, jobs and housing, which are highly accessible by all modes of transport. It is important to promote the placement of fast-moving consumer goods and town-centre-oriented specialty shops in the town centres, which requires well-functioning maintenance traffic and logistics in retail and other services.

Redevelopment areas surrounding urban centres will bring more customer flow to the centres and promote the carrying capacity of the services. This development promotes the renewal of centres as diverse, pleasant and unique places for housing, services, culture, employment, leisure and events.

Growing polycentricity in the Helsinki metropolitan region and other major urban regions and the rural areas adjacent to them will enable shorter everyday journeys and the development of the surroundings, taking the characteristics and strengths of different areas into account.

The preservation of rural centres is supported by developing them as regional concentrations of housing, services and jobs. The seasonal variation characteristic of rural centres requires more adaptability.

One solution for the development of the centres, especially in smaller centres, is the centralisation of meeting places in a smaller area and multipurpose buildings, which will make the centre more vibrant and enable changes in the use of empty premises.

There is a need to continue and develop the monitoring of the vibrancy of town centres.

3.3.4 Communities support sustainable mobility and enable sustainable business location solutions and well-functioning logistics

Sustainable mobility is environmentally friendly, economical and often also has positive effects on the health of the person. It is in the overall interest of society to make sustainable mobility smooth and attractive. The primary modes of transport for sustainable mobility in communities are walking, cycling and public transport. It is not possible to organise public transport with a competitive service level in all regions, which is why the position of passenger cars will remain strong in the future, at least outside core areas of urban regions. The objective of the urban structure should thus be a structure balanced from the perspective of different modes of transport, in which the possibilities for a comfortable and safe pedestrian and cycling environment, good-quality public transport and travelling by car would be guaranteed by means of land use and transport planning. As the negative environmental impacts of motoring will not be completely eliminated as a result of the power source transition, it is worth paying attention to the fact that, especially on short journeys (less than 5 km), there are attractive alternatives to the use of a passenger car.

It has been estimated that low levels of physical activity and excessive sedentary life in Finland cost more than EUR 3 billion annually. A mobile lifestyle in which daily mobility needs are managed through active forms of mobility has many positive impacts. The basics of a physically active lifestyle are already learned as a child, which is supported by the possibility of making school and hobby trips by walking or cycling. A precondition for this is a safe mobility environment, in addition to which a cohesive community structure with reasonable distances to services supports the management of everyday mobility needs through physical means of transport.

Mobility poverty refers to a phenomenon in which limited mobility prevents people from satisfying their daily needs related to work, services, studying, purchasing goods or social interaction, for example. In Finland, the most important dimensions of mobility poverty are affordability and accessibility poverty. In particular, the latter can be influenced with good urban planning, where short distances allow different population groups to move by walking and cycling, but which also supports the sufficient passenger potential required for good and affordable public transport.

Identifying travel chains, their nodes, and different points of change of transport and developing exchanges are also key preconditions for promoting the use of sustainable modes of transport. The development of station areas as centres of diverse functions and the location of other long-distance public transport exchange points, the development of park-and-ride facilities and the implementation of smooth connections support the user potential of public transport. When discussing travel chains, it should be noted that a passenger car can also be part of a sustainable travel chain, especially as an electronic one. Connectivity between urban regions and rural areas to public transport trunk connections between urban regions will make it possible to shorten passenger car journeys and help reduce the need for passenger car traffic to the core area of urban regions. The development and spread of electric bicycles will make cycling a viable mode of transport for more people, which needs to be taken into account in the outfitting of traffic nodes and exchange points. Micro-mobility services emerged in recent years in large and medium-sized towns can also support sustainable mobility, at least if they replace car journeys.

In the development of urban regions, it is important to recognise the importance of sub-centres. Due to diverse functions and short distances, it is possible to develop a lifestyle that relies on sustainable mobility by ensuring high-quality and safe connections by walking and cycling and the comfort of the living environment.

The areas of daily work around the largest urban regions no longer expand significantly. The share of leisure trips and trips made in order to run errands will likely continue to increase as the proportion of trips made in order to commute from home to work decreases. Public transport systems and services in urban regions should be able to respond to this change. The lowering of congestion peaks reduces the need for capacity. However, it should also be possible to respond better to people's mobility needs on nights on business days and weekends if the aim is to achieve a modal shift in transport in urban regions, which is also necessary for reducing emissions despite the power source transition.

It is also worth maintaining and developing good cycling infrastructure in smaller towns and rural settlements and ensuring the safety of the mobility environment for all user groups. Despite the electrification of passenger cars, which remain an important mode of transport in these areas, good urban and transport planning can be used to manage the remaining environmental impacts, such as space needs, noise or perceived safety. In rural areas, with steering land use to village centres, it is possible to improve, for example, the operating conditions of on-demand and service traffic and support the development of new kinds of rural mobility solutions and services.

Automatic traffic, various automatic goods transport solutions and the use of unmanned aircraft as part of the transport system bring their own requirements to the built environment. It is necessary to prepare for the distribution networks and infrastructure of alternative power sources in all kinds of environments.

The expansion of employment areas is expected to slow down compared to the early 2000s. In the future, growth will mainly focus on clusters of energy, industry and logistics that require space in the outskirts of urban regions. The significance of centres as areas of employment varies by sector. In some sectors, centres and their neighbouring areas will continue to be attractive locations for companies, which is important for the diversity of centres and sub-centres.

The sustainability of business operations can be assessed through their environmental impacts, accessibility and logistical connections. Land use planning makes it possible to find locations for different activities in which the aforementioned factors form an entity that is as functional as possible in relation to the rest of the community structure. Heavy traffic rest stops and service areas are important functions in urban regions that require regional coordination. Rural logistics is a precondition for competitive production in food production, the forest sector and the wider natural resources sector. The lower-class road network plays a particularly important role in this.

In urban planning, the sustainability of mobility will be improved by siting housing, workplaces and key services so that they can be reached by walking, cycling or public transport and by ensuring the quality of the infrastructure of these modes of transport. In urban areas, attention should be paid to the location of recreational sites and the service level of public transport outside commuting. Smaller towns, rural settlements and villages can also take care of the conditions of sustainable modes of transport and manage the impacts of motoring on the living environment, even if the population is decreasing and no significant new construction takes place.

Functional and competitive travel chains based especially on rail transport play a key role in improving the sustainability of mobility in urban regions, and also between towns and rural areas. Land use solutions can support the seamless linking of national connections to the regional and local transport system. Station areas and sub-centres in addition to transport hubs should also be developed as versatile hubs of housing, work, services and leisure time, where distances are short and the environment is pleasant.

In cooperation with businesses, land use can enable the development of more environmentally friendly and less disruptive urban logistics. Identifying and taking into account the needs of distribution networks of alternative power sources and infrastructure is also an important part of the planning of today's communities.

3.3.5 Promoting sustainable urban–rural interaction

Towns and the surrounding rural areas with their built-up and village areas have close interaction with regard to land use and living environments. The aim of a sustainable rural community structure and planning is to promote building that respects local self-sufficiency and the cultural environment, based on the historical villages, built-up areas and villages of rural areas. With services concentrated in the municipal centre and partly replaced by mobile services, the traditional village centres in rural areas are linked together as ribbon-like urban structures. At best, this enables efficient and reliable infrastructure as well as cost-effective rural transport and the combination of different transport needs. Functionally, village areas often consist of several traditional village areas and the peripheral

areas connected to them. Recent changes in the operating environment further emphasise the importance of rural areas in maintaining and developing security of supply.

The interaction between the town and its nearby rural areas is becoming even stronger due to location-independent remote work, mobile services, space-intensive business activities, increasing leisure time, nature and recreational services, local food production and decentralised energy production. In rural areas surrounding towns, village infrastructure has been managed communally through water and road cooperatives and lake cooperatives. This is also a significant resource from the perspective of security of supply and community structure operations. However, location-independence requires network connections in rural areas not only for remote work but also for the management of everyday activities.

In addition to rural industries, rural areas surrounding towns offer space-intensive housing, in which hybrid work, space-intensive hobbies and the needs of households with pets can easily be combined. Conversions of the use of holiday homes to permanent housing are also increasing. At best, they support the existing village structure in its carrying capacity and cultural environment. In rural areas, the development of tourism services is an important part of the service structure of villages and brings vitality.

New construction of detached houses outside the local detailed plan areas has decreased significantly, and the pressure to construct residential buildings is limited to rural areas close to the largest urban areas. As housing construction decreases, agricultural construction is emphasised. The structural change in rural livelihoods and the energy transition shape the countryside. In the urban structure, it is important to take into account large-scale and concentrated food production, as well as small-scale and decentralised production and their different requirements. The locations and possibilities of farm construction and large livestock farming units are taken into account and coordinated with other regional land use and living environment objectives. Industrial-scale solar power plants and wind power construction and the related electricity transmission lines require a lot of surface area, and their land use impacts must be coordinated with other land use, taking into account the primacy of the values of the villages' cultural environment.

Changes in the demographic structure strengthen the structural change in rural areas. The ageing of the population increases the need for home care. As the birth rate and the number of children decreases and the size of schools increases, the school network grows increasingly sparse. Although many services have increasingly been transferred to an information network or mobile services,

transportation of school and social and health care services is vital for rural development in order to secure basic services. The development of call-based public transport, service transport and travel chains will enable the availability of important basic services. The importance of mobile services is emphasised as the carrying capacity of location-based services decreases. These services develop and are often of a higher quality than location-based services.

Interaction between cities and rural areas can contribute widely to sustainability objectives. Interaction is also important in maintaining security of supply. The sustainable infill development of villages that takes the cultural environment into account will help to maintain the service network and infrastructure of rural areas and promote their vitality, communality and business activities.

The interaction between the town and nearby rural areas enables the promotion of local economy and regional self-sufficiency in many ways in addition to the development of traditional rural industries. With the change in the operating environment, the planning of the urban structure surrounding towns supports the development of location-independent remote work, mobile services, space-intensive business activities, increasing leisure time, nature and recreational services, local food production and decentralised energy production.

The structural change in rural livelihoods and the energy transition shape the countryside. As housing construction decreases, the construction of large agricultural units and the construction of decentralised energy production on an industrial scale as well as transport connections require land use coordination.

As the services get concentrated in municipal centres, the development need is to link traditional village centres as functionally ribbon-like structures, enabling joint transport and travel chains between urban areas and neighbouring rural areas. This supports the accessibility of basic services and enables new solutions for public transport, such as call-based services, service traffic and mobile services.

Biodiversity can be promoted by ensuring that green areas are connected to the surrounding rural areas and towns. At the same time, the needs for recreational use will be promoted both in the towns and in neighbouring rural areas.

3.3.6 Promoting the green transition and a circular economy

The green transition creates preconditions for an ecologically sustainable economy, the reduction of emissions and a halt of the overconsumption of natural resources. The green transition requires an energy transition, a transition towards a circular economy, reducing the energy consumption and greenhouse gas emissions of the built environment, and promoting the sustainable use of renewable natural resources. Land use planning must enable new clean and low-carbon solutions in the production, transfer and storage of energy as well as in industry, as required by the energy transition.

The importance of energy self-sufficiency has been emphasised as a result of recent international crises. The share of renewable energy production, such as bio, wind and solar energy, in energy production will increase significantly in the future. Preparations should also be made in land use for possible small nuclear power plants. Energy production and transmission networks must be taken into account in land use planning.

The negative environmental impacts of the green transition and a circular economy need to be prevented and mitigated and environmental values taken into account. An unmanaged green transition based on new technologies can pose a threat to environmental values, the quality and integrity of the living environment, and natural ecosystems, as non-renewable energy and raw materials are replaced by renewable energy and nature-based raw materials. A precondition for reconciling growing needs for bio-materials, conservation and restoration is making choices in land use. Correspondingly, the transition to a circular economy in the use of natural resources and to clean production in industry requires new infrastructure and energy transmission networks, which may pose a challenge to reconciling the interests of different areas related to land use.

The green transition and a circular economy increase the need for space within and outside built-up areas. Renewable energy production areas are typically located outside built-up areas, but they may create prerequisites for industries, for example, in their neighbouring areas. The green transition and a circular economy also require adapting to the growing space needs for logistics.

The challenge of the green transition is land use changes due to energy production and transfer, which increase deforestation and reduce carbon sinks. Some of the green transition projects are located in sea areas. The impacts of the green transition and a circular economy can be seen significantly in rural areas in particular, where space needs and infrastructure related to the production, storage and transport of energy can grow significantly. The green transition also

requires the development of transport and logistics networks. Renewable energy production areas are often located far away from human habitation, which requires extensive investments in energy transmission networks. Renewable energy production and material cycles should be made as local as possible, close to consumers.

Especially in the early stages, the need for non-renewable natural resources may also increase significantly, which may require new mining investments. Investments in the green transition and a circular economy should primarily be directed to areas that are best suited for them and underused. If possible, renewable energy production areas, in particular, will be placed as close to consumers as possible, thus reducing the loss of biodiversity caused by the construction of energy networks, the fragmentation of areas dominated by agriculture and forestry, and the burden on land ownership.

A circular economy plays a key role in the green transition. A circular economy reduces the use of natural resources, which promotes the sustainability and resource and material efficiency of communities. The needs of a circular economy must be identified and secured in land use planning.

The green transition may increase regional disparities. For example, eastern Finland has lagged behind in renewable energy investments. The availability of renewable energy affects the targeting of investments. Solutions should be sought for the uneven distribution of the benefits and disadvantages of the green transition. This requires an overall understanding and planning at the national and regional levels. It is important to find solutions to improve the social acceptability of the green transition and engage citizens in implementing it.

During the development perspective work, the need has emerged to examine the prerequisites for land use of the green transition and a circular economy and to guide the planning and permit procedures for the green transition and a circular economy nationally. In land use planning, it is necessary to identify and reserve sufficient areas to promote the reuse of materials and a circular economy as close as possible to the sources of material flows and waste. In local detailed planning, it is necessary to reserve sufficient areas for recycling. In construction, it is necessary to promote the reuse of critical raw materials and soil masses. A particular challenge is the coordination of wind power production with the needs of national defence, which needs to be examined nationally.

The green transition and a circular economy require large areas for the needs of renewable energy production, transfer and storage as well as logistics. The areas of renewable energy production are mainly located outside the built-up area, but the regional availability of renewable energy may have indirect impacts on the regional needs of business life. Renewable energy production areas are often located far away from energy consumers, which increases the space needs of energy transmission networks and causes forest and biodiversity loss.

Harmful impacts can be prevented and mitigated by utilising existing infrastructure and by siting renewable energy production areas close to users in such a way that the need to build energy transmission networks can be minimised. The following, for example, have been identified as items that need attention: examining the land-use prerequisites for the green transition at the national level, drawing up national guidelines, and finding solutions for preventing harm from the green transition and the uneven distribution of benefits. It is necessary to prevent and mitigate harmful effects from the green transition and a circular economy to people, for example, by means of adequate safety distances and technical solutions.

The assessment of the land use prerequisites for the green transition must be carried out in extensive cooperation with the government and various actors.

The EU is becoming increasingly important in steering the green transition. More information is needed on the impacts of various EU initiatives on land use and the conditions for land use, especially in rural areas. What are their impacts on the regional land-use prerequisites of agriculture, natural resources management, and the green transition?

3.4 Other development needs and measures that support the objectives of the development perspective of land use

The development perspective of land use is aimed especially at central government, regional councils and municipalities as support and background material when preparing actions and decisions to promote a sustainable regional and urban structure. The development perspective of land use also provides starting points

for international cooperation on land use planning by highlighting Finland's perspective and cooperation needs. Development needs and measures, some of which have been identified in connection with the objectives above, have been identified to implement the objectives presented in the development perspective and to support continuous development of land use. Development needs and measures not included in the objectives have been compiled in this chapter. Development needs and measures have been identified through surveys and stakeholder workshops organised in connection with the development perspective work.

Developing legislation and other steering instruments

The Regional Land Use Act and the related acts on urban development and construction are key legislative projects in terms of the future development of the regional and urban structure. In the future, these should include provisions promoting the mitigation of and adaptation to climate change as well as safeguarding biodiversity. Securing the security of supply and national security needs in regional land use are also issues that have emerged strongly and need to be taken into account in the act. When reforming the legislation governing land use, consideration should also be given to the regulatory needs arising from the differentiation of the regional structure. In the future, the land use planning system must take into account the needs related to the planning of both growing urban regions and areas with declining populations. In addition, it should be possible to implement land use solutions required by the green transition in an environmentally and socially sustainable manner.

As part of the land use planning system referred to in the Regional Land Use Act, it is necessary to reform the national land use guidelines to meet partly changed needs. At the same time, it is necessary to consider whether it will be possible to set objectives in a more targeted manner in the future and to make partial amendments to them in accordance with changing needs.

The land use planning required for the production of renewable energy needs to be guided, and the national steering related to it needs to be harmonised. The timeliness of wind power guidelines should be monitored and updated if necessary. In particular, the production of solar energy, small modular reactors and a hydrogen economy also require proactive steering of regional land use.

When assessing the timeliness of and revising national land use guidelines, it is necessary to pay attention to the needs of the changing operating environment, especially to streamlining the green transition, as well as, for example, the national coordination and promotion needs of energy supply, the transport system, security of supply and regional and urban structure.

Development of planning procedures

It is necessary to continuously develop the impact assessment related to the planning of regional and urban structures and to prepare related guidance material. The need to develop climate and nature impact assessments is particularly emphasised. The monitoring of the timeliness, implementation and effectiveness of the plans should also be developed.

It is necessary to update the guidelines related to land use planning in rural areas. In this context, it should be taken into account how land use planning could be made more flexible in rural areas and how valuable construction that supports the values of the cultural environment could be promoted. At the same time, it is possible to identify underused and mainly unimplemented local detailed plans at the national level and develop planning procedures with them.

The development of planning the urban regions should continue while strengthening in urban regional planning the coordination of land use plans, sustainable urban mobility plans as well as other transport system plans.

Development of contract procedures

In the largest urban regions, agreements on land use, housing and transport (MAL) and the related urban regional planning have been a key instrument of partnership. Continuing and further developing contract and planning procedures is important for strengthening the partnership between the state and municipalities. At the same time, more extensive participation of regional councils in contract procedures should also be considered.

There are special needs for developing the openness and interaction of urban regional planning. It is necessary to find ways to improve the binding nature of MAL agreements and the commitment of the various parties to their implementation. In connection with the drafting of the Land Use Act, the relationship between contract procedures and zoning regulations can be clarified.

Expanding the contract procedures to areas outside the seven largest urban regions, i.e., the MAL regions, should be investigated. Lighter contract procedures could be developed for the needs of different regions and development corridors in broad-based cooperation between the central government, regions and municipalities.

Continuing and developing national urban, rural and metropolitan policies is important for developing a partnership between the state, cities and municipalities. At the same time, it is important to take into account the development of a sustainable regional and urban structure. Southern Finland's networked metropolitan area and other trans-regional development zones and areas offer an opportunity to develop a new type of partnership between the state and the regions. The possibilities to develop contractual cooperation in these areas can also be explored.

Voluntary agreements can be developed with private landowners in areas such as the preservation of environmental values and the preservation of recreational and landscape values.

Other development needs and measures

Municipal planning resources should be secured, for example, to promote the green transition. The shortage of land use planners can be alleviated, for example, by launching continuing and conversion training and regional architectural activities and by developing cooperation with municipalities.

In addition to land use and transport planning, transport pricing and taxation also affect the sustainability of transport. Decisions on these matters should also take into account their impact on transport performances and the distribution of modes of transport. The right to deduct commuting expenses can be mentioned as an example of an issue that has had an impact on people's choices and, consequently, on the urban structure and transport.



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