The National Transport System Plan for 2021–2032

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Abstract

The National Transport System Plan for 2021–2032 is a strategic plan for developing the transport system, drawn up in accordance with section 15b of the Act on the Transport System and Highways (503/2005). The National Transport System Plan includes a description of the current state of the transport system and changes in the operating environment; a vision for transport system development by 2050; objectives set for the Plan and their specific strategic guidelines; and an action plan containing measures for the central and local governments to achieve its objectives. The Plan also covers a government funding programme and a summary of its impact assessment.

The National Transport System Plan was drawn up with guidance from a parliamentary steering group and in broad cooperation with stakeholders. For the period of 2021 to 2024, the Plan conforms to the General Government Fiscal Plan and budget decisions for 2021–2024. The central government expenditures set out in the Plan are estimates and their realisation depends on future budget decisions.

The Finnish government decided on the National Transport System Plan for 2021–2032 by submitting it as a report to Parliament on 15 April 2021.

Keywords	transport policy, transport systems, transport networks, transport services, strategic planning		
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Valtakunnallinen liikennejärjestelmäsuunnitelma vuosille 2021–2032

Valtioneuvoston julkaisuja 2021:77

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Kieli	englanti	**Sivumäärä**	140

Tiivistelmä

Valtakunnallinen liikennejärjestelmäsuunnitelma vuosille 2021–2032 on strateginen suunnitelma liikennejärjestelmän kehittämisestä. Se on laadittu liikennejärjestelmästä ja maanteistä annetun lain (503/2005) 15 b §:n mukaisesti. Valtakunnallinen liikennejärjestelmäsuunnitelma sisältää kuvauksen liikennejärjestelmän nykytilanteesta ja toimintaympäristön muutoksista, vision liikennejärjestelmän kehittämiselle vuoteen 2050, suunnitelmalle asetetut tavoitteet ja niitä tarkentavat strategiset linjaukset ja valtion ja kuntien toimenpiteitä sisältävän ohjelman tavoitteisiin pääsemiseksi. Lisäksi suunnitelmaan sisältyvät valtion rahoitusohjelma sekä tiivistelmä vaikutusten arvioinnista.

Valtakunnallinen liikennejärjestelmäsuunnitelma on laadittu parlamentaarisen ohjausryhmän ohjauksessa ja laajassa vuorovaikutuksessa sidosryhmien kanssa. Suunnitelma on laadittu vuosia 2021–2024 koskevan julkisen talouden suunnitelman ja talousarviopäätösten mukaisesti vuosien 2021–2024 osalta. Suunnitelmassa esitetyt valtion kustannukset ovat arvioita ja niiden toteuttaminen riippuu tulevista talousarviopäätöksistä.

Valtioneuvosto päätti valtakunnallisesta liikennejärjestelmäsuunnitelmasta vuosille 2021–2032 antaessaan sen selontekona eduskunnalle 15.4.2021.

Asiasanat	liikennepolitiikka, liikennejärjestelmät, liikenneverkot, liikennepalvelut, strateginen suunnittelu		
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Presentationsblad

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Den riksomfattande trafiksystemplanen för 2021–2032

Statsrådets publikationer 2021:77

Utgivare	Statsrådet		
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Språk	engelska	**Sidantal**	140

Referat

Den riksomfattande trafiksystemplanen 2021–2032 är en strategisk plan för utveckling av trafiksystemet. Den har utarbetats i enlighet med 15 b § i lagen om trafiksystem och landsvägar (503/2005). Den riksomfattande trafiksystemplanen innehåller en beskrivning av nuläget för trafiksystemet och förändringarna i omvärlden, en vision för utvecklingen av trafiksystemet fram till 2050, de mål som ställts upp för planen och de strategiska riktlinjer som preciserar målen samt ett åtgärdsprogram för staten och kommunerna för att uppnå målen. I planen ingår dessutom ett statligt finansieringsprogram samt en sammanfattning av konsekvensbedömningen.

Den riksomfattande trafiksystemplanen har utarbetats under ledning av en parlamentarisk styrgrupp och i bred växelverkan med intressegrupper. Planen har upprättats i enlighet med planen för de offentliga finanserna för 2021–2024 och budgetbesluten för 2021–2024. De statliga kostnader som anges i planen är uppskattningar och förverkligandet av dem beror på framtida budgetbeslut.

Statsrådet fattade beslut om den riksomfattande trafiksystemplan för åren 2021–2032 genom att ge den till riksdagen i form av en redogörelse den 15 april 2021.

Nyckelord	transportpolitik, transportsystem, trafiksystem, transportnät, trafiknät, trafiktjänster, strategisk planering
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Contents

1 General premises

1.1 Role of the transport system in society

The transport system plays a very important role in terms of the functioning of society. According to Government Report No. 8/2018 (VNS 8/2018 vp), the societal goals of transport system development include promoting Finland's competitiveness, combating climate change, and regional vitality and accessibility. Transport system planning is a means of advancing these societal goals while also responding to the various mobility and transport needs of customers, i.e. people and businesses, in different parts of Finland.

Development of the transport system is essential in terms of regional development and land use, business competitiveness, combating climate change, good everyday life, security of supply, etc. Transport system development efforts also take account of the requirements of preparedness, readiness and emergency conditions.

Transport system development efforts place emphasis on cooperation between different parties and coordination of various measures. The National Transport System Plan will enable long-term transport system development in Finland. Transport system development takes account of the international nature and development trends of transport.

National transport system planning aims to consolidate informed decision-making by means such as developing information on the transport system and its development and impact assessment. In addition to national transport system planning, continuous transport system development and planning efforts are being carried out in municipalities, urban sub-regions and regional councils, contributing to serving regional needs and providing inputs for the national planning level.

The purpose of national transport system planning is to create long-term and predictable action across government terms in order to develop the transport system. The National Transport System Plan will guide operations within the entire transport administration in a transparent manner by indicating the central government's consistent strategic intent on developing the national transport system.

In order to guarantee durability, the Plan is prepared at parliamentary level.[1] The Plan is draw up for a twelve-year period at a time and updated as appropriate during each government term while planning for the following four years. The Plan's implementation and progress towards its objectives are monitored. Information on the progress made in transport system development will be put to use when drafting the next plan.

1.2 Legal basis for drafting the National Transport System Plan

The National Transport System Plan is drawn up on the basis of the Act on the Transport System and Highways (503/2005; formerly entitled the Highways Act), which lays down in its chapter 1a provisions on transport system planning and its objectives, and on drawing up a national transport system plan and its content. Under the Act, 'transport system' means an entity consisting of all modes of transport of passengers and goods, the transport networks, communications and data that serve them, as well as the services, means of transport and traffic control systems referred to in the Act on Transport Services (320/2017, the 'Transport Services Act').

Under section 15a of the Act on the Transport System and Highways, the objective of transport system planning is to promote a safe, sustainable and effective transport system, with particular consideration for the contents of paragraphs 1–10 of its subsection 1.

In keeping with subsection 2 of section 15b of the Act on the Transport System and Highways, the National Transport System Plan will present an assessment of the current state of the transport system and its future operating environment, objectives for the transport system and proposals for measures to achieve the objectives. Furthermore, subsection 3 of the said section provides that the National Transport System Plan will include an action plan to be drawn up for a period of 12 years, containing measures for central and local governments. The plan will also include a government funding programme for the transport system.

The National Transport System Plan will be adjusted and aligned with the General Government Fiscal Plan at the beginning of each government term and revised as required if the General Government Fiscal Plan is adjusted.

1 Parlamentaarisen ohjausryhmän asettaminen [*Appointment of the parliamentary steering group*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-accd-c244746849d5/47bdf83c-769c-4766-8962-d05e2a94f8be/PAATOS_20200110150601.pdf.

The National Transport System Plan must include an environmental impact assessment in keeping with the Act on the Environmental Impact Assessment of Plans and Programmes by the Authorities (200/2005, the 'SEA Act').

The National Transport System Plan covers the whole of Finland, taking account of the limitations set in the Act on the Autonomy of Åland (1144/1991). The Åland region has legislative powers in respect of roads and canals, road traffic, railway traffic, boat traffic, and the local shipping lanes. Accordingly, the regulative framework relevant to the National Transport System Plan and, consequently, the Plan itself do not apply to these aspects within the territory of Åland. Conversely, the region's territory is also taken into account with regard to issues concerning aviation, merchant shipping and merchant shipping lanes.

According to section 22 of the Constitution of Finland (731/1999), the public authorities must guarantee the observance of basic rights and liberties and human rights. Adopting a more durable and predictable approach to transport system planning can improve the promotion of realisation of several fundamental rights and freedoms, especially freedom of movement and freedom to engage in commercial activity.

The Plan's drafting process is based on the mobility and transport needs of people and businesses and development of relevant information. The Plan's knowledge base, objectives and measures and its impact assessment will provide different levels of the transport administration with guidance on the preparation of decisions affecting the everyday lives of individuals and entrepreneurs.

The Plan promotes the realisation of freedom of movement as laid down in section 9 of the Constitution such that its measures will particularly improve access to regions and services both in Finland and internationally. The Plan's measures will also improve people's ability to choose different modes of mobility making use of various transport services.

The Plan also promotes the realisation of freedom to engage in commercial activity as laid down in section 18 of the Constitution such that it will require the transport administration to prioritise effective maintenance and development of transport connections in its operations, particularly to meet the needs of businesses and commuters. This will improve people's opportunities to make a living from their chosen work, occupation or business.

Under section 20 of the Constitution, the public authorities must endeavour to guarantee for everyone the right to a healthy environment and the possibility to influence the decisions that concern their own living environment. The Plan promotes these rights and freedoms by means such as enhancing the attractiveness of the most environmentally

sustainable modes of mobility, thus reducing harmful environmental emissions from mobility. According to the Plan, efforts will be made to develop information on the transport system and the effects of measures taken on the system so as to improve people's opportunities to exercise their participation rights. The Plan is drafted openly and will include an environmental impact assessment in keeping with the Act on the Environmental Impact Assessment of Plans and Programmes by the Authorities, increasing access to information, which is important in terms of exercise of participation rights.

1.3 Relation of national transport system development to other legislation

In terms of transport networks, the National Transport System Plan is premised on the Ministry of Transport and Communications Decree on the Main Routes of Highways and Railways and Their Service Levels (933/2018, the 'Main Route Decree') as well as on the Act on the Transport System and Highways and the Railways Act (110/2007). Main routes connect the largest national and international hubs and nodes.

The use of appropriations allocated to highway maintenance and development is governed by the Act on the Transport System and Highways, as amended by Act 572/2018, which entered into force in August 2018. The Act lays down provisions on the quality requirements for developing, maintaining and investing in the state highway network. Furthermore, the Act defines service level categories for travel and transport on highways and the levels of highway maintenance.

With regard to transport services, the Plan is specifically governed by the Act on Transport Services, which includes provisions applicable to services in all modes of transport. Furthermore, the National Transport System Plan is essentially linked to other regulation concerning the transport sector, such as the Aviation Act (864/2014) and the Rail Transport Act (1302/2018), as well as legislation governing transport administration agencies and enterprises, including the Act on the Transport Infrastructure Agency (862/2009) and the Act on the Transport and Communications Agency (935/2018).

Section 15b, subsection 4, of the Act on the Transport System and Highways requires that an environmental impact assessment be included in the National Transport System Plan in keeping with the Act on the Environmental Impact Assessment of Plans and Programmes by the Authorities. The public authority responsible for the Plan will study and assess any environmental effects of the options explored in the Plan that are likely to be significant and will prepare an environmental report. The environmental report will be drawn up as part of other preparations prior to approval of the Plan.

With regard to land use, drafting the National Transport System Plan is premised on the Land Use and Building Act (132/1999), which is currently being reformed. Some parameters for drafting the National Transport System Plan stem from the Government Decision of 14 December 2017 on Finland's National Land Use Guidelines, which is based on section 22, subsection 1, of the Land Use and Building Act.

Transport system development plays a highly important role in terms of regional development. The Ministry of Economic Affairs and Employment is currently preparing a Government Proposal to Parliament for Acts on regional development and the implementation of the regional and structural policy programme of the European Union as well as on the financing of regional development and the regional and structural policy projects of the European Union and for related acts for the period from 2021 to 2027.

In terms of funding the transport system, the Plan is essentially related to the State Budget Act (423/1988) and the Government Decree on the General Government Fiscal Plan (120/2014). The Plan is also linked to other laws, including the Local Government Act (410/2015), the Emergency Powers Act (1552/2011), the State of Defence Act (1083/1991) and the State Shareholdings and Ownership Steering Act (1368/2007).

Implementation of the National Transport System Plan calls for preparedness and contingency planning in keeping with the Emergency Powers Act, in order to take account of the requirements of security of supply as well as preparedness, readiness and emergency conditions.

The United Nations Convention on the Rights of Persons with Disabilities (Finnish Treaty Series 27/2016) includes provisions on accessibility, requiring States Parties to take appropriate measures to ensure people with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications. The purpose of the Convention is to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all people with disabilities. Its key principles include non-discrimination and accessibility. One of the fundamental rights under the Convention involves participation and inclusion of people with disabilities in all decision-making processes concerning them.

Section 17, subsection 3, of the Constitution of Finland provides that, as an indigenous people, the Saami have the right to maintain and develop their own language and culture. Its section 121 further provides that the Saami have linguistic and cultural self-government in their native region, as provided by an Act. The 'native region' refers to the Saami Homeland covering the areas of the municipalities of Enontekiö, Inari and Utsjoki, as well as the area of the reindeer owners' association of Lapland in Sodankylä. By virtue of their self-government, the Saami as a people have the right to decide on their

political conditions and promote their own economic, social and cultural development. Furthermore, consideration is also given to the Act on the Sámi Parliament (974/1995).

1.4 International and EU law dimensions

Finland is committed to international agreements in the transport and other sectors, which are taken into account as part of drafting the National Transport System Plan. In terms of national transport system planning, the most relevant international agreement concerning the environment is the UN Paris Agreement on climate change (Finnish Treaty Series 75/2016). The Agreement aims to hold the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels. Its further objective is to strengthen the ability of states to adapt to climate change and direct action towards low-carbon and climate-resilient development.

With regard to cross-border environmental impacts, drafting of the Plan is guided by the Protocol on Strategic Environmental Assessment (SEA, Finnish Treaty Series 69/2010) to the Convention on Environmental Impact Assessment in a Transboundary Context (Finnish Treaty Series 67/1997 and 81/2017, the 'Espoo Convention').

Furthermore, the process of drafting the National Transport System Plan is guided by supranational regulation on transport. EU transport policy aims to provide efficient, safe and environmentally friendly mobility solutions and to create the conditions for a competitive industry generating growth and jobs. In addition to the Main Route Decree, the premises of the National Transport System Plan for transport networks and their funding include the Trans-European Transport Networks (TEN-Ts), which are governed by Regulation (EU) No 1315/2013 of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU (the 'TEN-T Guidelines Regulation') and Regulation (EU) No 1316/2013 establishing the Connecting Europe Facility (CEF), which is currently being reformed. EU-level regulation also governs aspects such as emissions from transport; intelligent transport systems; provision of transport services; accessibility, exchange and management of information; as well as digitalisation of transport and logistics. This supranational regulation was taken into account as part of drafting the Plan.

Adopted by the European Union in 2020 due to the COVID-19 pandemic, the Recovery and Resilience Facility (RRF) also provides opportunities to channel funds into transport system development.

1.5 Links to other decisions and strategies and delimitations of scope

The National Transport System Plan covers a broad range of themes relevant to the transport system on the basis of the Act on the Transport System and Highways.

The European Union has agreed on national emission reduction targets in sectors outside the EU emissions trading system (EU ETS), which also include transport. Prime Minister Sanna Marin's Government is currently compiling means to achieve the previously outlined reduction target for transport emissions for the roadmap for fossil-free transport.[2] In terms of emission reduction targets, the National Transport System Plan mostly focuses on energy efficiency. The Plan and the roadmap have been prepared in tandem, while transport taxation and charges are currently being explored by a Ministry of Finance working group.[3] Currently ongoing parallel projects may have considerable effects on the transport system. However, the overall impact will only become clear after their completion and during implementation. The effects will be considered as part of drafting the next National Transport System Plan.

The central and local governments have established project companies (Finnish Rail Ltd and Turku One Hour Train Ltd) to plan railway projects and finance the planning up to the point when the projects are ready for construction.[4] The Turku One Hour Train project has been granted EUR 37.5 million in CEF funding. The Ministry of Transport and Communications is engaged in ongoing negotiations with local authorities and potentially other public corporations benefiting from investment in eastbound railway transport with a view to establishing a project company.

The General Government Fiscal Plan for 2021–2024[5] provides the financial framework for the National Transport System Plan for the first years of planning. Moving forward, the aim is for the National Transport System Plan to inform the General Government Fiscal Plan and government budget proposals.

2 Fossiilittoman liikenteen tiekartta [*Roadmap for fossil-free transport*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM050:00/2019.

3 Liikenteen verotuksen uudistamista selvittävä työryhmä [*Working group on the reform of transport taxation*] (Government Project Register). Available in Finnish at: https://vm.fi/hanke?tunnus=VM101:00/2019.

4 Suurten raidehankkeiden edistäminen [*Promoting major rail projects*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM031:00/2019.

5 General Government Fiscal Plan 2021–2024. Available in English at: https://vm.fi/documents/10623/1316221/General+Government+Fiscal+Plan+2021-2024.pdf/1ade1f02-5081-71e7-472b-12e07d77080e/General+Government+Fiscal+Plan+2021-2024.pdf?t=1587124663000.

The National Transport System Plan was drafted taking account of Finland's regional development priorities for 2020–2023.[6] Moving forward, the National Transport System Plan will inform decisions on regional development priorities for each government term with regard to aspects relevant to the transport system.

The National Transport System Plan was drafted taking account of Finland's National Land Use Guidelines[7] issued by virtue of the Land Use and Building Act and the currently ongoing reform of the Land Use and Building Act.[8] Moving forward, the National Transport System Plan will inform reforms of the National Land Use Guidelines with regard to aspects relevant to the transport system.

The measures included in the National Transport System Plan will also promote traffic safety. Traffic safety is covered more extensively in all modes of transport in the national transport safety strategy, which is currently being prepared under the leadership of the Ministry of Transport and Communications.[9] Promotion of automation and logistics digitalisation are discussed in more detail in the Action plan on legislation and key measures of transport automation[10] and the Logistics digitalisation strategy.[11] In terms of urban policy, the Plan has been drafted taking account of the National Urban Strategy for 2020–2030.[12]

Other currently ongoing and forthcoming strategy projects relevant to the topic will be coordinated with the objectives and strategic guidelines specified for the National Transport System Plan.

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6 Valtioneuvoston päätös valtakunnallisista alueiden kehittämisen painopisteistä 2020–2023 – Kestävät ja elinvoimaiset alueet [*Government decision on Finland's regional development priorities in 2020–2023 – Building sustainable and vital regions*]. Available in Finnish at: https://tem.fi/paatos?decisionId=0900908f8068a993.

7 Government Decision on Finland's National Land Use Guidelines, 14 December 2017. Ministry of the Environment. Available in English at: https://www.ymparisto.fi/en-US/Living_environment_and_planning/Land_use_planning_system/National_land_use_guidelines.

8 Maankäyttö- ja rakennuslain kokonaisuudistus [*Comprehensive reform of the Land Use and Building Act*]. Available in Finnish at: https://mrluudistus.fi/.

9 Liikenneturvallisuusstrategia [*Transport safety strategy*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM054:00/2019.

10 Liikenteen automaation lainsäädäntö- ja avaintoimenpidesuunnitelma [*Action plan on legislation and key measures of transport automation*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM059:00/2019.

11 Logistiikan digitalisaatiostrategia [*Logistics digitalisation strategy*] (Government Project Register). Available in Finnish (English summary appendix) at: https://julkaisut.valtioneuvosto.fi/handle/10024/162463.

12 National Urban Strategy 2020–2030. Available in English at: https://julkaisut.valtioneuvosto.fi/handle/10024/162442.

The European Union has set itself a target of becoming carbon-neutral by 2050. In December 2020, the European Commission released its Sustainable and Smart Mobility Strategy,[13] where rail transport plays a key role as an environmentally and climate-friendly mode of mobility, particular in terms of achieving the EU climate targets. As part of the strategy, the Commission sets a target for the number of passengers in high-speed rail traffic to double by 2030 and triple by 2050 on the 2015 levels. Similarly, rail freight traffic should double by 2050 while rail and waterborne-based intermodal transport should be able to compete on equal footing with road-only transport. Doubling rail freight traffic would require an annual increase of at least two per cent in rail freight traffic volumes.

The National Transport System Plan does not cover themes relating to the supply of labour, qualifications or education and training in the transport sector. Likewise, boating and recreational aviation have been excluded from the Plan's scope.

13 Sustainable and Smart Mobility Strategy – putting European transport on track for the future. Commission communication COM(2020) 789 final of 9 December 2020. Available in English at: https://ec.europa.eu/transport/sites/transport/files/legislation/com20200789.pdf.

2 Current state of the transport system and changes in the operating environment

2.1 Current state of the transport system

This section about the current state of the transport system and changes in the operating environment is mostly based on a report by the Finnish Transport and Communications Agency (Traficom).[14] Promoting Finland's competitiveness, ensuring sustainable economic growth, and regional vitality and accessibility call for effective and flexible travel and transport chains in both domestic and international terms.

Finns mainly use the road network for travel and transport, while the rail network plays a pronounced role in mass transport. Goods enter and exit Finland mainly by sea. Finland also has a comprehensive network of airports. Almost 90% of Finns live within reach of urban centres, which keep expanding further. A passenger car is the most common mode of mobility in people's own residential districts, except for the Helsinki Metropolitan Area, where trips are made on foot slightly more often than by car.

From the perspective of the business world, main routes play a key role in terms of the service level of transport operations. However, the most important development targets on the road network can be found outside the main routes. Particular attention has been paid to the deteriorating condition of roads and bridges. Specific issues raised for the rail network include its condition and capacity. While ports and airports have sufficient capacity, airport potential has not been put to full use.

Finland's logistics performance is at a good level. Transport flows are very strong and diverse within the growth triangle formed by Helsinki, Tampere and Turku and on the country's west coast. Significant industrial and transit transport flows on railways can especially be found in Northern and South-Eastern Finland. Air freight is part of national and international logistics and is closely linked to other transport chains.

14 Finnish Transport and Communications Agency Traficom. Liikennejärjestelmän nykytila ja toimintaympäristön muutokset [*The current state of the transport system and the changes in its operating environment*]. Traficom Research Reports 4/2020.

The transport network's condition and daily service levels have significant effects on society. Finland's busy transport routes are mostly in good condition. Traffic fluidity on main roads is good, with the exception of access and ring roads in the largest urban sub-regions, which have seen increasing levels of congestion. On the low-grade road network, daily travel and transport flows are fairly fluid. The condition of low-volume roads and railways has deteriorated.

In Finland, the standard 4G network covers over 98% of the road and rail networks. Its geographical coverage in Finland stands at about 89%, while areas outside its range are sparsely populated. Investments in communications networks are mostly made on commercial grounds.

Passenger and freight transport nodes connect travel and transport chains efficiently without significant increases in travel or transport times. Ports and airports play an essential role in international travel and transport chains.

Mobility services are growing as a whole, both in terms of net turnover and household consumption. It is important to improve the fluidity and effectiveness of travel chains, including their start and end points. Passenger information plays a key role enabling effective travel chains.

With the exception of road traffic, traffic safety is at a good level in Finland. The downward trend in road traffic fatalities stagnated in the late 2010s.

Finland's domestic transport emissions have not decreased significantly from 1990 levels. In addition to choices of propulsion systems, cutting down transport emissions will particularly require reductions in passenger car traffic. However, passenger road transport is expected to continue growing at quite a steady rate.

2.2 Changes in the operating environment

Major global phenomena, such as globalisation, climate change, urbanisation and population ageing, play a crucial role in transport system development. Likewise, servitization and digitalisation are changing society's functions at an accelerating pace.

From the perspective of transport, globalisation is particularly relevant in terms of changes in international trade and production processes; movement of goods, people and capital; transnational environmental risks; and supranational regulation and organisations. The coronavirus pandemic is an example of unpredictable global change that may

transform society – and, consequently, demand for transport and the transport system – to a significant extent.

Finland's internal migration flows have gravitated towards urban sub-regions for a long time now. In addition to internal migration, the focus of natural population growth has shifted to large urban sub-regions, which is further intensifying geographical demographic imbalance. The ageing population will influence traffic behaviour and mobility habits, which will need to be taken into account in transport system planning. Inward urban growth is reflected in the growing share of populations and jobs in urban centres and their peripheral and public transport zones. It is fair to assume that commutes will continue to lengthen, particularly in rural areas. Moving forward, multi-local living and increasing remote work may also create new kinds of transport and communications needs.

Regional concentration of business activities will continue as the service sector is playing an increasingly prominent role in society. At the same time, however, the increasing use and utilisation of natural resources (e.g. bioeconomy) and tourism are growing sectors in Finland.

Climate change mitigation is one of the most critical challenges. Reduction of greenhouse gas emissions from transport plays a significant role in this respect. Transport system development needs to take account of aspects such as increasing use of alternative propulsion systems and advancements in vehicles and technologies in all modes of transport. Adapting to climate change will require transport system stakeholders to increase awareness of weather and climate risks, for example.

Transport and communications are closely connected to the change introduced by increasing digitalisation in society. Technological advancements will heavily influence the transport sector's development for decades to come. Transport and communications will merge through digitalisation, intelligent transport and increasing information, which will significantly alter areas such as goods transport. As a result, the information and cyber security, reliability and data protection of digital systems will face considerable new challenges.

Mobility services are developing towards an increasing variety of options, offering all user groups flexible, efficient, accessible and low-emission mobility services. Demand for accessible services will increase, especially as the population ages. Developments in automation will also open up new opportunities for organising mobility services. Services are implemented making use of different modes of transport and digital data in cooperation between the public and private sectors and end users. When using information, it is necessary to ensure that information critical to society will be identified

and protected while preventing its unauthorised use. Bits of open data may collectively make up information that requires protection from the national perspective.

Transport system development is also influenced by changes in administration, such as the reform of health and social services.

The coronavirus has had a major impact on passenger transport in particular. In the spring of 2020, the numbers of passengers using public transport declined by 70% to 90% in different modes of transport. With declining demand, the sector's businesses offering passenger transport services and competent public transport authorities are facing serious financial distress. Demand for freight transport has varied more widely by mode of transport. Import and export flows are slowly declining as the economic situation deteriorates. Conversely, demand for digital services and communications networks has increased significantly as a result of the crisis.

The coronavirus crisis may also bring about longer-term changes in people's mobility habits and patterns. Growth in remote work and multi-local living may contribute to lower passenger transport performance, but some of the changes may also be harmful from the perspective of sustainable development. In the future, a permanent increase in remote work may contribute to expectations placed on the transport system, which may potentially make it necessary to reallocate resources. Ensuring health security may become an established part of organising public transport, such as in the form of lower occupancy rates. As the coronavirus crisis and increasing remote work and multi-local living may have complex effects on mobility needs and the transport system, research and findings on these effects will play a more prominent role in transport system planning.

As provision of public transport is highly dependent on public sector support, there is a risk that deteriorating general government finances will also result in declining funding and service levels in public passenger transport. This will also affect market-based mobility services that rest on public transport. At the same time, the reductions in market-based transport as a result of the coronavirus pandemic may increase the need for public funding and support in order to secure accessibility. The coronavirus pandemic may have long-lasting effects on logistics because the ways in which production and supply chains deal with risk are likely to differ from the pre-pandemic approach.

2.3 Regional characteristics

Northern Finland

In Northern Finland, transport system development places strong emphasis on strengthening the operating potential for business and preparing for new investments, complete with international accessibility and transport connections to neighbouring countries. Close cooperation with parties active in the Barents region is of particular importance. There is potential for developing rail transport through cross-border cooperation with Sweden. The Saami people's rights and needs must be taken into account in transport system development in Northern Finland.

Besides land transport connections, port and air links also play a key role in improving international connections in terms of regional development. Among other things, ports are important for the emerging, extensive heavy industries while air transport and airports are key to securing a robust tourism sector.

Northern Finland is characterised by a wide variety of livelihoods and long distances, placing a premium on the importance of effective travel and transport chains. Extractive industries have a particularly large footprint in Northern Finland. The condition of the low-grade road network and the needs of export industries are essential factors. Special emphasis is placed on maintaining the existing transport infrastructure and removing current bottlenecks that create complications for the business community.

Northern Finland has major seasonal variations in the number of transport system users. Its long distances, sparse population and major seasonal variations in the numbers of inhabitants, combined with the resulting challenges for increasing sustainable mobility, underline the importance of effective travel chains and nodes. Development of tourism is of particular importance for Northern Finland and there is visible potential for developing transport services for tourists as a target group.

Eastern Finland

From the transport system perspective, Eastern Finland is characterised by attention to links between population centres, the particularly pronounced role of international connections in transport chains (road and rail connections to Russia and further on to Asia as well as commercial shipping via the Saimaa Canal and direct international air routes), long-distance travel and transport chains dependent on railways, and the importance of heavy industries.

Agriculture and forestry, mining and other industries create significant raw material transport volumes in Eastern Finland. Transport operators use roads, railways and inland waterways alike. International connections in all modes of transport and the good condition of existing infrastructure are vital for export industries.

Effective transport chains from low-volume roads to main routes are important. Enhancing traffic fluidity and safety on the main roads crossing the country is another major development area aiming to improve Eastern and Northern Finland's accessibility and competitiveness.

Development of the rail network alongside the road network is considered to be of great importance in terms of Eastern Finland's development, prosperity and wellbeing. Rail transport serves the needs of both passenger transport between hubs and heavy industries for access to key ports and border crossing points, for example. Boosting railway speeds, particularly on lines to Helsinki Airport and into the City of Helsinki, would further improve the conditions for multi-local living and remote work.

A specific characteristic of Eastern Finland is a comprehensive inland waterway network, the development and modernisation of which will serve businesses while also enabling tourism development.

The developing tourism sector and mobility needs in sparsely populated areas create expectations for advancements in mobility services and effective travel chains. The polycentric community structure requires easy access to effective nodes from the perspective of passenger transport, in order to provide functional feeder services to rail transit.

Southern Finland

In Southern Finland, transport system development places particular emphasis on attractive and effective travel chains, performance of transport chains and access to major nodes, as well as international connections to the South and West (to Estonia and Sweden and further on to other parts of the world) and to the East (to Russia and further on to Asia).

The Turku–Helsinki–Tampere growth triangle is of considerable significance in terms of investments and Finland's GDP and transport. Southern Finland, particularly the Helsinki Metropolitan Area, is pivotal to the performance of the entire country's transport system. A considerable share of rail traffic is concentrated in Southern Finland, particularly eastwards from Helsinki via Lahti and Kouvola in freight transport and between Helsinki and Tampere in passenger transport.

Effective and accessible nodes and base connections, as well as effective travel chains, are key to promoting fluid passenger traffic and sustainable transport. There is evidently great potential for emission reduction in promoting sustainable transport due to the population's concentration in the area, which creates expectations for the level of public passenger transport services. A specific need identified in this context is to develop the attractiveness and competitiveness of public transport. A further characteristic of Southern Finland's transport system is archipelago transport, which also plays a significant role in terms of tourism.

Southern Finland's development is considered to be dependent on improving the operating conditions for logistics. As international transport volumes are high, it is crucial to secure access to freight logistics nodes, such as ports. The condition of existing transport infrastructure and transport system performance face certain expectations, as these factors are considered to have a positive influence on corporate decisions on where to locate operations.

Western Finland

Western Finland is characterised by its wide networks and international orientation. It is home to significant export companies based in both urban and rural areas. There is a continuous need for international interactions. Airports and ports connect the western regions globally. An effective network of air links is the lifeblood of an international Western Finland.

Close-knit commuting networks even among the smallest municipalities is a typical feature of Western Finland. Businesses are networked across municipal borders. In addition to contacts between the six western regions, there are also vibrant interactions with other parts of Finland.

Main roads and railway lines connect the western regions both to each other and to the rest of Finland. As part of a trans-European TEN-T core network corridor, Finland's main railway and its connecting links play a key role in terms of the entire area. The main railway runs from Helsinki all the way up north to Tornio via Western Finland, creating special needs for feeder and lateral connections in passenger transport in particular.

The networked and polycentric community structure calls for effective travel chains between hubs to meet the needs of commuters. Developing mobility services in sparsely populated areas poses a specific challenge.

Finland's ports are specialised in terms of ownership base or types of goods handled. Almost all of the maritime ports also serve industries based in Western Finland.

Western Finland's own ports deliver freight traffic from western regions as well as Russian transit traffic.

2.4 Finland as part of the international transport system

This section about Finland as part of the international transport system is mostly based on a report by the Finnish Transport and Communications Agency (Traficom).[15]

The Trans-European Transport Network (TEN-T) links different parts of Europe, also connecting Finland to the transport network of the rest of Europe. There are nine multimodal, cross-border trans-European TEN-T core network corridors, of which the ones extending into Finland are the Scandinavian–Mediterranean and North Sea–Baltic corridors. With the introduction of the new CEF Regulation, the North Sea–Baltic corridor will continue northwards towards Tornio and the Swedish border. The TEN-T networks comprise two layers: the core network of key connections and nodes, and the comprehensive network. The TEN-T network aims to achieve a safe and sustainable EU transport system that promotes the seamless movement of goods and people.

Railways are governed by EU provisions on the European Rail Traffic Management System/European Traffic Control System (ERTMS/ETCS), which the Member States will need to introduce as their national automatic train protection systems become obsolete. Based on a study conducted to determine the most cost-efficient option suitable for its conditions, Finland has settled on implementing a 'Digirail' project.[16]

Finland is a sparsely populated country, with diverse livelihoods, resources and production activities distributed across the country, while also being dependent on exports. Collectively, these factors set certain expectations on the country's internal and international transport connections. Effective international connections are also important for security of supply. The country's increasing tourism sector requires good road connections also covering less populated areas. The transport system is expected to support Finland's development as part of Europe, the Arctic and Northern Dimensions, and global trade.

15 Finnish Transport and Communications Agency (Traficom). Liikennejärjestelmän nykytila ja toimintaympäristön muutokset [*The current state of the transport system and the changes in its operating environment*]. Traficom Research Reports 4/2020.

16 Digirail study, available in Finnish (English abstract) at: https://www.lvm.fi/-/kohti-digitaalista-ja-alykasta-rautatieliikennetta-1162918.

Air transport plays a highly significant role in terms of Finland's business activities and accessibility at national and regional levels. Due to the country's geographical location, air transport is the most important mode of international passenger transport.

In 2019, a total of 26 million domestic and international passengers passed through Finavia's airports, with Helsinki Airport accounting for about 22 million passengers per year. In terms of passenger numbers, the next largest airports after Helsinki are in Oulu, Rovaniemi and Turku. Besides passenger transport, Tampere-Pirkkala Airport is host to an Air Force base and a pilot training centre. Lapland's airports mainly serve tourism. Tourism plays a highly important role in Northern Finland, where the largest airports have seen robust growth in passenger numbers in recent years. Demand for air transport outside the Helsinki Metropolitan Area and Lapland is influenced by economic development in regional centres, as business travellers account for a considerable share of passenger flows.

Air transport contributes to accessibility, which enables Finnish companies to establish a presence in international markets while also being a prerequisite for foreign businesses to set up in Finland. Asian air travel and tourism play a crucial role in terms of air routes. Connecting traffic has also guaranteed an extensive network of European scheduled routes from Helsinki Airport.

In foreign trade, about 90% of exports and 80% of imports of goods in tonnes are transported by sea for reasons of geography and transport economy. Rail transport accounts for about 10% of goods imports while, correspondingly, the share of road transport stands slightly below 10%. The shares of different modes of transport have remained more or less unchanged. However, maritime transport has increased its share of goods imports to almost 80% in recent years.

In 2018, road freight transport accounted for 85% of tonnes of goods and 65% of tonne-kilometres in Finland. Road freight transport is the primary mode of transporting goods. The road network always forms part of global supply chains. It plays a significant role in export, import and domestic market transport operations. The road network is used to transport goods from ports to production plants and national terminals and as part of sourcing domestic raw materials.

Rail traffic is unevenly distributed in geographical terms. The majority of passenger transport is concentrated in the Helsinki sub-region and Southern Finland. Of the total of about 76 million rail journeys, 94% are made within a 300-kilometre radius from Helsinki, including all commutes and 64% of long-distance journeys. The northernmost railway line ends in Kolari, particularly serving tourist resorts in Northern Finland.

There is no direct rail link between Finland and Norway and no passenger transport to Sweden since rail passenger service to Haparanda was discontinued in 1988 as non-viable. In its Government Programme, Prime Minister Sanna Marin's Government has committed to electrifying the Kemi–Laurila–Haparanda line during its term. The project will link Finland's rail network more closely with its Swedish counterpart and further on to Norway's Narvik. The aim is to improve cost-efficiency in rail freight transport and industry competitiveness and improve the utility and performance of land transport between Finland and Sweden as part of the TEN-T core network while opening up new potential for cross-border passenger and freight transport. Among other things, the link will enable more comprehensive connections from Narvik to China through evolving container train transport. However, the different rail gauges in Finland and Sweden present a major challenge for cost-efficient rail transport. Links with Russia are better than those with Sweden, but capacity challenges in connections to Vainikkala and Vartius border crossing points limit the opportunities to develop transport. Passenger transport connections with Russia are good. A train from Helsinki to St Petersburg takes less than four hours, while there is a sleeper train service to Moscow.

The volume of transit traffic on railways has been growing almost continuously since the mid-1990s. Growth has been particularly robust in iron pellet transport between the Ports of Kostomuksha and Kokkola. New service concepts have been outlined with a view to improving rail transport so as to better meet the needs of freight logistics. By way of example, container train transport to China has started. More recently, however, the growth in transit transport has stagnated, with the exception of traffic between Kostomuksha and Kokkola. Future developments in transit transport are influenced by aspects such as the global economic situation, development of ports in Russia, and development of east–west rail transport in Finland.

Finland's international maritime transport is mainly bound for Baltic and North Sea ports. Its leading export and import countries are Germany and Sweden, while Russia is also important in imports. In global maritime transport, unit loads (incl. containers) have become the most important form of transport. This is also visible in Finland's exports. Maritime transit transport bound for Russia has clearly decreased since the 2008 financial crisis. This trend was also reinforced by Russia's investments in developing its own port network (e.g. the Ust-Luga Port).

International maritime transport operates from 44 different ports, with the ten largest ports accounting for about 83% of international freight transport as a whole. Ports play a significant role in Finland's foreign trade transport operations. Efficient and effective transport chains require fluid connections to ports for different modes of transport. Transit transport is mainly concentrated in the Ports of Kokkola, HaminaKotka, Hanko, Helsinki and Pori. The ten inland freight ports are located within the Lake Saimaa area.

Helsinki is one of the busiest international passenger ports in Europe. Helsinki offers scheduled services to Stockholm, Tallinn, St Petersburg and Travemünde. Frequent services to Tallinn also enable links to the rest of the Baltics. In 2019, a total of 12.8 million passengers passed through the Port of Helsinki while the number of international cruise passengers visiting Helsinki reached an all-time high. The Port of Turku has passenger services to Stockholm and Mariehamn in Åland. Likewise, there are connections from Naantali to Kapelskär and from Vaasa to Holmsund (Umeå) in Sweden.

The Northern Sea Route's cable connection will make it possible to create the fastest physical communications route from Asia to Northern and Central Europe via Norway, Russia and Finland. It will significantly reduce delays in communications between Europe and Asia, which is essential for fields such as banking and stock exchange trading. Fast communications are a prerequisite for development of next generation mobile communications networks. The Northern Sea Route cable project has received wide international support and key countries are interested in getting involved in the project. The aim is to build the cable on a commercial basis.

The coronavirus pandemic has had a major impact on international transport as a result of restrictions on passenger transport. The busiest border crossing points in terms of passenger transport are in Tornio, Nuijamaa and Vaalimaa. The nationally leading border crossing points for freight transport are located in the municipalities of Lappeenranta (Nuijamaa and Vainikkala), Virolahti (Vaalimaa) and Tornio. Other nationally important border crossing points for freight transport include Helsinki Airport and those located in the municipalities of Imatra (Imatra and Imatrankoski), Kuhmo (Vartius), Tohmajärvi (Niirala) and Enontekiö (Kilpisjärvi, Kivilompolo, Karesuvanto).

2.5 Transport system funding and existing transport network financing models

In Finland, the public sector (central and local governments) is responsible for the majority of funding for transport networks. The state transport network consists of the highway and rail networks and waterways. Maintenance of the state transport network is fully funded from the Budget (from the item for basic transport infrastructure management) while transport infrastructure development is also mainly funded from the Budget (from the item for transport infrastructure development).

The total length of highways, municipal street networks and private roads amounts to about 454,000 kilometres, including about 78,000 km of highways and 31,000 km of street networks. The length of the state rail network currently in service stands at about 6,000 km

while state waterways cover about 16,300 km. In the period from 2015 to 2017, central government expenditure (in deflated averages) on all transport network maintenance and private road grants amounted to a total of about EUR 1,100 million per year while annual spending on development investments (including grants for rail projects) stood at about EUR 580 million. The corresponding annual figures for local authorities and joint municipal authorities covering the entire transport network (incl. street networks and rail projects) amounted to EUR 720 million and EUR 820 million, respectively. In other words, the central government's share of transport infrastructure maintenance was higher, whereas local authorities covered a higher share of development investments than the central government over the period in question. In total, the central government's share of transport network maintenance and development investments stood at 52% in the period from 2015 to 2017, while local authorities accounted for the remaining 48%. Civil engineering accounts for about 10% of total investments in the national economy. The public sector covers just under 60% of these, including 42% of central government civil engineering investments.

The majority of public transport services are funded by local authorities to the extent that such services are not available on market-based terms. Over the period from 2015 to 2017, local authorities spent about EUR 880 million on funding these services while central government contributions amounted to about EUR 100 million per year.[17]

The coronavirus pandemic will increase both central and local government spending on the transport sector in the near term and will also have broader effects on public finances. In the years to come, local government finances will also likely be significantly impacted by the reform of health and social services, which is currently being prepared.

Transport infrastructure development investments are currently being planned and implemented using various implementation and financing models. All investments in the state transport infrastructure network are decided by Parliament on a project-by-project basis as part of the budget procedure. The costs incurred by the central government from development investments are mainly funded by annual allocations. Budget funding is the normal procedure for investments falling within the responsibility of the central government. Each project is granted authorisation and its costs are included in the Budget in keeping with its actual figures.

In life-cycle projects, the central government purchases construction, maintenance and management services for the project life cycle from a private business. The government

17 Taloudellisen raamin asettaminen [*Setting the financial framework*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-accd-c244746849d5/4fca318b-e3d8-43aa-8151-76f4e1ad445c/POYTAKIRJA_20200210205415.PDF.

pays for the quality and quantity of services, while the business carries out the investment and deals with maintenance for the entire long-term contract period (about 15 to 25 years). The business obtains the financing required for the investment from the financial market. The business charges the costs to the central government as part of its service fee, which means that the government purchases an overall service package every year. The Budget has a specific item for such projects. Parliament decides on the euro amount of the contract authorisation in the year in which the project is due to start. At the end of the contract period, the ownership of the piece of infrastructure is transferred to the central government without any additional compensation. The model has been and is currently being used for a total of four road projects involving considerable costs. A specific advantage associated with life-cycle financing is the increased efficiency of infrastructure management. The life-cycle model is characterised by the fact that it covers finances throughout the project's life cycle, rather than focusing on the investment stage alone. Its perceived disadvantages include the fact that the model ties up central government funds for a long period of time and that its costs involve risk premiums on external financing and interest costs, for example.

The co-financing agreement model, in turn, is also used in development projects that benefit all parties involved. The model is based on a separate agreement under which a local government or some other third party will contribute to the investment costs of a new central government transport infrastructure development project on grounds of the benefits that they will gain. Such beneficiaries may include a company (for business benefits) or a local authority (e.g. for planning benefits, i.e. land appreciation). In general terms, such projects also include the contributor's own investments. By way of example, local authorities' interests in co-financing state transport infrastructure projects are based on the effects of such projects on land appreciation and other broader effects. Transport projects may provide them with wider long-term benefits than the costs incurred from sharing in the project construction costs. The central government, in turn, benefits from the lower need for budget funding and from opportunities for more diverse development of the transport network. Rather than being exclusively funded by all taxpayers (through the state budget), such projects are co-financed by parties that stand to gain specific benefits. Typical examples include junctions or sections of the state rail network needed by industrial companies – in such cases, a company may share in the costs of the part of the network that it requires. Co-financing agreements may also be implemented through the project company model. Financing is negotiated on a case-by-case basis between the central government and other parties.

Co-financing agreements can be used within the existing legislative framework, which also allows the central government to participate in municipal projects when the central government stands to benefit from them. Benefits to central government may involve elements such as reaching the emission reduction target through implementation

of public transport projects geared towards supporting a sustainable community structure. The central government also benefits from municipal investments through taxation, for example.

The central government will be responsible for funding state transport infrastructure networks moving forward as well. The principles of co-financing agreements will only apply when the general rule – i.e. covering the costs in keeping with administration and management responsibilities – is derogated from by mutual agreement.

Finland also makes use of EU funding to finance the transport system. The most important EU funding instrument for the transport system is the Connecting Europe Facility, which also covers funding for military mobility based on civilian-military dual use.

2.6 Transport taxes and charges

Specific transport taxes – i.e. car, motor vehicle and fuel taxes – generate about EUR 5 billion in tax revenue annually (excluding value added tax). Taxation can contribute to cutting down emissions, both by saving energy and by encouraging purchases of lower-emission vehicles.

Finland's current energy taxation – including fuel taxation in the transport sector – is based on fuel energy content, combustion emissions and life-cycle carbon-dioxide (CO_2) emissions, which means that the tax system involves considerable economic steering to reduce emissions and encourage energy savings. However, the tax on fossil and bio-based diesel oil consumed in commercial transport is not as high as the levy on motor petrol and its biofuel replacements that are mainly used in passenger cars.

The lower level of taxation on diesel fuel is geared towards reducing the costs in sectors such as bus transport as well as lorry transport and, consequently, export industries. This has been implemented such that the imputed tax on the energy content of diesel oil has been reduced by a fixed sum of 25.95 cents per litre. In order to specifically target the reduction at lorry transport, diesel-driven passenger cars are subject to power source tax, compensating for the average tax reduction on diesel oil.

Car, motor vehicle and fuel taxes involve significant economic steering effects. By way of example, the value of a tonne of CO_2 used as the basis for calculating fuel tax is at EUR 77/tCO_2 as of August 2020. Prior to this increase, the value of a tonne of CO_2 stood at EUR 66/tCO_2 while the level of CO_2 tax on motor petrol was at 17.38 cents per litre.

In addition, the levels of car and motor vehicle taxation are staggered according to vehicle emissions. Car tax was gradually lowered over the period from 2016 to 2019 such that the reductions focus on low-emission cars. As car tax is staggered according to specific carbon-dioxide emissions, it currently gives strong preference to full electric cars and rechargeable hybrids.

The car tax rate for full electric or other zero-emission cars currently stands at 2.7%, while the average rate for rechargeable hybrids was 3.7% as of autumn 2020. The average rates for new cars with a petrol engine and diesel cars stand at about 14.6% and 19.4%, respectively. Likewise, the average car tax rate for new gas-powered cars was about 8.6%. This calculation only includes cars subject to full car tax without refunds.

A Ministry of Finance working group is currently considering a reform of transport taxation. As part of its work, the group is assessing the needs to reform transport taxation from the perspectives of climate targets and central government finances.

Transport infrastructure use is taxed moderately in Finland. Unlike almost all the other EU Member States, Finland does not levy any charges on road traffic. Conversely, the 'user pays' principle is widely used in air traffic.

Fairway dues have been levied with a view to covering the costs of providing services for coastal merchant shipping, including fairway management, icebreaking, vessel traffic monitoring (VTS) and hydrographic surveying. Fairway dues were levied at half-rates between 2015 and 2020 and this practice continues in 2021. The Government has announced that the halving will also remain in place in 2022 and 2023. The costs of services provided for merchant shipping have varied between EUR 75 and 93 million, depending on the severity of winter conditions. The deficit in revenue from fairway dues has varied between EUR 28 and 45 million during the halving period. Since the fairway due is a tax, the link between revenue and expenditure is imputed.

The track access charge levied by the Finnish Transport Infrastructure Agency is used to cover the direct infrastructure costs incurred by the railway infrastructure manager from train traffic. In recent years, revenues from railway charges have stood at around EUR 43 to 46 million, while the total expenditures on infrastructure management have varied between EUR 492 and 566 million. Railway charges cover about 10% of the total costs of railway infrastructure management. The Finnish Transport Infrastructure Agency updates the unit prices of the track access charge from time to time. No significant changes are currently foreseeable in the pricing of the use of the rail network and services in the near future.

The existing railway charges and fairway dues will also be used moving forward, albeit their significance to infrastructure funding is quite limited.

Finavia Corporation levies airport charges from its clients to cover the maintenance of and investments in its network of airports. In the years to come, the European Commission is planning to reform the Airport Directive, which will impact on determining the charges. In addition, Fintraffic Air Navigation Services Ltd provides Finavia airports with air navigation and en-route services. Finavia includes airport air navigation service fees as part of airport charges, while en-route charges are collected by Eurocontrol.

3 Vision for transport system planning for 2050 – towards a sustainable and accessible Finland

In 2050, Finland's transport system will function in a way that is environmentally, socially and economically sustainable, ensuring sufficient accessibility for people and businesses. Transport will function in a multimodal and emission-free manner. Mobility and logistics costs will have decreased. Finland will have successfully solved the challenge of funding the transport network by means of new operating and financing models. Finland will provide an alternative corridor and node for global flows of passengers, goods and data. The transport system will have been designed taking account of security of supply and the requirements of preparedness and readiness such that Finland will be able to rely on its year-round performance and resilience in all conditions.

The digital transformation will have swept through the transport system, improving its safety and efficiency while offering better services for people and businesses. Finland will be vying for leadership in development of transport services and technologies.

Finnish transport sector operators will be pioneers in their fields, creating sustainable growth, emission reductions and employment. New and fast transport connections and communications will create new business opportunities and enhance resource use throughout the country, including sparsely populated and Arctic areas. Finland will have succeeded in making the most of its full geographical potential as an international travel and transport node.

The transport system will be accessible and equal to all user groups. People and businesses will be mainly satisfied with the transport system. The transport system will have created the prerequisites for punctual and predictable transport services that meet the needs of both people and businesses. Customers will have easy access to reliable information about transport services. Traffic safety will be at a high level in all modes of transport and no-one will need to die or sustain serious injuries in traffic.

Commuters will mainly use sustainable modes of mobility within cities and commuting areas and between urban sub-regions. As a result of infrastructure and service development, public transport will form the backbone of sustainable transport. Rail

transport development will have efficiently enabled sustainable community structures in the largest urban sub-regions and along the routes between them. A significant proportion of knowledge workers will have shifted to working remotely while remote technologies will also be widely used in various services. Trips made on foot or by bicycle will have replaced those made by passenger car to a considerable extent, particularly in urban sub-regions. Use of new versatile mobility and transport services will have become an established feature of everyday life.

Growing urban sub-regions will be engines of economic growth while providing attractive living environments. People living in other urban and sparsely populated areas will have access to mobility services offering a better service level to meet their needs. Passenger car use will have become more sustainable with the development of lower-emission propulsion systems and vehicle technologies. Freight transport will also have shifted to lower-emission vehicles. Environmental damage caused by transport and risk of major accidents will have decreased. People will be able to use fossil-free propulsion systems throughout the country.

International transport will run smoothly, providing businesses with diverse operating opportunities in Finland and supporting regional development opportunities. The performance of transport chains will have been enhanced in all modes by means of digitalisation and secure use of information.

4 Objectives of the National Transport System Plan and their specific strategic guidelines

The objectives of the National Transport System Plan and their specific strategic guidelines were decided by the parliamentary steering group in the spring of 2020. These were then used as a basis to formulate the action plan, making particular use of impact assessment data.

4.1 Objectives of the Plan

The following three parallel objectives were set for the National Transport System Plan, all striving to mitigate climate change:

Accessibility:
The transport system will ensure access to the whole of Finland and will respond to the needs of business, employment and housing.

Sustainability:
Opportunities to choose more sustainable modes of mobility will improve – particularly in urban sub-regions.

Efficiency:
The socio-economic efficiency of the transport system will improve.

4.2 Specific strategic guidelines for the Plan's objectives

Strategic guidelines for accessibility

The accessibility objective is divided into the following four components in the strategic guidelines: international access to regions; interregional accessibility; intraregional accessibility; and level of travel and transport services.

1) International access to regions

International access to Finland and its regions will be improved cost-efficiently, particularly from the business perspective, as follows:

- Helsinki Airport's performance and accessibility will be developed regardless of mobility mode. The proportion of people within three hours' travel time from Helsinki Airport will increase. Ensuring Helsinki Airport's development potential will also enable other airports to operate while making use of new technological solutions. Travel chains to airports will be developed across Finland.

- Efforts will be made to develop the operating potential of shipping.

- The fluidity of international transport will be ensured.

2) Interregional accessibility

Significant business and commuting connections will be developed between regional centres and between Helsinki and the rest of Finland. Average travel times between cities with significant commuting or other travel activities will become shorter. Public transport's competitiveness relative to passenger car use will improve on key commuting links between regional centres.

- The transport network's service level will be developed to meet business and commuting needs and in areas with specific development potential for transport services. In specifically determined cases, the infrastructure network's service level may also be lowered to reflect declining demand (cost-efficiency).

- To promote commuting, sustainable modes of mobility and transport, the infrastructure network's service level targets will be specified for rail lines and roads within the TEN-T core network corridors.

- Efforts will be made to ensure that different regions are accessible within a reasonable time by some mode of mobility or a combination of modes.

- The competitive conditions of market-based public transport services will be promoted while ensuring provision of basic services as cost-efficiently as possible in areas where market-based services fail to develop, taking account of regional characteristics.

3) Intraregional accessibility

Important business and commuting connections will be preserved between regional peripheries and regional and other key centres.

- The proportion of people within one hour's travel time from the regional centre will increase.

The current coverage of the road network will be secured in order to meet the needs of inhabitants. Opportunities provided by inland waterway and archipelago transport will also be taken into account.

4) Travel and transport service levels

Satisfaction with the transport system will improve among all population groups and businesses.

The effectiveness of transport nodes and travel chains will be developed (transport services, information, other services).

Mobility opportunities will be ensured for different population groups to guarantee social sustainability.

The transport network will support and promote sustainable community structures. The transport network will only be expanded if this promotes sustainable structures.

Freight transport efficiency and emission reductions will be enhanced by means such as digitalisation while enabling a shift to more sustainable modes of transport.

The prerequisites and sustainability of urban logistics will be improved.

Road safety will be improved.

Effective, comprehensive and reliable communications networks will enable work and access to services independent of location.

Strategic guidelines for sustainability

Sustainable modes of mobility will be promoted by a wide variety of means, particularly in urban sub-regions with sufficient populations to allow emission reductions to be achieved cost-efficiently. Sustainable modes of mobility and transport will also be developed outside urban sub-regions.

The central government and urban sub-regions will develop their agreement-based cooperation relating to transport networks and services.

The shares of public transport, walking, cycling and other sustainable modes of mobility will increase while greenhouse gas emissions from transport will decrease, contributing to the achievement of the climate target.

Strategic guidelines for efficiency

The existing transport network will be put to maximum use while implementing the most efficient and effective measures to close any gaps.

Efforts will be made to primarily solve the infrastructure network's bottlenecks by softer means, such as traffic management.

New transport investments will promote sustainable transport and their social benefits will exceed the costs involved.

The maintenance backlog of the transport network will be reduced cost-efficiently in keeping with demand.

Measures concerning services will be targeted so as to achieve the highest possible level of emission reductions and/or accessibility relative to the costs involved.

Opportunities provided by efficient traffic control and digitalisation will be put to full use in all modes of transport.

5 Action plan

5.1 Introduction

The action plan brings together measures to be taken by the central government (ministries, agencies, state-owned companies) and local authorities in order to develop the transport system over the period from 2021 to 2032 in keeping with the objectives set out in the National Transport System Plan.

Drafting of the action plan was informed by the objectives set for the Plan and their specific strategic guidelines; guidance by the parliamentary steering group; an alternative reference scenario providing information on the kind of situation that the measures decided at present would produce by 2032,[18] studies and surveys (e.g. the Digirail study and the strategic situational picture of the transport network compiling information on the transport network's current status and development needs[19]); and information on the current state of the transport system and changes in the operating environment.[20] Furthermore, the action plan's drafting process made use of regional transport system plans and strategies while taking account of broad interactions with stakeholders during the Plan's drafting process. Regional transport system plans will also be put to use as part of the preparatory work during future planning rounds. Drafting of the action plan was also guided by the impact assessment carried out in parallel with planning. A summary of the impact assessment and its effects on drafting the Plan are included at the end of the Plan.

For the first few years of the planning period (2021–2024), the economic aspects of the action plan were based on the General Government Fiscal Plan, the 2020 Budget and supplementary budgets, as well as the 2021 Budget and its supplement. The presentation of measures includes the costs incurred to the central government from each measure. In addition, the costs incurred to the central government from the measures are included in the government funding programme. The costs provided as part of each measure are

18 Vertailuvaihtoehdon kuvaus [*Description of the alternative reference scenario*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-accd-c244746849d5/4b6504d3-abb4-435b-92e4-ca76e9f8d96a/MUISTIO_20200914073336.PDF.

19 Liikenneverkon strateginen tilannekuva [*Strategic situational picture of the transport network*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-accd-c244746849d5/6680bb89-a718-46e1-a610-b3f1eda396f4/RAPORTTI_20210121134701.PDF.

20 Traficom Research and Reports 4/2020: Liikennejärjestelmän nykytila ja toimintaympäristön muutokset [*Current state of the transport system and changes in the operating environment*], in Finnish.

estimates and their realisation depends on decisions to be made on spending limits and budgets. EU funding is not taken into account in the Plan's financial framework. Should EU funding be provided for some measures, financial resources will be freed up for the Plan's other measures.

If no costs are provided for a certain measure, these will be covered as part of basic central government functions. The aim is to take any additional costs incurred to the transport administration from the action plan into account in its operating appropriations for the years to come. The annual operating appropriations should be raised permanently by about EUR 1.19 million for the Finnish Transport Infrastructure Agency, by EUR 1.75 million for the ELY Centres and, for the first few years, by about EUR 3.62 million per year for the Finnish Transport and Communications Agency.

The parliamentary steering group has set a general target for the level of funding for the national transport system, recommending that the average long-term level should remain more or less at one per cent of the GDP. Developments in funding will be monitored as part of the transport system analysis.

The General Government Fiscal Plan and existing decisions will limit the latitude for funding new measures for the first few years of the planning period. For this reason, the largest increases in appropriations proposed in the plan (e.g. for basic transport infrastructure management, transport infrastructure network development and public transport subsidies) are scheduled for the post-2024 period. The measures identified as the most urgent and scheduled to start in the early years of the planning period involve development of travel chains and utilisation of digitalisation.

Provisions are made to carry out measures to revitalise public transport in the wake of the coronavirus pandemic by exceeding the limits of the General Government Fiscal Plan during the early years of the planning period. Any needs for additional appropriations that may arise from working on the roadmap for fossil-free transport will be considered separately.

The Plan's drafting process involved putting together an overview of the transport network's current state and development needs for its strategic situational picture. In addition, the process included a review of the Main Route Decree and its effectiveness.[21] Both of these were utilised when drafting the action plan. The strategic situational picture

21 Pääväyläasetuksen tarkastelu [*Review of the Main Route Decree*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-accd-c244746849d5/6cc6af78-0451-4044-8dae-5339c6dcc490/POYTAKIRJA_20201021133357.PDF.

of the transport network also plays a significant role in implementing the Plan's measures concerning transport networks and nodes.

The levels of appropriations and the criteria governing their allocations specified in the action plan are estimated to fulfil the quality requirements for highways laid down in the Act on the Transport System and Highways.

The primary focus of the measures concerning services is on passenger transport. This is due to the fact that the central and local governments play a larger role in passenger transport services than in freight transport services, which are provided by businesses. With regard to passenger transport services, special attention is paid to development of public transport and travel chains, including other mobility services.

The action plan also explores themes cutting across the transport system, such as traffic safety and digitalisation. Advancing digitalisation and making full use of information form a key competitive asset for industries while also promoting wellbeing among the population. Digitalisation and information are used with a view to increasing productivity, making the most of existing structures and creating new services, business and sustainable growth. This is also essential in order to improve public services. When implemented in a sustainable way, digitalisation may also promote society's resilience and reliability. However, making wide use of information calls for an assessment of the criticality and efficient protection of information from the perspective of comprehensive security and national security. This will make it possible to test new operating models through piloting and experimentation and to put the best ones into practice.

Furthermore, the action plan explores specific regional themes relevant to the transport system, international advocacy and development of transport system work. Compilations of funding allocations and measures are presented by theme at the end of the action plan. The interfaces between the measures and the specific strategic guidelines for the Plan's objectives are compiled under each measure.

The Plan's drafting process involved identifying specific regional characteristics, such as urban sub-regions of different sizes, regional cities, rural areas and archipelago areas. Selected measures are targeted so as to implement the Plan's objectives as effectively as possible. Some of the measures focus on urban sub-regions because, according to the Plan's objectives, sustainable modes of mobility will especially be developed in urban sub-regions. Some of these measures, in turn, are specifically allocated to the urban sub-regions governed by land use, housing and transport (LHT) agreements between the central government and urban sub-regions on the coordination of land use, housing and transport issues important to the central and local governments in the largest urban sub-regions. Such agreements exist between the central government and the four largest

urban sub-regions, i.e. Helsinki, Turku, Tampere and Oulu. In 2020, negotiations on LHT agreements were also initiated with the Lahti, Jyväskylä and Kuopio sub-regions.

5.2 Transport networks and nodes

5.2.1 State transport infrastructure network

5.2.1.1 General measures for transport infrastructure networks

Basic transport infrastructure management is geared towards keeping the state's existing transport infrastructure network in appropriate condition and ensuring its day-to-day trafficability. The use of funding for basic transport infrastructure management is planned by product group. In transport infrastructure management, products refer to the network's maintenance (e.g. winter maintenance), repairs and improvements and transport services promoting its use. **Maintenance** ensures the transport network's day-to-day trafficability. **Repairs and renovations** focus on addressing damage due to wear and tear to the transport network and its specific structures and on replacing structures with deteriorating performance. **Improvements** ensure that the infrastructure service level meets the requirements of larger traffic flows, land use and the objectives of promoting sustainable transport. **Transport services** largely include the aspects described in the action plan as part of the transport system's support measures, such as traffic management and control, as well as road ferry transport covered as part of specific regional themes.

Funding for maintenance, transport services and the majority of repairs is tied by long-term contracts. Tied funding accounts for 60% to 70% of total funding for basic transport infrastructure management.

Investments in maintenance of the existing transport infrastructure are made and new development projects are carried out particularly when these are the most cost-efficient solutions to bottlenecks and other challenges of national significance.

Development projects improve the service level of the infrastructure network to a significant extent. Development investments are considerable in euro terms and take years to complete (generally two to five years). Investments have long-term effects, extending even decades into the future. Each development project's planning stage involves drawing up a project assessment, which includes determining the project's benefit/cost ratio. The benefit/cost ratio shows whether the project's benefits – such as savings from reductions in travel times and accident rates, etc. – exceed its costs, including construction and maintenance. The method of calculating benefit/cost ratios is developed on a continuous basis with a view to enabling future project assessments to also take the

broader economic effects of projects into account in more comprehensive terms. Funding under the budget item for transport infrastructure development projects can also be used for project planning in addition to covering implementation costs.

Alongside basic transport infrastructure management and development projects, the Budget allocates funds to discretionary grants for transport and communications networks, such as urban rail projects, and certain other grants, such as those for private roads and for promotion of walking and cycling and public transport. Funds are also allocated for purchasing land and water areas and covering development projects carried out as life-cycle projects.

As a general rule, the projects and grants that have already been decided will be delivered in accordance with the decisions. Consequently, existing project decisions will tie up the budget items for transport networks, particularly in the early years of the 12-year planning period. Since the law requires the Plan to be coordinated with the existing General Government Fiscal Plan, the decisions on spending limits made for the 2021–2024 period and their levels of appropriations must be observed.

The level of funding for basic transport infrastructure management in the alternative reference scenario is EUR 1.343 billion per year from 2024 to 2032, in keeping with the currently effective General Government Fiscal Plan. The assumption for development funding is that all development projects that have been decided or are currently under construction will also be completed.

The strategic situational picture of the transport network includes a compilation of information on the current state and development needs of both the state transport infrastructure network and the other parts of the transport network. The strategic situational picture also contains a study on the current quality level of Finland's TEN-T network relative to the requirements of the TEN-T Guidelines Regulation. TEN-T core and comprehensive networks should comply with the Regulation by 2030 and by 2050, respectively. The study suggests that Finland's core and comprehensive networks mostly fulfil the criteria set out in the Guidelines Regulation.

The statutory duties of the Finnish Transport Infrastructure Agency include managing and developing the state road and rail networks and waterways as well as coordinating related measures in the entire country. The statutory duties of the Centres for Economic Development, Transport and the Environment (ELY Centres), in turn, include ensuring the transport system's performance, traffic safety and road and traffic conditions, highway management, as well as organising public transport. The primary responsibility for measures on the state transport infrastructure network rests with the Finnish Transport Infrastructure Agency and ELY Centres in accordance with the statutory division of duties.

Plan implementation

- The Finnish Transport and Communications Agency Traficom produces and maintains information about the transport network's current state and development needs on the basis of the needs of transport system users. The strategic situational picture of the transport network is a nationwide description of the needs concerning the transport networks. It is updated twice yearly and forms part of a broader transport system analysis. The Finnish Transport Infrastructure Agency and the ELY Centres produce information on transport infrastructure networks while Traficom is responsible for coordinating the information with other data on the networks.

  It is crucial to ensure that the strategic situational picture of the transport network can be expanded to meet the Plan's implementation needs and be updated in real time in order to enable a proactive approach in the longer term as well. The aim is to make it possible to derive the needs for both the state-owned and other parties' transport networks from the strategic situational picture at the national level. The strategic situational picture of the transport network will provide the foundation for the operations of the entire administrative branch, ensuring that the objectives set for the National Transport System Plan and the criteria specified for transport network development are fulfilled when putting the Plan into practice. Budget decisions are made by Parliament.

- The Finnish Transport Infrastructure Agency is responsible for drawing up an investment programme for state transport infrastructure networks for the next six to eight years based on the objectives, criteria and funding levels set out in the transport infrastructure planning programme and the National Transport System Plan as well as on the needs identified in the strategic situational picture of the transport network and the quality requirements specified in transport infrastructure legislation.

- The investment programme will cover both major development investments and smaller improvement projects carried out with funding for basic transport infrastructure management. The programme will frame the National Transport System Plan in concrete terms to specify funding for the projects and their order of implementation and it will be used when drafting budget proposals. The investment programme will not alter Parliament's authority in the budget drafting process; Parliament will still be responsible for making budget decisions. The investment programme will be updated

after drawing up the National Transport System Plan and at other times as required. The Finnish Transport Infrastructure Agency will take note of the most significant gaps in road and rail transport service levels and prepare the investment programme in open and transparent interaction with stakeholders, such as local and regional authorities responsible for land use and representatives of the business world.

- The Finnish Transport Infrastructure Agency is responsible for drawing up the basic transport infrastructure management plan, which will provide the foundation for allocation of funding for basic transport infrastructure management within the administrative branch. This basic plan will ensure fulfilment of the objectives, criteria and funding levels set out in the National Transport System Plan, taking account of the needs identified in the strategic situational picture of the transport network. Parliament decides on the appropriations for basic transport infrastructure management and sets targets for use of the funding.

Basic transport infrastructure management

According to the strategic situational picture of the transport network, the maintenance backlog of the state transport infrastructure network amounts to a total of about EUR 2.8 billion. The maintenance backlogs for highways and the rail network stand at about EUR 1.5 billion and 1.25 billion, respectively. Allocation of funding for basic transport infrastructure management is described below in further detail.

- Funding for basic transport infrastructure management will be allocated taking account of the needs identified in the strategic situational picture of the transport network, particularly on the main infrastructure network. Funding will be allocated on the basis of demand, prioritising business and commuting needs on the entire network. The aim is to achieve safe and fluid traffic on the entire transport infrastructure network.

- The annual level of funding for basic transport infrastructure management will stand at about EUR 1.4 billion as of 2025. Up until 2024, the annual funding levels will comply with the current General Government Fiscal Plan. The maintenance and repairs of the existing state transport infrastructure network will be funded from the Budget.

- Furthermore, the general increase in the level of costs will be taken into account in maintenance of all types of transport infrastructure as of 2025. Over the last ten years, the level of costs has increased by about 2.5% per

year.[22] The central government will increase budget appropriations for the transport system to match the estimated increase in the level of costs in basic transport infrastructure management after the current framework period (ending in 2024). As a result, the estimated amount of appropriations required for basic transport infrastructure management would be about EUR 1.67 billion in 2032. The estimated increase in appropriations due to allowance for the cost level increase would amount to a total of about EUR 966 million over the planning period.

- The service level of the entire transport infrastructure network will be adjusted to meet the specific needs of business and commuting as well as transport services. The needs of housing and business will be met by reducing the maintenance backlog and ensuring an adequate level of maintenance throughout the infrastructure network, including the low-grade road network. In specifically determined cases, the infrastructure network's service level may also be lowered, should this be warranted by declining demand.

- In terms of the condition of the network, the main infrastructure network will be given priority. The maintenance backlog may increase on some of the low-volume networks, as long as business and commuting needs are otherwise satisfied. During the planning period, appropriations will be allocated as planned to reduce the maintenance backlog from EUR 2.8 billion to EUR 2.2 billion by 2032. The maintenance backlog will be reduced across the state infrastructure network, including the low-grade road network.

- Funding for basic transport infrastructure management will be allocated as follows: 52% for highways (annual average of EUR 765 million), 39% for railways (annual average of EUR 592 million), and 9% for waterways (annual average of EUR 141 million). The relative share of this funding will increase by two percentage points for railways and decrease accordingly for highways.

- Transport infrastructure management will be further developed to ensure efficient use of funding and to increase the productivity of basic transport infrastructure management. This development work will involve evaluating the procedures in place in transport infrastructure management and asset management and making use of opportunities provided by digitalisation. Examples include the use of new measurement and analysis techniques to

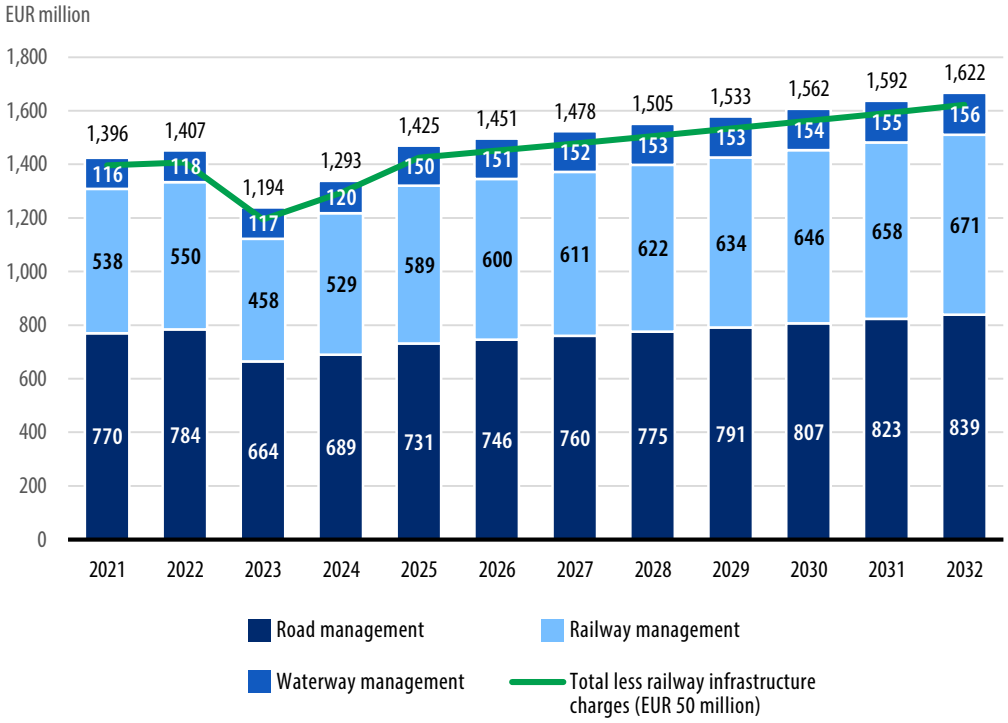
22 Statistics Finland, cost indices of civil engineering works.

establish the state of transport infrastructure, as a basis for programming various measures, and for control and supervision of production activities.

- The condition management of transport infrastructure assets will be developed towards a preventive approach by improving competence and practices.

- Development of infrastructure management contracting will be actively pursued in order to meet changing needs and conditions.

Figure 1. Estimated annual level of appropriations for basic transport infrastructure management during the planning period by type of infrastructure.



Transport infrastructure development

The strategic situational picture of the transport network indicates that there are plenty of investment needs on the state transport infrastructure network throughout Finland, especially on road and rail networks. Allocation of development funding is described below in further detail.

The automatic train protection system currently in place in Finland will reach the end of its useful life at the end of the 2020s. Comprehensive digitalisation is a key prerequisite for rail transport performance in the future.

- During the planning period, the central government will allocate a total of about EUR 6.1 billion to transport infrastructure development. The average amount of funding available for development is about EUR 500 million per year. Highways, railways and waterways will account for about 45% (EUR 2.7 billion), about 51% (EUR 3.1 billion) and about 4% (EUR 0.25 billion) of development funding, respectively.

- Approximately EUR 2.45 billion of the total funding allocated to development projects over the planning period is reserved for projects that have already been decided. The amount of funding available during the planning period for new development investments is about EUR 3.22 billion. Allocations of this funding will stand at about 43% (EUR 1.4 billion) for highways, about 53% (EUR 1.7 billion) for railways, and about 4% (EUR 0.13 billion) for waterways.

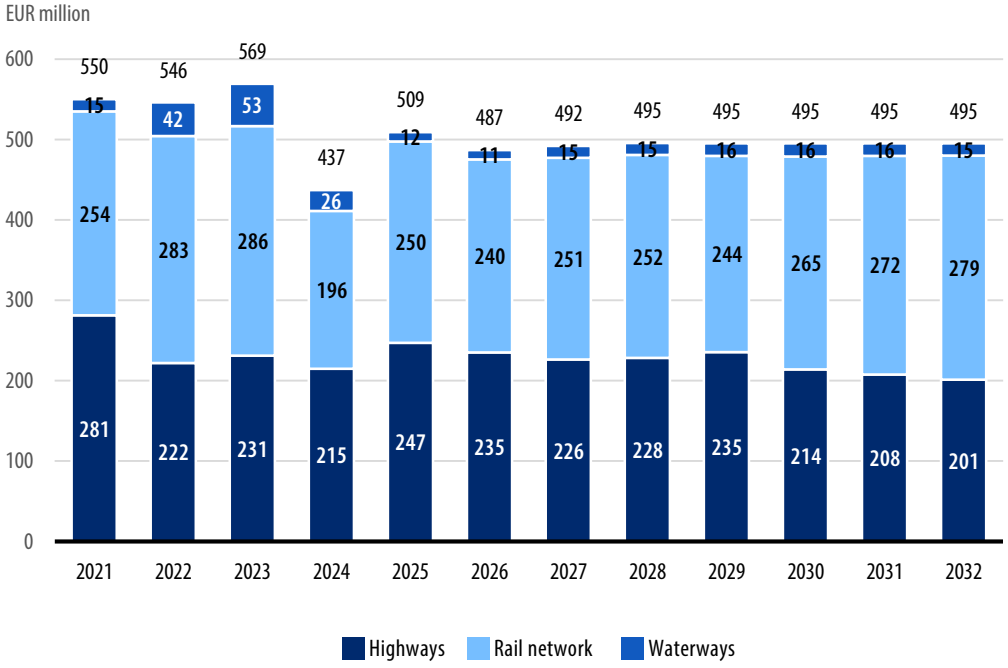
- Furthermore, the central government will modernise the automatic train protection system by implementing the Digirail project. In order to carry out the project, the central and local governments will ensure progress in equipping the rolling stock owned by their own companies. The costs involved are described in further detail below in the section on the rail network.

- To provide a basis for making decisions on development projects, each project's entire life-cycle costs and role in the transport system will be described in broader terms from the perspective of the needs identified in the strategic situational picture of the transport network.

- In addition, the central government will reserve a total of EUR 22.8 to 100 million per year for new infrastructure projects co-financed with urban sub-regions under land use, housing and transport (LHT) agreements and for potential development of services over the 2024–2032 period (about EUR 661 million in total). In the early years of the planning period, funding will mainly be allocated to sustainable transport infrastructure in urban sub-regions and on the state network. Funding will be allocated to projects that support and promote sustainable community structures and sustainable transport and provide social benefits that exceed the investment costs involved.

- The central government is committed to undertake the measures included in the LHT agreements signed with the four largest urban sub-regions in 2020. The central government will likewise commit to undertake all the measures under the LHT agreements moving forward.

Figure 2. Estimated total level of appropriations for transport infrastructure development during the planning period by type of infrastructure. The total level of appropriations includes funding for projects already decided.



Infrastructure planning

Transport infrastructure network maintenance and development require planning, which falls within the responsibility of the Finnish Transport Infrastructure Agency and ELY Centres.

There should be a sufficient and up-to-date plan reserve to allow decisions on new projects to be made on the basis of adequate and up-to-date information. The plan reserve has shrunk considerably in recent years because plenty of projects have been launched while new planning projects have failed to start at a corresponding pace. Since the entire planning process, with all of its phases, takes years (even as many as 6–10 years), planning for potential projects for the years to come should begin years in

advance. It is also sometimes necessary to update prior plans for reasons such as land use developments or changing business needs.

The planning process also involves project assessments that make it possible to compare the effectiveness and profitability of projects. Well-designed project assessments will help prioritise projects of highest national significance, achieve desired effects, use funding more efficiently, and increase transparency in decision-making.

The strategic situational picture of the transport network is geared towards ensuring that the statutory quality levels of transport infrastructure networks, the objectives set for the National Transport System Plan and the guidelines specified for network development are fulfilled when drafting the planning and investment programmes for the transport infrastructure network.

- The Finnish Transport Infrastructure Agency is responsible for updating the planning programme based on the objectives and criteria specified in the National Transport System Plan and the needs identified in the strategic situational picture of the transport network. The planning programme will enable a systematic and long-term pathway from project planning to implementation. The planning programme will guide towards planning the transport infrastructure network efficiently and appropriately so as to achieve the objectives of the National Transport System Plan and make maximum use of EU funding.

- Project assessment will be developed and expanded to cover all development and improvement projects and urban rail projects in order to ensure supply of comparable information. Where necessary, legislative amendments will be made to support this purpose (e.g. Railways Act, Act on the Transport System and Highways).

- The central government will assess whether the statutory objectives of infrastructure network planning and construction should place wider emphasis on densifying the community structure. Methods of planning transport infrastructure networks will be developed in cooperation with various parties.

- Transport infrastructure network planning will receive EUR 23 million per year from funding for basic transport infrastructure management. During the planning period, the amount of funding allocated to planning infrastructure network development will stand at about EUR 160 million, showing an increase compared with the alternative reference scenario.

Classification of the transport infrastructure network and review of the Main Route Decree

The use of appropriations allocated to highway maintenance and development is governed by the Act on the Transport System and Highways. The Act lays down provisions on the quality requirements for developing, maintaining and investing in the state highway network. Furthermore, the Act defines service level categories for travel and transport on highways and the levels of highway maintenance.

The process of drafting the National Transport System Plan included a review of the effectiveness of the Ministry of Transport and Communications Decree on the Main Routes of Highways and Railways and Their Service Levels (the 'Main Route Decree'), which entered into force at the beginning of 2019. The review suggests that, in order for the Decree to retain its significance, the main infrastructure network should only cover the long-distance transport connections of highest national significance. The Decree has only been in force for about two years and the review finds no reason to change the main infrastructure network due to the performance or coverage of connections between nearby regional centres and those of export ports or border crossing points. Likewise, the existing substantial investment needs on the main highway network, which cannot be met, are also a point in favour of retaining the current main infrastructure network. The main routes of the rail network satisfy the service level requirements laid down in the Decree.

The current classification of highways into Class I and Class II main roads is based on the 1992 Decision of the Ministry of Transport and Communications on the Class I Main Road Network and its 1993 Decision on the Class II Main Road Network. As the classification no longer corresponds to the existing operating environment in all respects, it requires reform. The classification plays a role in the service levels for highways specified in Act on the Transport System and Highways, among other things.

- The Main Route Decree will not be amended with regard to service level criteria or network coverage. Developments in traffic volumes will be monitored and the Main Route Decree will be updated as required. The need to take account of advancements in road traffic automation will also be assessed at a later date.

- As the Main Route Decree will not be amended, the parliamentary steering group will pay attention to the gaps in the condition and service levels of European routes, especially needs to improve winter maintenance, and to adequate service levels for border crossing points and their access roads.

- Under the leadership of the Ministry of Transport and Communications, the functional classification of highways required in the Act on the Transport System and Highways will be updated to meet current needs and the objectives of the National Transport System Plan by the end of 2022. In this context, special attention will be paid to the interfaces between highway and private road networks, taking account of the social role of private roads, as well as the interfaces between highways and street networks. The update will be carried out in cooperation with local authorities and private road operators.

Related to the following strategic guidelines:

- **Interregional accessibility**
- Intraregional accessibility
- **Travel and transport service levels**
- **International access to regions**
- Efficiency
- Sustainability

5.2.1.2 Specific measures by type of transport infrastructure

Rail network

The most crucial future challenges for the rail network identified in the strategic situational picture of the transport network include addressing the rail network's maintenance backlog; adapting to climate change; improving the safety of level crossings; securing the rail network's traffic capacity as rail traffic increases; and providing faster train services between regional centres.

Both the main infrastructure network and other sections of the rail network (incl. low-volume rail sections) will require major renovations and improvements during the planning period. According to the strategic situational picture of the transport network, the most prominent renovation needs from the perspective of current traffic can be found on the TEN-T core network and along the main lines on the Helsinki–Riihimäki–Tampere, Kouvola–Luumäki–Vainikkala and Oulu–Tornio sections. On other main lines, significant repair needs exist on the Jyväskylä–Pieksämäki and Tuomioja–Raahe sections and, in addition to these primary sections, also on other rail sections, such as the Tampere–Jyväskylä line.

The most significant challenges in terms of capacity can be found on the main railway between Helsinki and Tampere and northward on the Ylivieska–Oulu section and on the coastal line, especially around Espoo, but also along the entire Helsinki–Turku section, as well as on the Luumäki–Imatra, Luumäki–Vainikkala, Kontiomäki–Oulu and Kontiomäki–Iisalmi–Ylivieska sections. Challenges also exist on other lines between regional centres, particularly between Tampere and Jyväskylä. Current funding decisions will only partially meet the capacity challenges listed above.

There are critical renovation needs of railway yards in Tampere, Kuopio (part of funding already granted), Oulu and Kokkola. Several railway yards also require various simultaneous renovation, improvement or development measures from the perspective of both passenger and freight transport.

Should new needs on top of those mentioned above be identified as part of updating the strategic situational picture of the transport network, these will be taken into account when implementing the National Transport System Plan.

The central government will maintain, renovate and develop the existing rail network. By way of example, development of the important Savo and Karelia lines (Kouvola–Kuopio, Kouvola–Imatra–Joensuu) will continue as part of the East Railway project.

The aim is to implement new, high-speed rail lines through project companies. This will be done without compromising the existing network's maintenance or renovations.

The rail lines of national significance covered by project companies have been identified as part of the National Transport System Plan, in the section dealing with specific regional themes. The section describes the alternative alignment options and a potential decision-making schedule for project companies' railways.

- The central government will raise appropriations for rail repairs and improvements (basic transport infrastructure management) substantially towards the end of the planning period. During the planning period, central government expenditure will amount to a total of about EUR 3.9 billion, equating to an average of EUR 330 million per year. Total funding for rail repairs and improvements in the alternative reference scenario amounts to about EUR 2,982 million over the entire planning period, equating to an annual average of EUR 249 million.

- Funding will be allocated to rail renovations on the most important rail sections, specifically on the main infrastructure network, and to rail improvements to support business and commuting as follows:

- Promoting sustainable mobility in urban sub-regions, with annual costs of EUR 2–5 million;
- Level crossing safety, with annual costs of EUR 15–20 million;
- Improving the performance of significant line sections and railway yards, with annual costs of EUR 10–20 million;
- Improving timber loading areas, with annual costs of EUR 2–5 million.

- The central government will replace the automatic train protection system that is becoming obsolete by implementing the Digirail project in keeping with the relevant study.[23] The estimated cost of the investment for the period from 2021 to 2041 stands at EUR 1,370 million. In addition, implementation will involve estimated costs of EUR 260 million for rolling stock owners between 2025 and 2040.

  Implementing the measures included in the Digirail study will save about EUR 450 million in interlocking replacement investments during the planning period. The cost savings have been factored into the funding allocated to basic transport infrastructure management. A new digital automatic train protection system and traffic management system will improve traffic fluidity, increase the rail network's energy efficiency and reduce future spending on basic transport infrastructure management. During the planning period, central government expenditure will amount to a total of about EUR 390 million, equating to an average of EUR 4–80 million per year over the period from 2021 to 2032.

- Companies owning rolling stock will prepare to have their rolling stock equipped as required for the Digirail project's progress. The central and local governments will ensure that equipping the rolling stock will proceed as planned through ownership steering.

- In addition to the Digirail project and the development projects already decided, a total of about EUR 1,700 million will be allocated to rail network development during the planning period.

- In the area of rail network development, the central government will allocate funding to the most critical and effective projects (incl. renovations) in keeping with the strategic situational picture of the transport network,

23 Digirail study, available in Finnish (English abstract) at: https://www.lvm.fi/-/kohti-digitaalista-ja-alykasta-rautatieliikennetta-1162918.

taking account of progress made by project companies. Central government expenditure will amount to about EUR 900 million over the planning period.

- The central government will pursue a higher service level than required in the Main Route Decree for rail lines within TEN-T core network corridors, such as 25-tonne axle loads and higher speed limits, making use of CEF funding in particular. Special attention will be paid to bottlenecks on TEN-T core network corridors.

- Certain rail links between urban sub-regions will be developed in cooperation between central and local governments using the project company model. The projects promoted through project companies will be taken into account in state rail network maintenance and development so as to ensure the correct timing of the measures targeted at the rail network not covered by project companies. The status of preparations of the project companies and their links to other parts of the transport system are described in the section dealing with specific regional themes. The Plan's financial framework does not cover funding for the development of rail links carried out by project companies due to their substantial cost estimates and specific decision-making processes. Decisions on implementing the rail sections managed by project companies will be made separately in their specific decision-making processes.

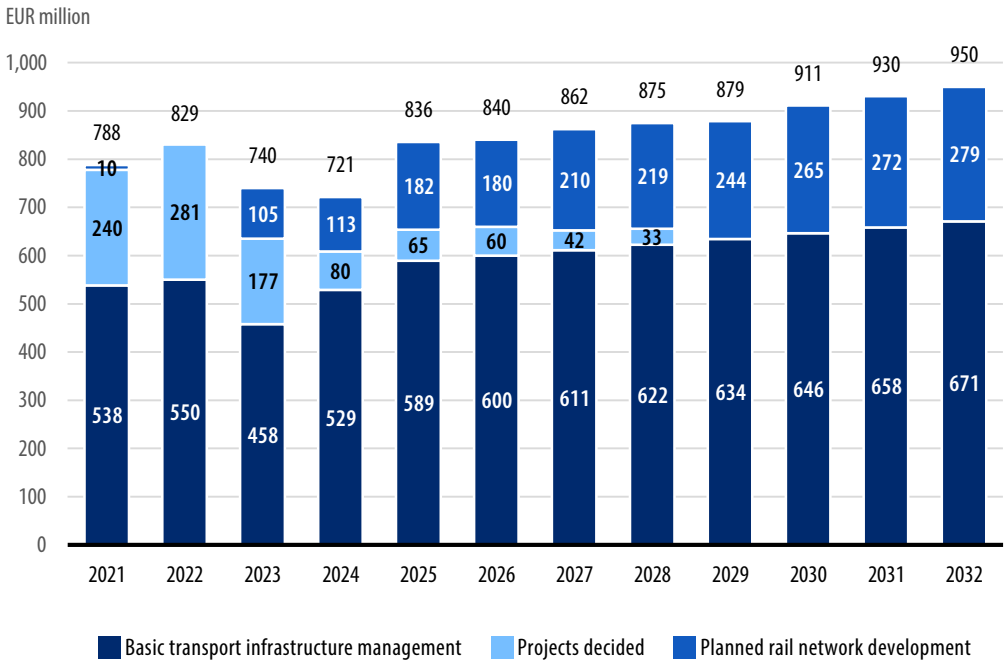
- The rail network's traffic capacity will be improved between regional centres, also taking account of lateral connections in keeping with the transport network's strategic situational picture. Measures will be taken to improve the performance of passenger transport connections between urban sub-regions (e.g. increasing capacity) and to moderately reduce travel times. The measures will improve rail network performance from the perspectives of both freight and passenger transport. Central government expenditure will amount to about EUR 400 million over the planning period.

- The performance of station areas and railway yards (incl. timber loading areas) will be developed to enhance the conditions for sustainable transport and increase customer satisfaction, with a view to improving the operating potential for both passenger transport and the business world. Central government expenditure will amount to about EUR 200 million over the planning period.

- On the rail sections outside the main lines (incl. low-volume rail sections), repairs and development vital for the sections relevant to business and

commuting will be ensured in keeping with the strategic situational picture of the transport network, while also securing funding for the most urgent projects. In other respects, the maintenance levels of low-volume rail sections and their potential closures to traffic will be considered on a case-by-case basis, taking account of their importance to transport. Central government expenditure will amount to about EUR 200 million over the planning period.

Figure 3. Estimated level of funding for state rail network maintenance and development during the planning period.



Road network

According to the strategic situational picture of the transport network, future challenges for the road network involve issues such as the growing maintenance backlog on the wide road network; gaps in the road network from the perspective of heavy-duty vehicles; congestion on access roads to cities and ports; increasing the safety and attractiveness of sustainable transport modes; and reducing adverse effects from transport.

The condition of highway bridges is creating more and more challenges for business transport operations, particularly heavy-duty, special transport operations and other mass transport operations. Climate change adaptation efforts are essential for the road

network throughout the year, particularly with regard to winter maintenance and drying operations. Highway maintenance and development can significantly improve road safety.

The most substantial investment needs on main highway routes alone will amount to about EUR 2–3 billion over the next ten years or so. The strategic situational picture of the transport network indicates that the most crucial gaps in service level in terms of fluidity, safety or adverse environmental effects affect about 200 kilometres of highways. The most considerable development needs focus on Class I main roads 3, 4, 9, 12, 15 and 25, Class II main roads 40 and 50, as well as Class I main roads 2, 5, 6, 8, 13, 19 and 21. Some of these are the same links that do not fully meet the TEN-T core network criteria.

Should new needs on top of those mentioned above be identified as part of updating the strategic situational picture of the transport network, these will be taken into account when implementing the National Transport System Plan.

- The central government will make long-term efforts to develop transport connections in keeping with the Main Route Decree, taking account of the above-mentioned position by the parliamentary steering group on European routes (see the section concerning the classification of the transport infrastructure network). In the context of implementing the Plan (drafting the planning and investment programme), the service level of the main routes will be systematically developed, taking account of their role in transport, so as to bring them up to the Decree's service level requirements.

- Adaptation needs arising from climate change will be taken into account in winter maintenance and its elevated level will also be ensured in the future. On average, annual central government expenditure on highway maintenance and use will be about EUR 20 million higher than the level indicated in the alternative reference scenario. The main infrastructure network accounts for about 30% of funding allocated to highway maintenance and repairs. Besides allocating additional funding to winter maintenance, its methods will be developed and enhanced in cooperation with various parties.

- Funding available for basic transport infrastructure management on highways will be allocated as follows:

    - about EUR 20–25 million per year to vital regional business projects;
    - about EUR 5–10 million per year to road safety improvement projects, such as minor road and intersection arrangements;

- about EUR 10 million per year to projects to promote walking and cycling on the state network;
- about EUR 2–5 million per year to park-and-ride facilities generally on the state network.

During the planning period, expenditure on minor highway improvements will amount to an annual average of about EUR 46 million. This means an average annual increase of about EUR 13 million when compared with the alternative reference scenario.

- In addition to development projects already decided, a total of about EUR 1,390 million will be allocated to road network development during the planning period.

- Funding for road network development will be allocated to improving business operating conditions, commuting needs and road safety. Funding will be targeted at the most significant main infrastructure projects and at improving the service level at specific points throughout Finland in keeping with the strategic situational picture of the transport network. The primary focus will be on links with several gaps in service level as specified in the Main Route Decree. At the same time, highways within the TEN-T core network will be developed to better meet the requirements of the TEN-T Guidelines Regulation. Central government expenditure will amount to about EUR 890 million over the planning period.

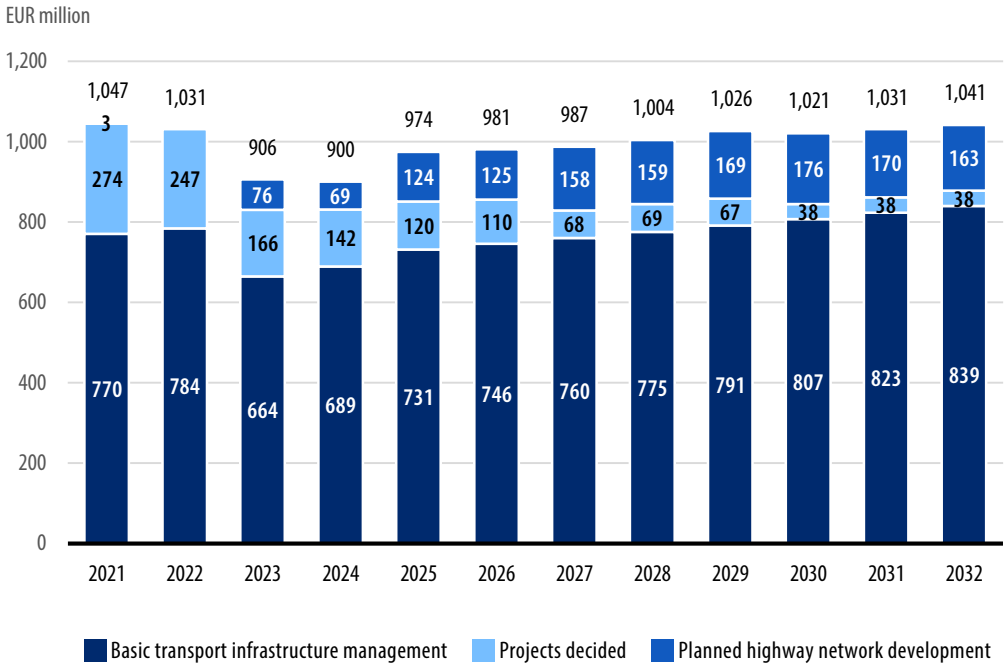
- Furthermore, business operating conditions will be improved in other parts of the road network. Funding will be allocated to critical bridge improvements, port or terminal connections, cost-efficient bridge planning and construction projects to replace road ferry connections, as well as other urgent needs. Central government expenditure will amount to about EUR 300 million over the planning period.

- The central government will contribute to supporting business development and land use through co-financing agreements in municipalities other than those covered by LHT agreements. Central government expenditure will amount to about EUR 200 million over the planning period.

- Representatives of central and local governments and businesses will work together to produce a plan for developing a nationwide network of service and freight transfer areas. The plan will be used as a basis for drawing up an implementation plan, determining the network's development needs as

well as a collaboration model specifying the roles of different parties, while taking account of opportunities to develop a real-time information system. This will also involve examining the maintenance of service areas for heavy-duty transport. Drafting the implementation plan will also cover assessing the placement of heavy-duty traffic control points on key road sections within the limits of available funding. The network of service and freight transfer areas will be developed where demand is highest and plans are ready. The measures and network development will be coordinated with land use planning and taken into account in LHT agreements, for example.

Figure 4. Estimated level of funding for highway maintenance and development during the planning period.



Waterway network and winter navigation

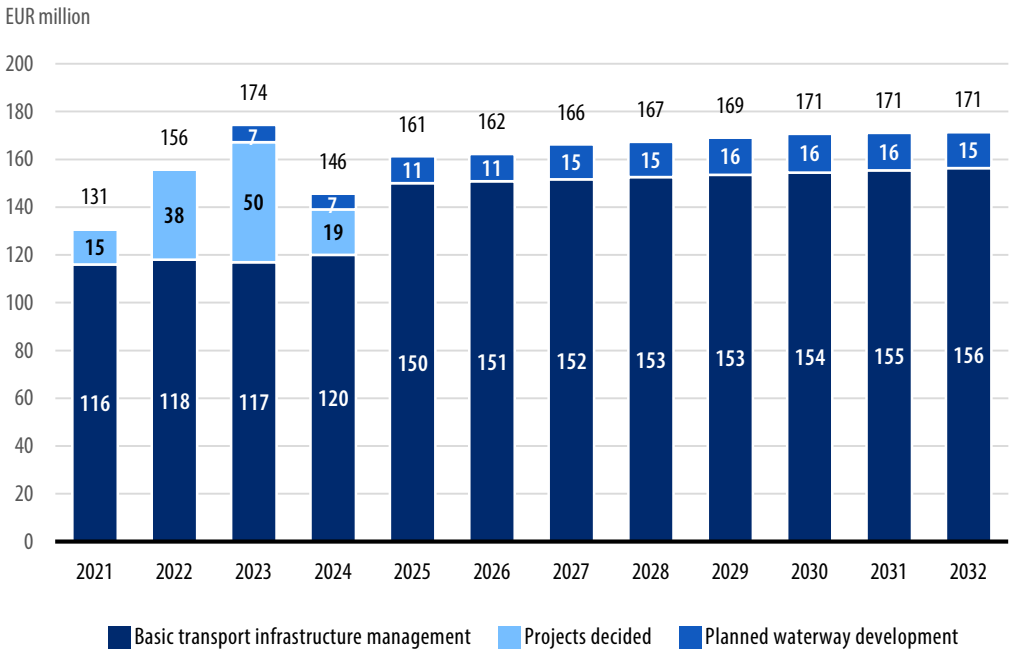
The waterway network primarily caters to business needs in international transport. The strategic situational picture of the transport network indicates that the existing service level of the waterway network mostly meets current business needs. Moving forward, the most advanced vessels will require wider lanes as well as sufficient draught. Nevertheless, business needs are prone to rapid changes with considerable effects on the need to implement projects. Issues of inland waterway transport are discussed below as part of specific regional themes.

- The central government will develop the operating conditions for shipping by ensuring the appropriate condition of safety devices and adding intelligent safety devices to merchant shipping lanes, especially in areas where shipping automation is being developed. During the planning period, expenditure on waterway repairs and improvements will amount to a total of about EUR 214 million, showing a minor increase compared with the level of the alternative reference scenario.

- Waterway development will enable significant industrial investments and related increase in maritime transport. Central government expenditure will amount to about EUR 130 million over the planning period.

- The central government will develop winter navigation by means such as planning new-generation icebreakers in cooperation with Sweden. Funding for winter navigation will be raised towards the end of the planning period, taking account of the need to renew icebreaking service contracts. Additional central government expenditure will amount to a total of about EUR 31 million per year on top of current icebreaking costs (EUR 60 million annually).

Figure 5. Estimated level of funding for waterway maintenance and development during the planning period.



5.2.2 Private roads

Private roads make up the largest part of the road network in terms of length. There are about 360,000 kilometres of private roads maintained by members of road maintenance associations in Finland. They are particularly important for business transport operations and rural populations, for example. When used for through-traffic, private roads also play a role in terms of operational reliability.

The central and local governments support the construction and maintenance of private roads on the condition that the road is managed by a road maintenance association. Central government appropriations are used to ensure equal mobility and to support roads required by permanent inhabitants and businesses. In the alternative reference scenario, discretionary government grants for private roads amount to EUR 13 million per year. Municipal grants to private roads play a significant role in parallel with central government grants, but each local authority decides on the amount of private road grants independently.

- The central government will raise the annual level of discretionary government grants for private road management to EUR 25 million for the period from 2023 to 2032. The central government will also increase the rate of private road grants. Moving forward, grants for ferry landing sites on private roads will cover at least 80% of real operating and maintenance costs.

Related to the following strategic guidelines:

- **Travel and transport service levels**
- **Intraregional accessibility**

5.2.3 Street network

Municipal street networks play a significant role as part of the transport system. Street networks are burdened by a sizeable maintenance backlog (about EUR 2 billion). In terms of national transport system performance, it is important for the interfaces between state highways and municipal street networks to enable fluid, efficient and predictable travel and transport. The measures targeted at street networks highlight the importance of cooperation between central and local governments and reaching a shared strategic intent for road network development. Street networks also play a significant role in terms of walking and cycling and traffic safety.

- Local authorities will invest in their street networks to the extent possible while aiming to reduce the maintenance backlog in a cost-efficient manner. In these efforts, they will take account of aspects such as the prerequisites of road traffic automation, as outlined in measures to assess the level of automation in the section on information and transport system digitalisation below.

- Local authorities will improve the coverage and quality of static street network data for purposes such as automated traffic and asset management, equivalent to what the central government will do on its own transport infrastructure network.

- Local authorities will work together with ports and the central government to ensure that key passenger transport links to nodes and important freight transport connections to ports and other such sites will be safe and fluid on both street and highway networks while also enabling punctual travel and transport. Different parties will work together with a view to developing solutions to improve traffic fluidity and keep urban traffic safe, such as pricing models, digital solutions and traffic control. The measures required may be addressed as part of the land use, housing and transport (LHT) agreements.

- Local authorities will aim to ensure that street networks will not create barriers to fluid transport operations on key routes used for high-capacity transport (HCT) or special transport operations. HCT operations will be directed to carefully considered routes on the street network. The central government (Finnish Transport Infrastructure Agency) will work with local authorities to identify any bottlenecks to current HCT operations on highway and street networks, taking the needs of long vehicle combinations weighing over 76 tonnes and special transport operations into account as part of cooperation with the business world.

Related to the following strategic guidelines:

- **Travel and transport service levels**
- Intraregional accessibility
- International access to regions

5.2.4 Walking and cycling infrastructure

Promotion of walking and cycling is an important part of promoting sustainable transport. The 2018 programme for the promotion of walking and cycling aims to improve the conditions for walking and cycling[24] in municipalities and support reduction of greenhouse gas emissions from transport and improvement of public health in Finland. At the same time, it will work towards a safe and effective transport system and comfortable urban environments. The target for walking and cycling set in the promotion programme is to increase the number of trips by 30% by 2030. The central government's role in promotion of walking and cycling especially involves infrastructure. The walking and cycling infrastructure and its maintenance level, particularly in winter, have a significant impact on the attractiveness of walking and cycling and accessibility of routes. The walking and cycling infrastructure will be developed on both street and highway networks.

- The central and local governments will continue improving the walking and cycling infrastructure on street networks. The central government will extend its discretionary grants to local governments for effective street network projects aiming to improve the conditions and attractiveness of walking and cycling, thus increasing the number and modal share of walking and cycling trips. In the alternative reference scenario, the level of funding for walking and cycling infrastructure on street networks is in line with the 2024 level specified in the General Government Fiscal Plan, i.e. EUR 3.5 million per year. This level of central government appropriations will be raised by EUR 26.5 million per year over the period from 2025 to 2032. The condition for receiving discretionary government grants is that local authorities spend an equivalent sum for funding walking and cycling projects on their street networks. Some of the grants will be allocated to the largest urban sub-regions and those with new land use, housing and transport (LHT) agreements (Kuopio, Jyväskylä and Lahti), which may agree on the use of the grants as part of the LHT agreements. The rest of these funds will be available for all local authorities to apply for. Should the work on the roadmap for fossil-free transport give rise to any additional needs for appropriations on top of those set out in the National Transport System Plan, these will be considered separately.

- The central government will develop the walking and cycling infrastructure on the state highway network by at least EUR 10 million annually.

24 Kävelyn ja pyöräilyn edistämisohjelma [*Programme for the promotion of walking and cycling*]. Available in Finnish (English abstract) at: https://julkaisut.valtioneuvosto.fi/handle/10024/160720.

Furthermore, the central government will ensure adequate maintenance of the walking and cycling infrastructure by reserving appropriate funding for this purpose as part of highway maintenance and repairs. This measure is partially described above as part of the section dealing with highway network improvement projects.

- Local authorities will promote increasing walking and cycling by drawing up programmes for promotion of walking and cycling, planning bike-sharing schemes as part of transport system planning, and working with the central government to improve the quality and availability of information about walking and cycling.

Related to the following strategic guidelines:

- **Travel and transport service levels**
- **Sustainability**
- Efficiency

5.2.5 Park-and-ride facilities

Park-and-ride facilities refer to parking facilities directly catering to public transport, thus serving the creation of fluid travel chains. Park-and-ride facilities are mostly organised by local authorities. The central government will increase its role in funding park-and-ride facilities as part of promoting sustainable transport.

- The central government (Finnish Transport Infrastructure Agency) will reserve EUR 2–5 million in basic transport infrastructure management funding per year for park-and-ride development projects to be carried out in cooperation with local authorities in order to finance park-and-ride facilities connecting to the state transport infrastructure network. This measure is described above as part of the section dealing with highway network improvement projects.

- The central government (Finnish Transport and Communications Agency Traficom) will direct EUR 10 million of discretionary grants per year for development of park-and-ride facilities over the period from 2025 to 2027 (EUR 30 million in total). The grant will make it possible to allocate central government funding to cover a wider range of park-and-ride facilities on street networks (such as those serving underground trains and urban rail

transport). The largest urban sub-regions will pay special attention to park-and-ride facilities for bicycles. Allocation of grants will also pay attention to ensuring that park-and-ride services will be made interoperable with the ticketing and payment systems used by providers of public transport and other services. Some of the grants will be allocated to the largest urban sub-regions and those with new land use, housing and transport (LHT) agreements. Grants would be conditioned on municipal co-financing contributions.

- The central government will coordinate its funding for park-and-ride facilities as part of developing public transport cooperation and the service levels of passenger transport nodes to ensure that park-and-ride facilities are developed consistently and so as to match demand.

Related to the following strategic guidelines:

- Intraregional accessibility
- **Travel and transport service levels**
- **Sustainability**
- Efficiency

5.2.6 Ports

Ports constitute a crucial part of international transport chains and are also important for security of supply. Finland has a dense and comprehensive port network, which has developed to cater for export industries in particular. Ports are mostly incorporated into the ownership of local governments. International maritime transport is managed from 44 ports, with the ten largest ports accounting for more than 80% of international freight transport. The ten inland freight ports are located within the Lake Saimaa area.

Ports provide services to match demand on commercial grounds. The strategic situational picture of the transport network suggests that, moving forward, the most advanced vessels will require wider lanes as well as sufficient draught, which will also create investment needs in port infrastructure. The role of central government is particularly related to sea and hinterland access to ports. Land transport connections mainly meet the needs from port demand. Challenges relating to port access routes and heavy-duty transport service areas are discussed above in the section on the street network.

Ports have utilised EU funding efficiently to develop international maritime transport. The Ports of Helsinki, HaminaKotka, Turku and Naantali are core network ports under the TEN-T Guidelines Regulation.

In recent years, waterway projects have also been implemented using the co-financing model, where ports have contributed to funding on the state infrastructure network.[25] Cooperation in financing waterway projects has accelerated project implementation and, consequently, served the needs of end users, i.e. port customers.

- Waterway projects will be implemented making use of co-financing by the central government and ports where possible. Consistent practices will be determined for joint projects between ports and the central government while guaranteeing equal treatment of different parties.

- The central government will make it possible to transfer the ownership of waterways with access to ports to port enterprises in cases where this is deemed to serve the interests of the port and the central government, considering aspects such as security of supply.

- When developing operating conditions for ports, attention will also be paid to needs for hinterland operations arising from intermodal transfers of traffic and goods flows, such as transport network maintenance, from the perspective of the requirements of preparedness, readiness and emergency conditions.

- The central government will develop highway and rail connections to significant ports making use of project assessment information. Local authorities will be responsible for connections to ports on their street networks.

- The ports and shipyards within the TEN-T core and comprehensive networks will make full use of CEF funding opportunities (motorways of the sea, digitalisation and automation, alternative propulsion systems, and military mobility) in order to improve operating conditions for shipping.

25 Infrastruktuurin kustannusjaon yleisiä periaatteita [*General infrastructure cost-sharing principles*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-ac-cd-c244746849d5/84afb14e-046c-4053-b01a-a1016f99f34e/POYTAKIRJA_20200914073335.PDF.

- Local authorities as port owners and businesses will promote port digitalisation and prepare for increasingly automated shipping, especially in areas where shipping automation is being developed.

- National control over ports will be ensured as part of national security of supply under normal conditions, during incidents under normal conditions as well as under emergency conditions.

Related to the following strategic guidelines:

- **Travel and transport service levels**
- Efficiency
- **International access to regions**

5.2.7 Airport network and airfields

Finland offers airlines an extensive network of airports owned by Finavia Corporation and separate airports in Lappeenranta, Mikkeli and Seinäjoki. In terms of Finland's international accessibility, Helsinki Airport is the most important node, while it is recognised that all airports, including those within three hours' distance from Helsinki, also play a role in this respect. Finavia's airport network operates on the network principle, which means that revenues from profitable airports (mainly Helsinki Airport) are used to cover other airports' maintenance and investments. Airports within Finavia's network have consistent charging policies. According to the transport network's strategic situational picture, Finland's airport capacity is at a sufficient level. The smallest airports are expected to see overcapacity if trends continue in line with forecasts. The strategies of Finnair as an airline and Finavia as an airport company are heavily based on Asian travel, which has helped maintain European and domestic air links that are comprehensive on the Finnish scale.

Finland's specific characteristics also include cooperation between civil and military aviation and shared airports and air navigation services. Regional airports may be granted central government support if they operate outside Finavia's airport network and fulfil the conditions set by the European Union for state aid.

Unmanned and light aviation is also going through a technological transformation (incl. development of electric aviation) and its opportunities should be broadly assessed from the perspectives of the national transport system and reduction of transport emissions.

This topic was considered by a working group in 2020.[26] Development of remote air traffic control is discussed below in the context of traffic management and control.

- The central and local governments and businesses will join forces to develop Helsinki Airport's performance and operating conditions. Ensuring Helsinki Airport's development potential will also enable operations in other airports. The central government will work within the European Union to ensure that airports can continue operating on the network principle. Travel chains to airports will be developed across the country.

- The central government will cooperate with other parties to assess and follow the outlook for air transport in Finland and its effects on regional accessibility, taking account of aspects such as the effects of the coronavirus pandemic. Unmanned and light aviation will also be taken into account.

- The central government will aim to ensure that the three-hour accessibility target will be achieved in areas where the target cannot be met by means of rail transport. Where necessary, the central government will commit to securing air services in accordance with separate decisions.

- The central government will continue its discretionary grants to airports and airfields outside Finavia's network. Support for airfields will be allocated with emphasis on improving the conditions for scheduled services to meet the needs of businesses. Alternatively, support will be provided for aviation-related business development and other functions. Discretionary government grants aim to develop operations and improve profitability. The need for continuing financial support and its effects on the development of a digital aviation market will be assessed. Annual expenditure will amount to about EUR 1 million.

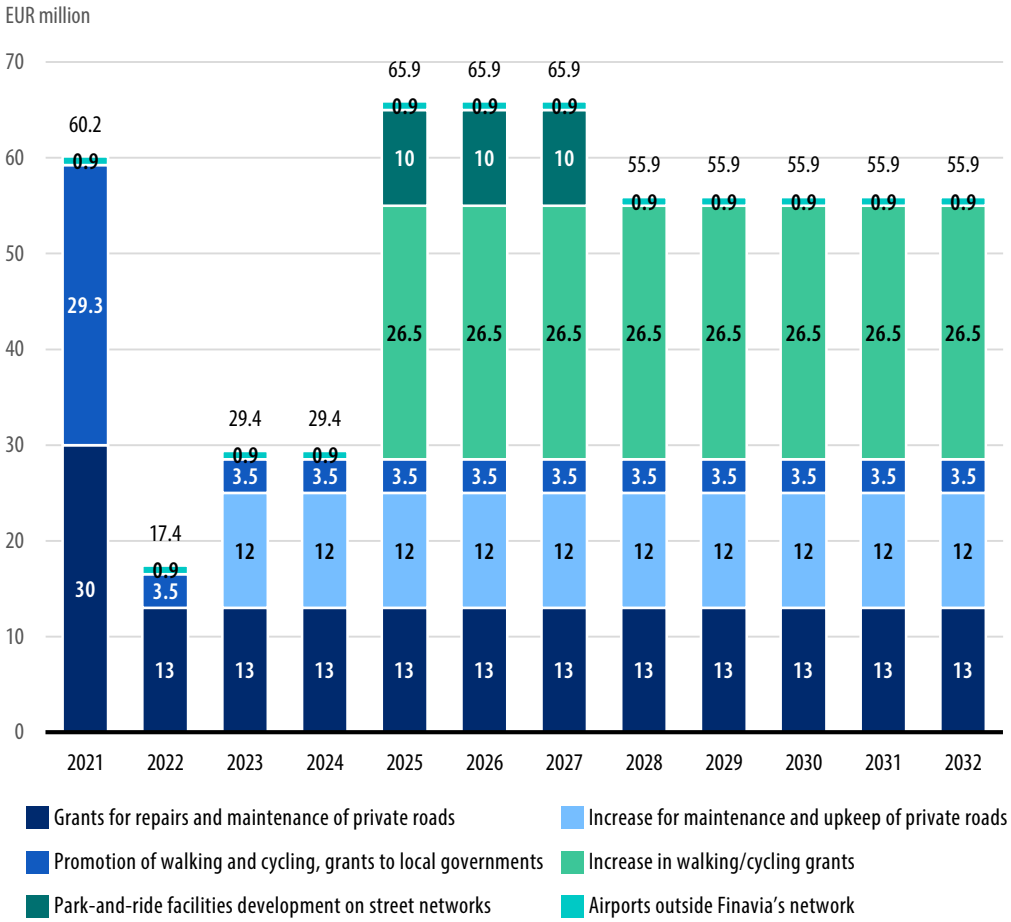
- Operating conditions for airports and airfields will be developed taking account of their maintenance needs, also from the perspectives of the requirements of security of supply, preparedness and readiness, as well as emergency conditions. In its airport maintenance operations, Finavia will also take account of needs for medical services, for example.

26 Digi-ilmailun kehittäminen [*Development of digital aviation*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM054:00/2020.

Related to the following strategic guidelines:

- Travel and transport service levels
- **Interregional accessibility**
- **International access to regions**

Figure 6. Discretionary government grants for purposes other than state infrastructure during the planning period. The figure shows the levels of appropriations in the alternative reference scenario by type of grant and estimated increases in the levels of appropriations under the National Transport System Plan.



5.3 Passenger and freight transport services

5.3.1 Passenger transport services

5.3.1.1 Public transport

In Finland, public transport is mostly publicly funded. Local authorities play a particularly significant role in funding regional and urban public transport. Conversely, long-distance public transport mostly operates on market-based terms. No comprehensive overview is available on the range of market-based and publicly supported public transport services.

The potential for public transport development depends on cooperation between many different bodies and parties. Increasing passenger rail services, for example, requires available rolling stock and a rail network (incl. stations, platforms) that can accommodate such increases. During the planning period, any significant increases in provision of passenger rail services will be limited by rail capacity and rolling stock (especially commuter trains, railbuses and sleeper trains used for contracted services). It is also important to take provision of onboard work opportunities for passengers into account as part of developing long-distance transport. Improving accessibility in public transport is important to make mobility possible for different population groups, such as people with disabilities, older people and children. Accessibility is discussed as a whole in the context of travel chains.

The measures put forward below may, where necessary and by separate agreement, be supplemented with funding reserved for service development and infrastructure projects co-financed by the central government and urban sub-regions, especially towards the end of the planning period.

Provisions are made to carry out measures to revitalise public transport in the wake of the coronavirus pandemic by exceeding the limits of the General Government Fiscal Plan during the early years of the planning period.

Cooperation and monitoring

- The central government (Ministry of Transport and Communications and Finnish Transport and Communications Agency) will develop cooperation between competent public transport authorities and other parties. It is necessary to intensify cooperation between different parties, including public transport authorities, service providers, modes of transport, as well as local and long-distance services. This cooperation pursues better coordination and more efficient use of transport services provided in different ways and modes, as well as closer integration of infrastructure and equipment development

as part of service development. Cooperation will cover public transport development to implement the relevant measures of the National Transport System Plan – such as accessibility and service level targets for long-distance transport – and to provide a basis for drafting the next National Transport System Plan. Special attention will be paid to restoring the attractiveness of public transport after the coronavirus pandemic and to exploring the development needs of the public transport system.

- The central government (Ministry of Transport and Communications and Finnish Transport and Communications Agency) will establish an overview of the range of market-based and publicly supported transport services and monitor developments on the transport market as part of its transport system analysis. This work will also study the status of access to taxi services. The coronavirus pandemic has made it all the more vital to monitor the transport market from the perspectives of identifying the demand situation and targeting supply.

- The central government (Finnish Transport and Communications Agency) will specifically monitor the effects of public transport subsidies on transport emissions and accessibility. The effects of public transport subsidies will be taken into account in allocation. The allocations of additional public transport subsidies presented below are current estimates, which will be further specified as part of drafting the next National Transport System Plan. The levels of subsidy will be determined taking account of developments in public transport in the years to come and information obtained from the effects of the subsidies.

Long-distance public transport and commuter train services

Long-distance public transport – rail, coach and air transport – mostly operates on market-based terms. In addition, the central government purchases passenger rail and air transport services to supplement market-based services. No service level targets have been set at the national level.

As a sector, air transport has suffered considerably from the coronavirus pandemic that broke out in 2020. As international traffic has dwindled, domestic air services have also declined. The situation was considered by the working group focusing on air links

in Kokkola, Joensuu, Kajaani, Jyväskylä and Kemi.[27] Light aviation is going through a technological transformation, offering opportunities that should be broadly assessed from the perspectives of the national transport system and reduction of transport emissions.

- The central government (Ministry of Transport and Communications and Finnish Transport and Communications Agency Traficom) will specify service level targets for key commuting and business links in long-distance (rail, coach and air) transport services. The specification will be carried out in cooperation with other parties in 2021–2022. The central government will commit to implement the service level specified for long-distance transport through passenger transport purchases as of 2025, should the service level fail to materialise on market-based terms. Coach transport services will be jointly purchased by ELY Centres paying special attention to providing onboard work opportunities for passengers. The central government will not purchase competing transport services for the same routes. The central government will review the fulfilment of the service level targets for long-distance transport in good time before the expiry of the public service contract for passenger rail services that is currently being negotiated, while assessing different modes of long-distance transport side by side from the perspective of the objectives set out in the National Transport System Plan. Annual expenditure will amount to EUR 8–10 million over the period from 2025 to 2029 (EUR 48 million in total).

- The central government (Ministry of Transport and Communications) will purchase passenger rail transport services from VR Group Ltd through a direct-award procedure in keeping with the Public Service Contracts Regulation. The contract would cover purchases of sleeper train services as well as commuter train services in Southern Finland. The central government would also purchase long-distance transport services and railbus services on non-electrified rail sections. Negotiations on a contract to cover a maximum period of nine years are currently ongoing. Opportunities to also extend provision of passenger rail services into new areas will be studied with a view to reducing the environmental effects of transport and to expand commuting areas between new centres. The contract will take account of accessibility requirements, intermodal travel chains and the needs of cycling tourism. The effects of the coronavirus pandemic on the contract will be studied as part of

27 Kokkolan, Joensuun, Kajaanin, Jyväskylän ja Kemin lentoliikenneyhteydet –työryhmä [*Working group on air links in Kokkola, Joensuu, Kajaani, Jyväskylä and Kemi*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM050:00/2020.

negotiations. Annual expenditure will amount to about EUR 32 million, which is equivalent to the current level. Some of the costs will be covered from climate-based public transport subsidies.

- The Finnish Transport and Communications Agency Traficom and the Finnish Transport Infrastructure Agency will study the development needs and opportunities of regional rail transport from a national perspective, considering sub-regional views. In the same context, the Agencies will work with other parties to study topics such as tram-train transport – also entertained as a development solution for sub-regional rail transport – and opportunities to advance the solution as well as the costs, challenges and benefits involved.

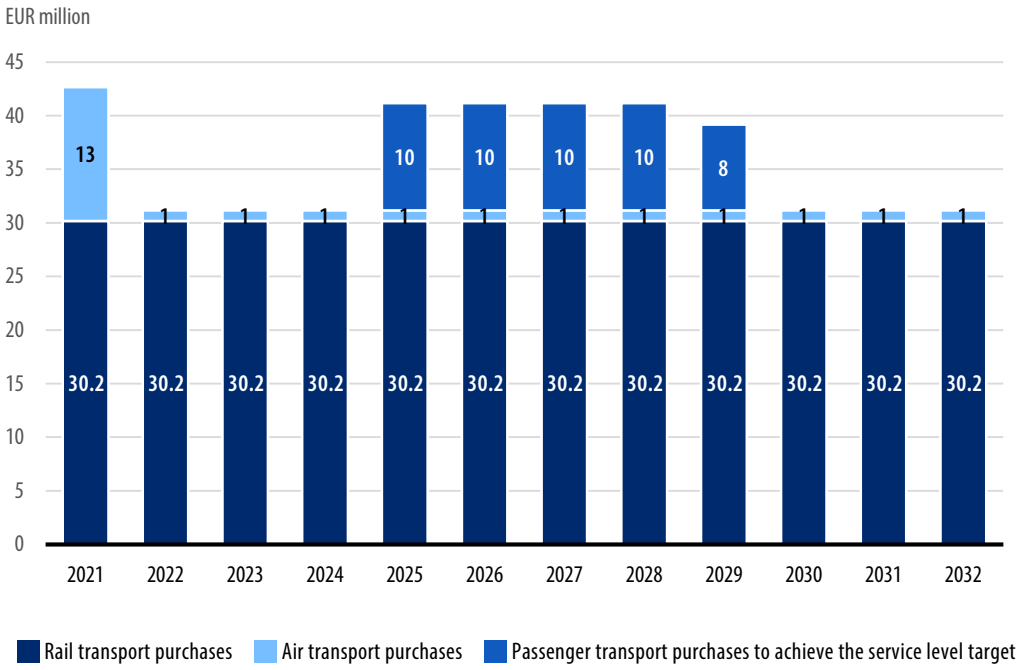
- Under the EU Air Services Regulation, the central government may purchase air services for locations where travel times to Helsinki exceed three hours by train. Such support is conditioned on imposing a public service obligation for managing the air links concerned and on co-financing contributions from local authorities or other regional parties. Annual central government expenditure will amount to about EUR 1 million.

- Due to the coronavirus pandemic, the central government will also support air services to Kokkola–Pietarsaari, Joensuu, Kajaani, Jyväskylä and Kemi–Tornio Airports on a temporary basis through to the end of 2021 to ensure regional accessibility, employment and recovery of export industries. Support measures will be funded in excess of the General Government Fiscal Plan. The aim is to make it possible to resume market-based scheduled air services as of the beginning of 2022.

- Where necessary, the central government will support air routes in accordance with specific decisions, taking account of regional equality and accessibility as well as the needs of the business community.

- The central and local governments will promote the development of air transport services, making use of new technological solutions. Networking between digital aviation operators will be promoted to share best practices and accelerate the field's development, while assessing legislative development needs and those of official functions in the field of aviation from the perspective of digital aviation as a whole.

Figure 7. Estimated levels of appropriations for transport services supplementing market-based long-distance transport services during the planning period.



Public transport subsidies

Local authorities play a particularly significant role in funding public transport now and in the future. The central government will contribute to stimulating public transport and will increase its public transport investments moving forward, once the service level has been restored to a growth trajectory. Additional government subsidies to local governments will require local authorities to make equivalent additional investments in public transport. Additional subsidies will prioritise the largest urban sub-regions and those medium-sized urban sub-regions with better chances for modal shift than their counterparts. In order to improve accessibility, additional subsidies will also be allocated for transport services organised by ELY Centres. Should the work on the roadmap for fossil-free transport give rise to any additional needs for appropriations on top of those set out in the National Transport System Plan, these will be considered separately.

- The central government will prepare for providing stimulative support for public transport, mainly over the period from 2021 to 2024. The support will stimulate the development of public transport use and operations in pursuit of restoring the attractiveness of public transport and its pre-pandemic growth trajectory. The need for support and its distribution and effects will be

monitored and assessed regularly. Support measures will be funded in excess of the General Government Fiscal Plan.

- The central government will reinforce the trunk network of bus transport organised by ELY Centres on the links with highest demand. The service level targets for bus transport organised by ELY Centres will be prepared in conjunction with drafting regional transport system plans, giving special consideration for the needs of regional cities. A further objective is to support integrating rural passenger transport trips to secure minimum passenger transport services. Additional expenditure will amount to EUR 6 million per year over the period from 2025 to 2032 (EUR 48 million in total).

- The central and local governments will increase funding for public transport in medium-sized urban sub-regions as of 2025. The costs will be divided between central and local governments. Some of the funding will be allocated to the urban sub-regions with new land use, housing and transport (LHT) agreements (Kuopio, Lahti and Jyväskylä) and its allocation will be specified as part of the LHT agreement negotiations between central and local governments. Additional expenditure on medium-sized urban sub-regions will amount to EUR 6–8 million per year over the period from 2025 to 2032 (EUR 54 million in total).

- The central and local governments will significantly increase funding for public transport in large urban sub-regions as of 2025. Public transport provision will specifically focus on rail transport and other trunk routes. Additional expenditure will amount to EUR 20 million per year over the period from 2025 to 2032 (EUR 160 million in total). Allocation of funding will be specified as part of the LHT agreements between central and local governments.

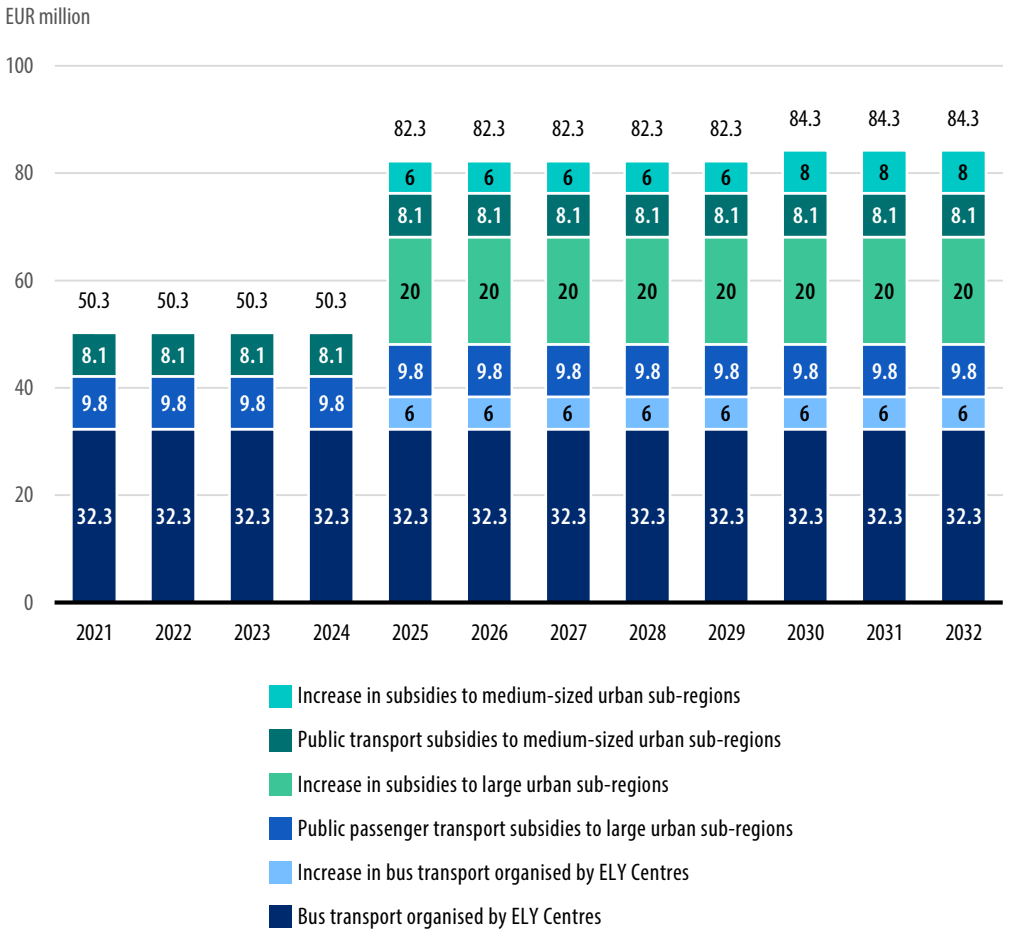
- The climate-based increase in public transport subsidies will remain in place during the planning period. The largest urban sub-regions will receive EUR 7 million of this amount over the period from 2021 to 2023 in accordance with their LHT agreements, while another EUR 2 million per year will be used to purchase rail transport services.

- The central and local governments will develop the whole of public transport services to make them faster and more accessible, reliable and easy to use, while also promoting development of the range of mobility services building on public transport and the fluidity of travel chains.

Related to the following strategic guidelines:

- International access to regions
- **Interregional accessibility**
- **Intraregional accessibility**
- **Travel and transport service levels**
- **Sustainability**
- Efficiency

Figure 8. Estimated increases in public transport subsidies in urban sub-regions and sparsely populated areas during the planning period. The figure shows the levels of appropriations in the alternative reference scenario by form of subsidy and estimated increases in the levels of appropriations under the National Transport System Plan.



5.3.1.2 Travel chains

Travel chain development places emphasis on improving information utilisation and passenger transport nodes. The development needs relating to passenger transport nodes are described in the strategic situational picture of the transport network. Transport networks also play a highly significant role in travel chain development. These are described above in the section on transport networks and nodes. Amenities such as park-and-ride facilities form an essential part of an effective travel chain. Travel chain development measures will be scheduled for the early years of the planning period so as to promote modal shift to more sustainable modes of mobility as fast as possible. A total of EUR 20 million of funding will be allocated to travel chain development, including ticketing and payment systems, nodal passenger information, integrated passenger transport and accessibility, over the period from 2023 to 2025.

Information utilisation in travel chains and improvement of passenger transport nodes

- The central and local governments will promote access to essential transport information as laid down in the Government Decree on Essential Information on Mobility Services (643/2017), such as timetable and route information, throughout the country. In order to improve the quality and national coverage of timetable and route information, Traffic Management Company Fintraffic Ltd will work together with public authorities and businesses to promote information utilisation (information and transport system digitalisation is discussed below under the section dealing with transport system support measures). Should the objectives not be fully achieved on market-based terms, an operating model will be developed to allow the administrative branch of the Ministry of Transport and Communications to assume a role in terms of those functionalities that are not making progress on market-based terms.

- Local authorities and other regional parties organising public transport (public transport authorities, market-based transport operators) will continue their cooperation to improve interoperability between ticketing and payment systems and deployment of real-time passenger information. Development efforts will pay special attention to sparsely populated areas, which have the largest gaps in terms of interoperability between ticketing and payment systems. This will also facilitate easier and more efficient customer access to public transport services in sparsely populated and peri-urban areas where their provision is more limited when compared with other areas. Cooperation will start with link-specific pilots encouraged by the central government by means of funding.

- The central government will specify the target service levels for passenger services and information for key national and international passenger transport nodes. The specification will be carried out in cooperation with other parties, such as local authorities, in 2021–2022 in parallel with specifying service levels for long-distance transport. Furthermore, the central government will support operators at long-distance transport nodes in modernising physical passenger information, so as to improve the fluidity of intermodal transfers while taking account of the needs of different types of passengers (accessibility, language versions). In addition to local authorities, the central government may also support other nodal operators.

- Local authorities will cooperate with other parties to develop key passenger transport nodes, particularly rail transport stations, into sustainable mobility centres. Sustainable mobility centres will combine the modes of mobility and passenger services that are essential for fluid travel chains – such as securing and coordinating operating conditions for shared city bikes and electric scooters and other new types of collaborative mobility services – and they will be key sites for urban development. It is likewise important to develop micromobility services due to the coronavirus situation. Local authorities will assume a strong role in coordinating cooperation between nodal operators (incl. VR Group, Senate Station Properties Ltd, Matkahuolto) and mobility service providers. Nodal operators (incl. state-owned VR Group and Senate Station Properties) and mobility services providers will commit to taking the needs of sustainable mobility services and different user groups (incl. accessibility) into account as part of nodal development and to enhancing cooperation in a travel chain-oriented manner. The central government will increase its opportunities to develop the service level of railway stations and travel centres by further concentrating state-owned properties in station areas.

Travel chain accessibility

Obtaining information about accessibility across travel chains as a whole is currently a challenge. There is no national target state for development of either physical accessibility or access to digital transport services. In terms of accessibility, equal attention will be paid to infrastructure (incl. parking and alternative fuel distribution sites), mobility equipment and digital accessibility. Challenges involved in developing transport nodes are described in the strategic situational picture of the transport network, also covering the perspective of accessibility.

- The central government will cooperate with other parties, especially different population groups, to determine a target state for transport system accessibility and access to digital transport services, while identifying the roles of different parties responsible for both the performance of different travel chain components and fulfilment of passenger rights.

- Alongside general development efforts, the central government will also cooperate with other parties, especially different population groups, to specify the links of national significance where high-standard accessible travel chains will be pursued in keeping with the design for all principle while also ensuring the availability and accessibility of digital accessibility information. The specification will be carried out in parallel with specifying service levels for long-distance transport and passenger transport nodes. Projects will be carried out to pilot accessible travel chains.

Mobility as a Service (MaaS)

- Local authorities will enable mobility services to be developed throughout the country, recognising their role as part of the transport system. Local authorities will promote the creation of mobility services through experiments, public–private cooperation and digitalisation (e.g. intelligent feeder traffic solutions, such as demand-responsive public transport, crowdsourced transport and interoperable systems) as well as enabling land use in keeping with the National Land Use Guidelines. Under the Transport Services Act and the Government Decree on Essential Information on Mobility Services, providers of mobility services are responsible for ensuring the coverage and availability of essential data on their services (incl. timetable and route information), while operators managing ticketing and payment systems on behalf of providers of passenger road and rail transport services are required to provide access to the sales interface of their systems on fair, reasonable and non-discriminatory terms.

- The central government will promote the development of mobility services, where necessary by legislative means, and will assume an active role in seeking authorisation solutions to enable acting on someone else's behalf, for example. The central government will develop an operating model to consolidate cooperation between parties and clarify their responsibilities under the leadership of the Finnish Transport and Communications Agency Traficom and in cooperation with cities and service providers.

Integrated passenger transport services

There would be potential for development in statutory municipal passenger transport services[28] and those subsidised by the Social Insurance Institution of Finland (Kela), if these were considered as an integrated whole from the perspective of client needs. Integrated passenger transport services provided through new types of cooperation could secure minimum passenger transport services, especially in sparsely populated areas. At the same time, it is necessary to ensure that the special needs of different population groups will be taken into account in an appropriate manner.

Regulatory development of Kela-subsidised taxi transport services is also influenced by the Government Programme entry on preparatory work to dismantle multisource financing. The Ministry of Social Affairs and Health has put relevant preparations on hold to wait for the health, social services and regional government reform to proceed. In the context of preparatory work on multisource financing, decisions will be made on the body that will organise and reimburse healthcare-related trips in the future, including those made by taxi.

- The central and local governments will promote integrated passenger transport services with a long-term view. The central government will allocate discretionary government grants to public transport authorities and local governments for integrated passenger transport services.

- The Ministry of Social Affairs and Health, the Ministry of Education and Culture and the Ministry of Transport and Communications will launch work to develop publicly supported transport services in cooperation with the Association of Finnish Local and Regional Authorities and other public authorities and stakeholders.

- The central government will determine the party responsible for promoting integrated passenger transport services through cooperation between the ministries in charge of the effort. This responsible party will then assess the potential to integrate statutory transport services purchased or reimbursed by local authorities and Kela with each other and with public transport by means of guidelines and consistent purchasing practices.

28 Statutory municipal transport services include those laid down in the Basic Education Act (628/1998), the Social Welfare Act (1301/2014) and the Act on Services and Assistance for the Disabled (380/1987, the 'Disability Services Act').

Related to the following strategic guidelines:

- **Interregional accessibility**
- **Intraregional accessibility**
- **Travel and transport service levels**
- **Sustainability**
- Efficiency

5.3.2 Freight transport services

Freight transport services are provided by businesses. The role of central and local governments in freight transport involves transport networks and nodes in particular. As regards freight transport services, the central government promotes business operating potential by means such as facilitating the use of information and through research and development projects. The results of studies will be considered as part of drafting the next National Transport System Plan, for example.

- The central government will explore the opportunities, needs and prerequisites for launching integrated transport services in 2021–2022 in cooperation with other parties. This will involve studying aspects such as demand and supply potential for such services, rail network development needs, equipment requirements, the transport policy measures required, socio-economic and other effects, and identifying potential needs for pilot projects.

- The central government will study the potential for increasing the efficiency of and reducing emissions from logistics chains in the years to come in cooperation with other parties. The study will also cover inland waterway transport and draw on the results of the study on integrated transport services. The study will make it possible to identify pilot projects to test various measures, for example.

- The central government (Finnish Transport and Communications Agency Traficom) will study the socio-economic and other direct and indirect effects of transit transport in the years to come in cooperation with other parties. Transit transport has substantial financial effects on individual operators, such as ports and transport enterprises. At the same time, transit transport has a significant bearing on the maintenance and investment needs of road, rail and waterway infrastructure and the adequacy of transport infrastructure capacity.

Logistics digitalisation

Digitalisation can contribute to enhancing the fluidity and efficiency of transport chains (incl. freight transport nodes) and reducing transport emissions by means of new innovations and operating models. The core of logistics comprises management and utilisation of information across the transport chain, which requires effective and high-standard information flows and sharing between parties as well as transparency of information. Digitalisation can also help develop operations at freight transport nodes. Digitalisation and information are utilised in keeping with the principles of data protection by design and data security by means such as security solutions for interfaces between information systems. Logistics digitalisation is advanced by the measures taken by Traffic Management Company Fintraffic Ltd to promote utilisation of information. Information and transport system digitalisation is discussed below under the section on cross-cutting themes. Logistics digitalisation is discussed in more detail as part of the logistics digitalisation strategy.[29]

- The central government (Ministry of Transport and Communications administrative branch) will cooperate with other parties to promote the development of situational awareness of logistics by increasing the availability and interoperability of digital data between different logistics operators across entire supply chains. Special attention will be paid to the quality and availability of information on arrival and departure times at transport nodes (ports, terminals).

- As part of implementing EU law governing electronic freight transport information (e-FTI) and maritime port notifications, the central government will cooperate with other parties to create operating conditions for intermediary platforms that promote data sharing, while working with parties operating in the sector to define the principles, processes and roles of information sharing and utilisation (incl. data protection by design and data security).

- The central government will promote the development of statistics compilation on freight transport by means of digital data in cooperation with other parties. The central government (incl. Traffic Management Company Fintraffic Ltd) will work with other parties to study the potential to improve access to information about dangerous goods transport across transport chains and for use by public authorities.

29 Logistiikan digitalisaatiostrategia [*Logistics digitalisation strategy*] (Government Project Register). Available in Finnish (English summary appendix) at: https://julkaisut.valtioneuvosto.fi/handle/10024/162463.

Urban logistics

- The central government will promote urban logistics development by legislative means and by targeting research and innovation funding and supporting efforts to apply for EU funding for municipal and business pilot projects covering subjects such as utilisation of new technologies and use of information for integrated transport services. Local authorities will be encouraged to make use of and experiment on digital aviation services. Furthermore, the central government will support local authorities in cooperation on urban logistics, such as in drawing up planning guidelines in municipal collaboration.

- Local authorities will create opportunities for lower-emission urban logistics by means such as promoting the use of low-emission vehicles through land use and construction solutions and in public procurement.

Related to the following strategic guidelines:

- **Travel and transport service levels**
- **Sustainability**
- **Efficiency**

5.4 Cross-cutting themes in transport system development

5.4.1 Traffic safety

Railway safety is at a good level in Finland, similar to the safety status in merchant shipping and commercial air transport. Conversely, road safety leaves room for improvement. Finland's road safety work is also based on the EU 'Vision Zero', which posits that the transport system must be designed such that no-one needs to die or sustain serious injuries in road traffic. There is an ongoing process of drafting a transport safety strategy extending to 2026, which aims to improve traffic safety in all modes of transport.[30] Its objective is to improve traffic safety across the board and create the conditions for safe transport development in the future. Special attention will be paid to traffic behaviour and transport digitalisation and automation.

30 Liikenneturvallisuusstrategia [*Transport safety strategy*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM054:00/2019.

Factors contributing to traffic safety include good infrastructure maintenance and improvement, as well as instruments such as Directive (EU) 2019/1936 of the European Parliament and of the Council amending Directive 2008/96/EC on road infrastructure safety management (the 'Road Safety Directive'), which is currently being implemented at the national level. The Directive introduced an obligation to carry out a network-wide road safety assessment by 2024 at the latest. Its aim is to identify infrastructure-related accident risks and target investments so as to improve road safety.

- The central government is committed to the EU 'Vision Zero' for road safety, according to which no-one needs to die or sustain serious injuries in road traffic by 2050. The target for 2030 is to halve the number of fatalities and serious injuries. In terms of fatalities, this amounts to less than a hundred individuals per year. The central government will draw up a long-term transport safety strategy guided by the Vision Zero described above. The central government will also have a traffic safety strategy in place throughout the period covering the National Transport System Plan. Furthermore, progress made in traffic safety and the strategy's update needs will be regularly reviewed as part of the transport system analysis. Long-term funding for traffic safety efforts will be secured.

5.4.2 Information and transport system digitalisation

The central government makes use of the opportunities provided by information as part of transport system development, which supports advancements in automation, travel and transport chains, new services, etc. In Europe, data is shared across borders in an interoperable format while information critical to the functioning of society is identified and protected by the necessary means.

In order to make full use of physical infrastructure and develop effective passenger and freight transport services, it is necessary to build a layer of digital data on top of physical infrastructure. Real-time modelling of transport infrastructure and traffic events – i.e. creating their 'digital twins' – makes it possible to manage, process and share traffic-related data, optimise traffic and develop new services. Besides digital modelling, it is necessary to create a legislative framework for data sharing, develop real-time situational awareness of traffic in all modes of transport and coordinate basic digital business services.

Legislative framework for information utilisation

- The central government (Ministry of Transport and Communications) will cooperate with other parties to study how to share digital data collected by

vehicles on traffic safety and fluidity between different parties so as to benefit everyone. The central government will create a legislative framework for data sharing. The study will specifically establish how situational, location and route data necessary for vehicle automation can be shared between those requiring it in an interoperable format, taking account of data protection and data security. Furthermore, it will explore the opportunities to make use of spatio-temporal geographic information systems based on satellite navigation.

- The central government (Ministry of Transport and Communications) will also cooperate with other parties to determine the responsibilities of those producing, distributing and consuming data.

Basic digital business services

- The central government will support transport system digitalisation by improving data availability and usability with help from Traffic Management Company Fintraffic Ltd. This will make it possible to offer transport service providers uniform and fair operating models for developing multimodal services, which will create the conditions for generating new digital transport and logistics services. Besides data and technological platform construction, it is necessary to develop shared structures and standards, new investment solutions, other basic digital business services (e.g. capacity, timetable and location data and authentication) and contractual structures for collaboration, as well as adequate coordination, which would be assigned to Traffic Management Company Fintraffic Ltd. This measure will enable collection of essential data on mobility services such as timetable and route information (discussed above in the section on travel chains) and logistics digitalisation (discussed above in the section on freight transport services). Total expenditure will amount to about EUR 25 million over the period from 2022 to 2024.

Information utilisation in state transport infrastructure management

- The central government (Finnish Transport Infrastructure Agency) will improve the coverage and quality of static data on state transport networks for purposes such as automated traffic and infrastructure asset management.

- Opportunities to make wider use of dynamic data collection and analysis in transport infrastructure maintenance through communications networks will be studied and piloted under the leadership of the Finnish Transport

Infrastructure Agency. The work will pay attention to the needs of efficient asset management, winter maintenance, automation and logistics, etc. It may make use of existing tools, such as condition observations and data modelling by the Finnish Meteorological Institute.

Expenditure on utilisation of static and dynamic data and development investments and making basic data resources available in a usable format ('digital twin') are included in funding for pilot projects, which is discussed in the section on funding allocations.

Promoting automation in different modes of transport

The objectives of transport automation include human-centric development, better utilisation of information from the perspective of automation, as well as an enabling regulatory framework both at the international and, where necessary, the national level. This aims to achieve safer, more efficient and sustainable transport. Transport automation is discussed in more detail in the action plan on legislation and key measures of transport automation.[31]

- An assessment of the target level for road transport automation on different sections of the infrastructure network (incl. street networks) and a vision for measures to promote automation in keeping with the assessment will be drawn up under the leadership of the Ministry of Transport and Communications, the Finnish Transport and Communications Agency Traficom and the Finnish Transport Infrastructure Agency. The assessment will be prepared in cooperation with local authorities.

- Following the above-mentioned assessment, the Ministry of Transport and Communications will assess the need to supplement existing legislation with new instruments to promote automation and provide guidance on the levels of services and maintenance on highways.

- The central government will work with other parties to carry out pilots and experiments on automation in all forms of transport. Funding for pilot projects is discussed in the section on funding allocations.

31 Liikenteen automaation lainsäädäntö- ja avaintoimenpidesuunnitelma [*Action plan on legislation and key measures of transport automation*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM059:00/2019.

5.4.3 Traffic management and control

Traffic management and control' refers to ensuring safe, efficient and undisrupted movement of various traffic flows.

Traffic management covers air navigation as well as road, rail and maritime traffic control. As the owner of the infrastructure network, the Finnish Transport Infrastructure Agency is responsible for traffic management and control on state highway, rail and waterway networks. Providers of air navigation services are appointed by the Government. Traffic control and management services for all modes of transport are provided by Traffic Management Company Fintraffic Ltd, a fully state-owned company organised into the following subsidiaries focusing on different modes of transport: Fintraffic Railway Ltd is responsible for railway traffic control and management; Fintraffic Road Ltd is responsible for road traffic control and management; Fintraffic Vessel Traffic Services Ltd is responsible for maritime traffic control; and Fintraffic Air Navigation Services Ltd is responsible for air navigation.

Road, rail and maritime traffic control and management are funded from allocations to basic transport infrastructure management. Air navigation costs are mostly covered by user charges. Traffic control and management costs are included in the transport services of basic transport infrastructure management, with total expenditure of about EUR 3,250 million over the planning period, equating to an annual average of EUR 271 million. In addition to traffic control, these services also cover winter navigation, for example.

Airspace management operations are largely based on supranational regulation. Development of the Single European Sky, for example, aims to harmonise European airspace to allow capacity maximisation and reduction of costs arising from provision of air traffic services. A specific characteristic of Finnish airspace management is the fact that air navigation services are shared by civil and military aviation, bringing efficiency into the system. Railways are likewise governed by EU provisions on the European Rail Traffic Management System/European Traffic Control System (ERTMS/ETCS), which the Member States will need to introduce as their national traffic control systems become obsolete. Modernisation of the automatic train protection system (Digirail) is discussed above in the section on rail network development.

The key to developing traffic management and control in all modes of transport is to improve real-time situational awareness of traffic on a continuous basis, which also serves digitalisation and information utilisation across the transport system as a whole. The mode of transport that has advanced the furthest in this respect is air transport, which is using traffic data and process digitalisation to support growth in unmanned transport (drones) by integrating it safely with traditional aviation, working with Estonia to create a seamless model for provision of air navigation services and making use of remote air traffic

control to enable air transport on low-volume airports, as well as laying the groundwork for creation of new aviation services. The working group studying digital aviation development also examined aspects such as the low-altitude aviation network and new types of airspaces involving unmanned aviation services. At present, development functions are not fully included in funding for basic transport infrastructure management. Development funding relevant to the theme is discussed in the section on pilot projects.

- The central government will cover basic funding for traffic management and control to enable further operational development and prevent incidents and accidents, as well as to enhance the efficient use of infrastructure capacity, improve traffic fluidity, reduce transport emissions and meet the needs of transport automation and digitalisation.

- The central government will develop traffic management in all modes of transport to better meet customer needs. Changes in the operating environment will be taken into account in development efforts.

- In road transport, the central government and other parties will promote the creation of a real-time, nationwide situational awareness system.

- In maritime transport, the central government and other parties will promote the development of digital information services in maritime traffic management for both manned vessels and future remote-controlled vessels, which will also support remote pilotage.

- In aviation, the central government will study establishing a low-altitude aviation network to improve performance in military aviation and border control as well as among aviation operators responsible for medical helicopter services, in particular, in the course of 2021. Such a low-altitude aviation network would consist of a GPS-based route network and instrument landing systems (ILS), which would also enable efficient aviation in less than visual meteorological conditions. The study will assess whether the low-altitude aviation network should be open to all aviators.

- The central government will prepare to establish new types of airspaces involving unmanned aviation services (U-space) in Finland's airspace after the relevant EU legislation becomes effective. The purpose of U-space airspaces is to enable safe and managed unmanned aviation that would not disrupt or endanger manned aviation while allowing for viable development opportunities for unmanned aviation. U-space airspaces would promote

the development of autonomous unmanned aviation and related business opportunities in Finland in areas such as urban logistics.

- The central government and other parties will also prepare for the transition to satellite navigation in aviation in 2030 and will create procedures for disruptions in satellite navigation. In this context, they will study how to share digital data collected by digital aviation operators between different parties so as to benefit everyone.

5.4.4 Communications networks

Development of communications networks is important in terms of transport system development as well as multi-local living, remote work and use of digital services, etc. Their development may bring about reductions in demand for physical transport and its traffic performance.

- The central government will also promote communications network development to meet the needs of the transport system in keeping with the digital infrastructure strategy extending to 2025.[32] The aim is to ensure that comprehensive communications available on transport routes and at nodes (such as ports and terminals) are sufficient to meet each specific need. The digital infrastructure strategy covers measures for both promoting 5G deployment and supporting optical fibre construction, taking account of both business and consumer needs. The key measures of the digital infrastructure strategy include frequency policy measures to promote the construction of 5G networks, promoting fast and cost-efficient network construction, and supporting research, innovation and testing as well as development of intelligent transport and transport automation by means of communications network policy. Where necessary, the central government will participate in building fibre-optic connections at transport nodes and on main routes and other routes that are key to piloting, in order to secure an infrastructure solution that supports emerging transport automation.

- Moving forward, the central government (Finnish Transport and Communications Agency) will also continue to maintain information about the current state and development needs of digital infrastructure on the

32 Turning Finland into the world leader in communications networks – Digital infrastructure strategy 2025. Available in English at: https://julkaisut.valtioneuvosto.fi/handle/10024/161434.

transport network and at transport nodes as part of the transport system analysis, taking account to changes in the operating environment.

- The central government will make use of EU funding in communications network construction projects by means such as influencing its allocation criteria at the EU level and disseminating information about EU funding opportunities to constructors. Development projects relevant to communications networks are included in pilot projects, which are discussed below in the section on funding allocations.

- The central government will encourage VR Group and telecommunications companies to agree on the measures required to improve mobile signal strength on trains and the costs involved.

5.4.5 Transport system preparedness and security of supply

The transport system should provide prerequisites for operating under normal conditions, during incidents under normal conditions as well as under emergency conditions as referred to in the Emergency Powers Act. Preparations for incidents and emergency conditions are made to ensure that the transport system will remain safe, reliable and usable for as long as possible both during severe incidents under normal conditions and under emergency conditions. The types of disruptive transport system incidents for which it is necessary to prepare are specified in the Emergency Powers Act, in legislation governing the Ministry of Transport and Communications branch and in the Security Strategy for Society.[33] Preparedness also covers relevant cooperation between public authorities and businesses as well as international cooperation, especially in the areas of information exchange and situational awareness.

In order to function properly, the systems used for technological implementation of transport system services require secure information networks and systems, reliable and secure spatio-temporal geographic information systems and, in particular, undisrupted supply of electricity. At the same time, future transport system performance will be increasingly based on information and data processing and transmission. This will set new requirements for data security, i.e. the integrity, reliability and usability of the data used in the transport system. Moving forward, the climate target set for the transport sector calls for energy policy to take the availability and distribution of alternative propulsion systems for transport purposes into account. Weather conditions and the increasingly prevalent

33 Security Strategy for Society 2017. Government Resolution. Security Committee, 2017.

extreme weather events due to climate change are already among the leading causes of traffic disruptions. They are also behind disruptions in electricity distribution, which have significant effects on transport system performance from time to time. In the future, interdependencies between the transport system and other systems will become stronger, placing new challenges on transport system preparedness.

The transport system plays a key role in terms of Finland's national defence and security of supply. Consequently, transport system planning and development of security of supply will take account of the security of supply requirements relevant to the population and business life, as specified in the Government Decision on the Targets of Security of Supply (1048/2018), issued by virtue of the Act on the Protection of National Emergency Supply (1390/1992). These include, in particular, domestic transport services that are critically important to business life and the functioning of society, as well as the population's incomes and wellbeing. Critical infrastructure and other factors of production also play a role in terms of security of supply. In addition to main routes, these especially include year-round maritime transport, ports and airports, transport equipment, competent staff, spatio-temporal geographic information systems and traffic management and control systems. The significant role of critical transport system infrastructure and services in terms of national security is recognised and acknowledged. It is also important for security of supply to screen and, should a key national interest so require, restrict any transfer abroad of influence over provision of critical transport system infrastructure and services, as provided in the Act on the Screening of Foreign Corporate Acquisitions (172/2012). Consideration is also given to the Act on Transfers of Real Estate Requiring Special Permission (470/2019) and Regulation (EU) 2019/452 establishing a framework for the screening of foreign direct investments into the Union (the 'FDI Screening Regulation').

Ensuring the transport system's security of supply will also serve the needs of national defence. Furthermore, public authorities make contingency plans to prepare for both emergency conditions and for situations where the Finnish Defence Forces need to raise the level of readiness. The transport system must also be able to guarantee sufficient, critical operating conditions for business life, civil society and national defence alike in these situations as well.

The key action plan themes relevant to transport system preparedness, security of supply and incident management include state transport infrastructure network maintenance and development, development of transport nodes (airports and ports in particular), traffic management and control, communications networks, information utilisation, winter navigation, and cross-border traffic.

- The central and local governments and other parties will prepare for transport system incidents as required by law and the Security Strategy for

Society. Such preparations will take account of the fact that undisrupted transport system performance will be increasingly dependent on other systems, such as the ICT and energy sectors.

- The central and local governments and other parties will take the effects of climate change into account in transport system development. The central government (Finnish Meteorological Institute) will take the future increase in extreme weather events into account in the weather, marine and condition services that it provides for the transport system. The aim is to produce increasingly real-time information on weather conditions, alerts and forecasts while improving the effectiveness and availability of condition information.

- The central government will develop risk-based cybersecurity and data protection for transport and communications infrastructure, as well as for traffic management and control, transport equipment and services that make use of the infrastructure. The central government will develop cybersecurity situational awareness in all modes of transport.

- The central government will take the needs of security of supply and national defence into account in transport system development, including infrastructure network maintenance and planning. The Government Decision on the Targets of Security of Supply[34] specifies the targets for the critical infrastructure of a digital society and logistics networks and services, for example. Connecting Europe Facility funding for military mobility will be utilised to develop security of supply.

Related to the following strategic guidelines:

- International access to regions
- Interregional accessibility
- Intraregional accessibility
- Travel and transport service levels
- **Sustainability**
- **Efficiency**

34 Valtioneuvoston päätös huoltovarmuuden tavoitteista 5.12.2018 [*Government Decision on the Targets of Security of Supply of 5 December 2018*]. Available in Finnish at: https://valtioneuvosto.fi/paatokset/paatos?decisionId=0900908f805f483d.

5.4.6 Directing demand towards sustainable transport

In addition to transport policy measures, making a modal shift to sustainable modes of mobility (public transport, walking, cycling and other sustainable mobility services) also calls for economic steering instruments and land use supporting sustainable transport, for example. Mobility needs may also be affected by access to services. As remote services (e.g. healthcare) and remote work and study are becoming more prevalent, the patterns of mobility are changing and opportunities for reducing mobility needs or using more sustainable modes of mobility may increase. Fast broadband connections are a prerequisite for location independence, forming the basic infrastructure that enables business activities and remote work across the country.

Measures to achieve the emission reduction target for transport and their effects will be compiled into the roadmap for fossil-free transport.

Land use and regional structure

Regional and community structures have a significant impact on demand for transport. With regard to land use, the National Transport System Plan has been drafted taking account of Finland's National Land Use Guidelines issued by virtue of the Land Use and Building Act and the currently ongoing reform of the Land Use and Building Act.[35]

- The central government will take the National Transport System Plan into account when reforming the Land Use and Building Act and the National Land Use Guidelines.

- Local authorities and regional councils will promote low-carbon and resource-efficient community development and sustainable mobility by means of land use. The guidelines and criteria for transport infrastructure network development included in the National Transport System Plan will be taken into account in land use. Local authorities and regional councils will promote transport and land use planning as an integrated whole, making use of impact assessments as key part of planning.

- The central government will draw up long-term perspectives for the regional structure in Finland during the years to come in a cross-administrative manner and in cooperation with different parties, making use of the transport system analysis by the Finnish Transport and Communications

35 Maankäyttö- ja rakennuslain kokonaisuudistus [*Comprehensive reform of the Land Use and Building Act*]. Available in Finnish at: https://mrluudistus.fi/.

Agency Traficom. The development overview can be used in transport system planning at different planning levels.

Distribution network for alternative fuels

- The central and local governments will promote the construction of a distribution network for alternative fuels for both passenger and freight transport across the country through measures to be specified in the roadmap for fossil-free transport. EU funding will be utilised to build distribution networks for alternative fuels.

Mobility management

It is possible to facilitate people's shift towards sustainable transport by means such as advice, marketing, mobility planning, as well as service coordination and development. The central government is currently supporting local authorities and non-profit organisations through discretionary government grants for mobility management at about EUR 1 million per year.

- The central government will increase funding for mobility management and raise the appropriations allocated to local authorities and non-profit organisations to EUR 2.5 million as of 2025. Furthermore, discretionary government grants will be expanded to cover private-sector employers for the purpose of workplace mobility management as of 2025. Some of the grants to local governments will be channelled into drawing up sustainable mobility plans and parking strategies in urban sub-regions. Should the work on the roadmap for fossil-free transport give rise to any additional needs for appropriations on top of those set out in the National Transport System Plan, these will be considered separately.

Parking policy

- Local authorities will ensure that parking policy is linked as an integral part of municipal transport system planning and sub-regional and regional transport system work. Local authorities will contribute to efficient use of parking areas and development of parking-related information and payment services, among other things.

- The central government will aim to promote urban sub-regions' transition to market-based parking (the 'user pays' principle) while contributing to municipal parking strategies as part of mobility management projects funded through discretionary government grants.

Related to the following strategic guide-lines:

- Sustainability
- Efficiency

5.4.7 Enabling sustainable business growth in the transport sector

Finland is home to tens of thousands of businesses operating in the transport sector, which employ hundreds of thousands of people. The sector invests heavily in innovation, product development, export and growth through ecosystems. Public bodies play an enabling role in experiments of new technologies and services and in scaling these, especially through public procurement. In recent years, efforts have been made to develop innovative public procurement, which plays a key role in terms of business growth, employment and development work in the sector. The Ministry of Economic Affairs and Employment and the Ministry of Transport and Communications have produced the National Growth Programme for the Transport Sector,[36] which is currently being updated to create a sustainable growth programme for the transport sector, while the Ministry of Finance has published a National Public Procurement Strategy. Furthermore, guidance in sustainable and innovative public procurement is provided by the Finnish Competence Centre for Sustainable and Innovative Public Procurement (KEINO), operating under the auspices of the Ministry of Economic Affairs and Employment. Business growth will contribute to growing the national economy, which will indirectly help to achieve the objectives of the National Transport System Plan.

- The central and local governments will develop their public procurement in the transport sector, pursuing growth in the number of innovative public contracts. Special attention will be paid to purchasing sustainable transport sector products and services so as to involve all parties in the process and ensure viable markets. Procurement specifications and consideration of innovation advancements in the sector will be developed by means such as improving procurement competence. Public procurement will be used to support sustainable growth in the sector.

36 National Growth Programme for the Transport Sector. Available in English at: https://tem.fi/en/transport-sector-growth-programme.

5.5 Specific regional themes

All of Finland's regions have their specific characteristics. The specific regional themes discussed here include major rail project companies; inland waterway transport in Eastern Finland; commuter vessel and road ferry transport in archipelago areas; long transport distances particularly affecting businesses based in Northern and Eastern Finland; and cross-border traffic. The central government approaches inland waterway transport from the perspective of freight transport. Road ferries constitute part of the highway network and are funded from allocations to basic transport infrastructure management. Commuter vessel transport especially guarantees people's opportunities to live in the Turku archipelago as well as in the Uusimaa and Kymenlaakso regions. The particular focus in urban sub-regions, in turn, is on solving transport system issues resulting from urbanisation and climate change, which is why agreement-based models used between the central government and urban sub-regions in the transport sector are also discussed in this context. The Helsinki Metropolitan Area has its own special role in Finland's transport system. In addition, this section also covers transport issues in other agreements.

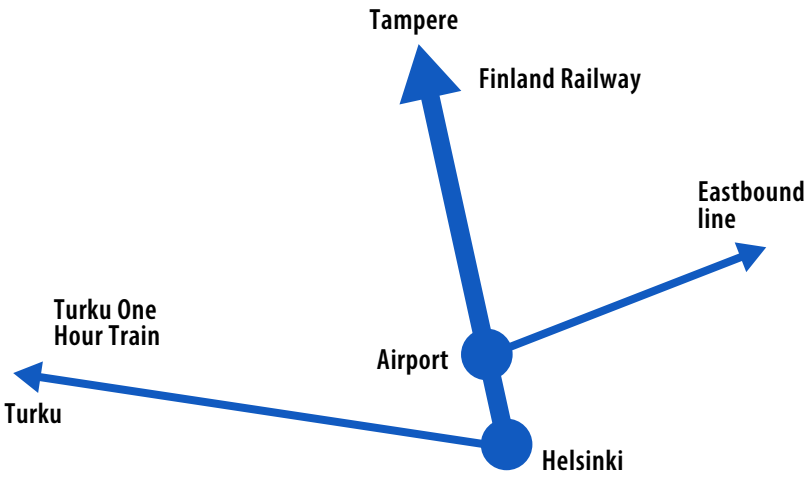
5.5.1 Major rail project companies

Planning of major rail projects is carried out by specific project companies, Finnish Rail Ltd and Turku One Hour Train Ltd, which were established in 2020. The State of Finland owns a 51% share in both project companies. The Ministry of Transport and Communications is engaged in ongoing negotiations with local authorities and potentially other public corporations benefiting from investment in eastbound railway transport with a view to establishing a project company.

Financing for project companies is addressed separately from other funding included in the National Transport System Plan without attempting to fit it into the Plan's financial framework. The project companies established to deal with planning have already been allocated budget funds. Negotiations on the eastbound rail project company are subject to a Parliament decision on the use of appropriations. Any eventual construction decisions to be made on the basis of more specific plans will also likely require private financing alongside public funding. In other words, any decisions on implementing the major rail projects will be made at a later date between the parties involved in construction. It is also possible to apply for CEF funding to cover the planning costs of project companies, which would reduce the amount of capital required from the owners. Regardless of the establishment of and negotiations concerning project companies, the renovation and improvement needs of the existing rail network were discussed as a whole in the context of drafting the National Transport System Plan.

Figure 9 provides a rough outline of rail links of national significance, which will be developed by the recently established project companies and the company that is currently being planned.

Figure 9. Major rail projects.



Finland Railway

Background information

Finnish Rail Ltd is responsible for promoting the planning of a rail link between Helsinki and Tampere via Helsinki Airport up to the point when it is ready for construction.

The planning costs of this Finland Railway project amount to a total of about EUR 150 million, covering the planning of the Airport Line and a potential new rail link. The project's estimated construction costs stand at about EUR 4.7–5.5 billion, covering the Airport Line (EUR 2.65 billion) and a new double-track line. The estimate for construction costs will be further specified during the planning process and it will also depend on details such as the rail alignment to be chosen at a later date. The planning process will finish around 2025 for the Airport Line and in the late 2020s for the rail corridor.

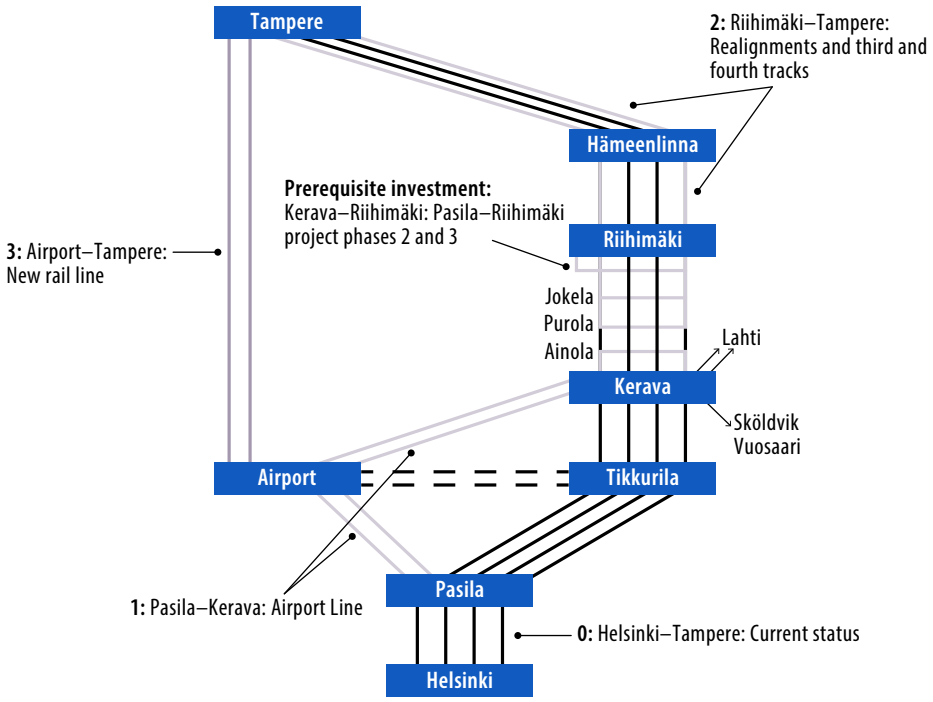
Link description and its role as part of the national transport system

As part of the rail link between Helsinki and Tampere, Finland Railway would contribute to improving its capacity, speed levels and other service level factors. The Airport Line is a new double-track line running northwards from the Pasila station towards Helsinki Airport and further on, to eventually connect to the main railway somewhere near Kerava.

There are alternative options with different service levels for implementing the link between the airport and Tampere. The link's alignment options are described in Figure 10. The new rail line and the additional tracks north of Riihimäki running in the same rail corridor with the existing main railway line are mainly alternative to each other. While both rail lines would provide a significant increase in capacity, they would allow different speed levels. The new rail line would make it possible to reduce travel times between Helsinki and Tampere below 60 minutes, whereas additional main railway tracks would enable travel times of about 80 minutes.

The options also differ considerably in terms of their effects on land use. It is necessary to take the land use requirements of the options into account in the National Land Use Guidelines and regional land use plans.

Figure 10. Finland Railway's alignment options.



Status of land use planning

The Airport Line has been identified as part of Uusimaa regional land use planning. Conversely, the rail link between Helsinki Airport and Tampere or significant realignments of the main railway line that are essential to Finland Railway's different implementation options are yet to be identified as part of regional land use planning or

local master planning. The alignment option following the existing main railway line is included in regional land use plans.

Turku One Hour Train

Background information

Turku One Hour Train Ltd is responsible for promoting the planning of a direct line between Espoo and Salo and a rail link between Salo and Turku up to the point when these are ready for construction. The project requires investment in the Espoo urban railway, which the central government and the Helsinki sub-region have agreed to implement as part of their land use, housing and transport (LHT) agreement signed in 2020.

The planning costs for the entire rail link amount to a total of about EUR 115 million, including a prior commitment by the central government to cover EUR 40 million. The project company will cover EUR 75 million of the costs, including planning costs at about EUR 60 million for the Espoo–Salo direct line and about EUR 15 million for the Salo–Turku double-track railway. The project's estimated construction costs amount to EUR 2.8 billion, including EUR 2.3 billion for the Espoo–Salo direct line, EUR 450 million for the Salo–Turku double-track railway and EUR 50 million for phase 1 of the Turku railway yard. The planning process will finish in 2025–2026 for the Espoo–Salo line.

Link description and its role as part of the national transport system

Implementing the Turku One Hour Train project will considerably increase capacity across the entire rail link while also enabling travel times as fast as about 73 minutes between Helsinki and Turku. Turku railway yard development and Kupittaa–Turku double-track construction were decided as part of the LHT agreement signed between the central government and the Turku sub-region in 2020.

The first phase of the Turku railway yard and the Salo–Turku double-track line will constitute part of the state rail network. The new rail link between Salo and Espoo will connect to the state rail network at the points east of the Salo station and west of the Espoo Centre.

Status of land use planning

The rail link is described to the extent required in the relevant regional land use plans (Uusimaa and Southwest Finland). The land use planning process has progressed in parallel with railway planning for the entire rail link.

Eastbound line

Background information

In keeping with the policy outlines endorsed by the Cabinet Committee on Economic Policy, the Ministry of Transport and Communications will continue negotiations with local authorities and potentially other public corporations benefiting from investment in eastbound rail transport with a view to establishing a project company. The project company would be responsible for project-related planning and its financing up to the point when the project is ready for construction. Negotiations are currently being conducted on the basis of the Airport Line–Porvoo–Kouvola alignment.

The eastbound rail link's planning costs will amount to about EUR 70 million, while the cost estimate for construction currently stands at about EUR 1.7 billion. The planning process is expected to last about 6–10 years.

Link description and its role as part of the national transport system

New infrastructure required for developing eastbound rail links would include a new double-track line diverging from the main railway line north of Kerava towards Porvoo and a new link to be constructed from Porvoo towards Kouvola. More precise connecting points to the rest of the rail network will be specified later on during the planning process.

A study conducted by the Finnish Transport Infrastructure Agency on the eastbound line[37] has also identified development measures for the existing network. The Airport Line investment is a prerequisite for a new direct line towards Porvoo and beyond. Any potential new tracks would enable considerable growth in capacity for rail transport east of Helsinki and for commuter rail transport towards Porvoo. The development option from Porvoo towards Kouvola would shorten travel times between Kouvola and Helsinki by about 13 minutes.

37 Itä-Suomen junayhteyksien kehittämisvaihtoehtojen arviointi [*Assessment of development options for Eastern Finland's rail links*]. Publications of the Finnish Transport Infrastructure Agency 15/2020. Available in Finnish at: https://julkaisut.vayla.fi/pdf12/vj_2020-15_ita-suomen_junayhteydet_taustaraportti_web.pdf.

The central government's contribution to the project company would be decided by Parliament.

The policy decision on the eastbound project company does not exclude future development of other eastbound transport connections. The Ministry of Transport and Communications will produce a study on developing business transport operations in Eastern Uusimaa and South-Eastern Finland and boosting the competitiveness of their businesses.

Status of land use planning

Potential rail alignments have been identified in the Uusimaa, Kymenlaakso and South Karelia regional land use plans.

5.5.2 Inland waterway transport

Inland waterway transport on Lake Saimaa is part of Finland's merchant shipping system. Using inland waterways for freight transport reduces its loads on the road and rail networks as well as road accidents and transport emissions. The most important aspect in inland waterway transport development is the project to lengthen the locks in the Saimaa Canal to be carried out over the next few years. The ports and loading points for inland waterway freight transport, mostly managed by businesses and local authorities, are in a fair condition. Waterways tourism infrastructure is mainly in place, but the related transport services and travel chains have room for further improvement. In addition to planning the project to lengthen the Saimaa Canal locks, the central government has recently invested in improving winter navigation on Lake Saimaa and funded the Kimola Canal that serves boating and waterways tourism in the Kymijoki river basin. Unlike in sea areas, vessels engaged on domestic voyages in the Lake Saimaa water area are exempt from compulsory pilotage. Other vessels sailing on Lake Saimaa are charged at discount rates, accounting for 26% of coastal pilotage fees. The central government contributes about EUR 4.2 million per year to cover the costs. Vessel transport on Lake Saimaa is exempt from fairway dues.

- The central government will cooperate with inland waterway transport operators and Eastern Finland's regional councils to look into the opportunities to move some freight transport from highways to inland waterways as part of a study on reducing logistics emissions.

- To promote inland waterway transport, the central government will keep in place the pilotage exemption for domestic transport and the discount fees

for foreign transport. Annual expenditure will amount to about EUR 4 million, which is equivalent to the current level.

5.5.3 Commuter vessel and road ferry transport

Traffic in archipelago areas consists of commuter vessel transport and road and cable ferries on highways and private roads. National management of road ferry and commuter vessel transport is centralised to the Southwest Finland Centre for Economic Development, Transport and the Environment (ELY Centre). The ELY Centre is responsible for 40 road ferry landing sites, mostly located in Southwest Finland's archipelago area and Eastern Finland's lake areas. The ELY Centre also manages transport connections on ten commuter vessel routes in the Archipelago Sea and on another two routes in the Gulf of Finland.

Under the Act on the Transport System and Highways, road ferries constitute part of highways. The central government is responsible for commuter vessel transport by virtue of the Act on the Promotion of Overall Development in the Archipelago (494/1981). This refers to purchases of transport services.

- The central government will retain appropriations for commuter vessel transport at the level set out in the currently effective General Government Fiscal Plan and will cooperate with the Island Committee and other parties to draw up uniform criteria for organising commuter vessel transport, addressing the routes, frequency and timetables of scheduled vessel services, as well as technical vessel characteristics. The organisational criteria will be drawn up in consultation with permanent and holiday residents and parties operating in the tourism sector. Uniform organisational criteria will enable services to be targeted to meet demand more effectively. Legislation will be amended to reflect the organisational criteria. Annual expenditure will amount to about EUR 18 million, which is equivalent to the current level.

- Following the introduction of the new uniform organisational criteria, the central government will develop commuter vessel routes into functionally and financially efficient integrated wholes, enabling optimisation of equipment and operating costs while, consequently, also contributing to emission reductions. The financial efficiency of equipment will be promoted by developing commuter vessel transport purchases.

- The central government will be responsible for managing and funding road ferry transport included in the highway network as part of basic transport

infrastructure management. The central government will continue to enhance the financial efficiency of road ferry transport equipment, increase commuter transport and accessibility as well as reduce emissions in keeping with the current procurement strategy, taking account of the specific characteristics of ferry routes. Opportunities to replace ferry landing sites with bridges will be explored where possible, as proposed in the section on highway network development.

- The central government will assess the need for and, where necessary, implement potential legislative amendments as required by the procurement strategy and technological advancements, also with regard to road ferry transport.

- The central government (Southwest Finland ELY Centre) will work with service providers to enhance provision of digital timetable information for road ferry and commuter vessel services. Increasing digital timetable information and creating integrated archipelago transport services would improve access to archipelago areas. The central government will explore the potential to develop opportunities for pre-booking commuter vessel trips.

5.5.4 Cross-border transport and transport subsidy

Fluid cross-border traffic is important for effective international transport operations. Following the completion of currently ongoing development projects, border crossing points will mostly be able to meet future needs.

- The central government will ensure traffic fluidity at current border crossing points and will continue cooperation with the neighbouring states. Safe and fluid border crossings call for effective connections to and at border crossing points while also contributing to security of supply. Cooperation with the neighbouring states will ensure that development efforts are in alignment on both sides of the border.

- The central government will allocate transport subsidies to small and medium-sized enterprises (SMEs) over the period from 2021 to 2023. Transport subsidies will reduce transport costs incurred by SMEs operating in remote areas due to long distances, improving business profitability in these areas. Transport subsidies may be granted for goods transport operations carried out in Finland, where the product was manufactured within the Lapland, Kainuu, North Karelia, North Savo or South Savo regions

or within the Saarijärvi–Viitasaari sub-region. Transport subsidies will be granted for road and rail transport operations covering a distance of at least 266 km within the Finnish territory, or 101 km if subsidies are also granted for port operations. Port operations may receive transport subsidies, where the product is shipped from a Gulf of Bothnia port located in or north of Merikarvia or from a port within the Saimaa water system. The central government (Ministry of Economic Affairs and Employment) will assess the need for retaining transport subsidies beyond 2023 while exploring whether it would be possible to take incentives emphasising environmental considerations into account when granting transport subsidies. Annual expenditure will amount to EUR 6 million (2021-2023).

5.6 Consolidating partnerships and cooperation in transport system development

5.6.1 Agreement-based cooperation

As a general rule, the central government is responsible for funding state transport infrastructure networks. Transport system development initiatives are also frequently put forward by urban sub-regions, other urban and rural municipalities, regional councils and transport system customers, which is why the central government aims to promote partnerships for the benefit of all parties. The National Transport System Plan aims to clarify the ways in which various partnerships deal with transport system development issues while also consolidating a consistent, predictable and reliable procedure for different central government bodies. Examples of effective cooperation towards shared goals include the land use, housing and transport (LHT) agreement procedure used between the central government and urban sub-regions as well as planning major rail projects by means of jointly owned project companies. Furthermore, the cost-sharing agreements for individual transport projects can also be counted as agreement-based cooperation between the central and local governments.

The effectiveness and sustainability of urban sub-regions are issues of national significance. Besides the transport system, other integral aspects of effectiveness and sustainability include a sustainable community structure, an adequate level of housing production in sustainable locations, as well as various other issues relating to sub-regional vitality and prevention of divergence between regions. In addition to the Helsinki, Turku, Tampere and Oulu sub-regions, the LHT agreement procedure has been expanded to cover the Lahti, Jyväskylä and Kuopio sub-regions.

Matters relating to transport system development are also included in various agreements signed between the central government and individual cities (e.g. growth agreements). Likewise, the central government and individual regional councils, local governments, other public authorities co-financing the measures and other parties involved in regional development have signed cooperation agreements (e.g. on bridges) to achieve regional development objectives in keeping with the Act on Regional Development and the Administration of Structural Funds (7/2014, the 'Regional Development Act'). Such cooperation agreements have been used to address regional development challenges concerning acute structural change situations.

The National Transport System Plan and its funding programme will provide the premise for the central government to consider transport issues as part of various agreements.

Agreements between the central government and urban sub-regions

- From the central government's perspective, the agreements to be forged with individual urban sub-regions will provide a means to promote the objectives of the National Transport System Plan in cooperation with urban sub-regions. The transport-related objectives of these agreements will be derived from the Plan's objectives, which are also in line with the priority areas of the National Urban Strategy.

- The central government will primarily promote agreement-based cooperation with urban sub-regions in the transport sector through agreements that coordinate land use, housing and transport ('LHT agreements'). The central government may also participate in other types of agreement-based cooperation in this sector as required. Furthermore, the central government will develop and clarify its agreement-based cooperation with urban sub-regions or local governments in smaller-scale themes and individual needs, taking account of the resources available for transport infrastructure maintenance and development and the principles of co-financing agreements.

- The objective of the National Transport System Plan that is particularly relevant to urban sub-regions is promotion of sustainable modes of mobility. A dense and intact community structure and a transport system built on sustainable modes of mobility will constitute the basis for sustainable transport.

- Another priority area for the transport sector in the agreements between the central government and urban sub-regions will be accessibility improvement,

particularly to the extent that the relevant measures also require land use measures. These include connections to ports and heavy-duty transport service areas. The agreements also cover transport measures that require local governments to forge sub-regional agreements on land use (such as commuter train depots and heavy-duty transport service areas and their placement).

- Transport-related themes covered in the agreements between the central government and urban sub-regions include development of public transport and travel chains (e.g. ticketing and payment systems), promotion of walking and cycling, park-and-ride facilities, sub-regional issues in rail transport development, promotion of alternative propulsion systems for transport, as well as information utilisation and digitalisation, etc.

- As a general rule, the guidelines for allocating appropriations for development investments in the state transport infrastructure network and for basic transport infrastructure management are outlined in the National Transport System Plan. The LHT agreements between the four largest urban sub-regions and the central government may also cover co-financed development investments of national significance within the state transport infrastructure network. Project cost-sharing arrangements will comply with the principles of co-financing agreements described in the National Transport System Plan. Based on the strategic situational picture of the transport network and the investment programme, the Finnish Transport Infrastructure Agency and the Finnish Transport and Communications Agency Traficom will draw up an opinion on potential sub-regional development projects to provide a basis for LHT agreement negotiations.

- The local authorities within urban sub-regions will coordinate their transport system development plans with land use planning. The urban sub-regions will take the National Transport System Plan into account as part of their transport system development efforts.

- From the central government's perspective, it is important for transport system development to be viewed as an integrated sub-regional theme. Consequently, the central government expects the local governments to consider the agreement and central government contributions to the transport system as an integrated whole at the sub-regional level. Central government contributions will provide the seed money for sub-regional projects and investments, such as tramway projects.

- Central government investments in transport system development in urban sub-regions will be adjusted to their different needs and development prospects and will depend on the target levels agreed with the local governments involved in areas such as land use and housing production.

- The processes of drafting the National Transport System Plan and the LHT agreements between the central government and urban sub-regions will be developed to support each other more effectively. The National Transport System Plan will inform the premises of LHT agreements, which will in turn contribute to the Plan and its updates. There is no need to expand the agreement procedure concerning land use, housing and transport from its current scope.

Other agreements and cooperation with the business world

- The central government will contribute to supporting municipal business development and land use through co-financing agreements. Cooperation between the Finnish Transport Infrastructure Agency, the Finnish Transport and Communications Agency Traficom, local governments, urban sub-regions and businesses involves maintaining situational awareness of municipal land use and business needs relating to state transport infrastructure network development. Specific projects will be separately agreed, taking account of the resources available for transport infrastructure maintenance and development and the principles of the co-financing model described in the National Transport System Plan. Funding for these projects will be available from allocations in the budget items for both basic transport infrastructure management (minor improvement projects) and development, as described above in the section on transport infrastructure networks.

- In terms of transport issues, the agreements between individual cities or regions and the central government will focus on promoting servitisation and digitalisation to enable sustainable growth as well as on measures relating to labour availability. As a general rule, the guidelines for allocating appropriations for development investments in the state transport infrastructure network and for basic transport infrastructure management are outlined in the National Transport System Plan and as part of its implementation.

5.6.2 Principles of co-financing agreements

Partnership also involves cooperation in financing the transport network in cases where this is in the interests of both parties.

In Finland, budget funding has played a predominant role in state transport infrastructure development. As a general rule, the central government is responsible for funding state transport infrastructure networks. In order to launch development projects in sufficient numbers, it is also necessary to take a deeper look at the principles of expanding the financial base in agreement-based projects. The purpose of these principles is to allow local authorities to anticipate the central government's participation in development of urban sub-regions as reliably as possible and to plan agreement-based procedures derived from their own needs for mutual benefit.

The aim is to increase the number of projects carried out in the future for the benefit of different parties. If the burden of funding the state transport infrastructure network is solely borne by the central government, fewer projects, even profitable ones, will get implemented. This will also limit the overall benefits produced by the transport system. The central government, in turn, benefits from municipal investments in infrastructure and can contribute to their financing. When the parties that stand to benefit from a project find it profitable to participate in its financing, the projects selected for implementation will be more viable and socially efficient.

The central government has made exceptions to the use of its budget funding in specific cases where another party, such as an industrial operator or a local authority, has had a strong interest in accelerating the investment. According to a report produced by the Ministry of Transport and Communications and the Finnish Transport Infrastructure Agency,[38] cost-sharing agreements are made on a case-by-case basis and there is a wide range of procedures and agreements.

Transport projects improve regional accessibility, which will be reflected in the value of land. If a transport project increases the value of land, it is natural under the co-financing model to use this appreciation to cover the costs of transport infrastructure development. As local and central governments are significant land owners in urban sub-regions and in the vicinity of rail links, it would naturally make sense to integrate land use development more closely into the agreements between the central government and urban sub-regions to find opportunities to expand the financial base. Land appreciation can also be used as a source of financing a project company.

38 Infrastruktuurin kustannusjaon yleisiä periaatteita [*General infrastructure cost-sharing principles*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-ac-cd-c244746849d5/84afb14e-046c-4053-b01a-a1016f99f34e/POYTAKIRJA_20200914073335.PDF.

- The central government will be responsible for funding state transport infrastructure networks moving forward as well.

- The central government will solidify, clarify and diversify agreement-based cooperation with local governments and businesses in financing infrastructure projects. The following principles of the co-financing model will only apply when the general rule – i.e. covering the costs in keeping with administration and management responsibilities – is derogated from by mutual agreement.

- The co-financing model will be used for projects that will also create significant benefits for parties other than the infrastructure manager. Application of the co-financing model's principles will be monitored while also developing project impact assessment.

- The co-financing model can specifically be utilised in the following cases:

    - A local government has a clearer interest than the central government to launch a project on the state network. The project may be of high regional significance as a whole, or it may be important for the local authorities to exceed an adequate quality level (e.g. raising and improving the service level of commuter transport, releasing land for development or its significant appreciation as a result of the project, building walking and cycling routes, developing logistics areas and improving traffic safety in the area).
    - A measure planned for the state network will serve a limited number of businesses while being viable in socio-economic terms. These may include waterway projects and, in particular, rail projects that serve industrial needs. If a project clearly benefits one specific party, any possible needs to change infrastructure ownership will be assessed.
    - A measure planned outside the state network will promote national objectives and a sustainable community structure and sustainable transport and is estimated to be socio-economically efficient.

- Where projects fulfil the above-mentioned objectives, the central government may share the costs with the other parties involved. Central government involvement will be determined in agreements in maximum euro terms. The LHT agreements with the four largest urban sub-regions define the central government contributions as follows:

- 30% for rail transport projects owned by local governments or other major projects serving sub-regional public transport (incl. depots);
- 50% for projects planned for the state network that would significantly improve the sub-regional transport system or serve a limited number of businesses, provided that the investment need is closely linked to municipal measures taken to promote transport system performance or to a business enterprise's new investments and changes in its transport needs;
- 50% for smaller-scale projects to promote park-and-ride facilities, walking, cycling and other sustainable transport on state and municipal networks when both parties have an interest in implementing the project.

Should the above-mentioned principles not be satisfied as applicable, project costs will, as a general rule, be covered in accordance with statutory responsibilities for administration and infrastructure management. As regards ports, consistent practices will be separately determined for joint projects between ports and the central government while guaranteeing equal treatment of different parties.

- EU funding instruments (incl. CEF funding) will be utilised as widely and systematically as possible. Any potential EU funding will reduce the costs incurred to the parties involved in keeping with the cost-sharing arrangements specified in the agreement in question.

- As part of planning the implementation of development projects, the central government will choose the most appropriate financing model to cover the costs. In recent years, potential financing models have been deliberated by parties such as the parliamentary steering group for the preparatory work on the National Transport System Plan[39] and the parliamentary working group tasked with assessing transport system financing.[40]

39 Liikenneinfrastruktuurin rahoitusmalleja [*Transport infrastructure financing models*] (Government Project Register, Transport 12). Available in Finnish at: https://api.hankeikkuna.fi/asiakirjat/f0ca36bc-e740-4ac4-accd-c244746849d5/8a0e9b3f-6edc-4b76-b77e-d662e4b51f05/POYTAKIRJA_20200908093704.PDF.

40 Parlamentaarinen liikenneverkon rahoitusta arvioiva työryhmä [*Working group assessing transport network financing*] (Government Project Register). Available in Finnish at: https://valtioneuvosto.fi/hanke?tunnus=LVM011:00/2017.

Related to the following strategic guidelines:

- International access to regions
- Interregional accessibility
- **Intraregional accessibility**
- **Travel and transport service levels**
- Sustainability
- **Efficiency**

5.7 Utilising EU funding and international advocacy

The Finnish transport system is linked to the international transport system. Likewise, transport sector legislation is largely based on supranational regulation. International transport and its prerequisites are discussed above in the action plan (e.g. airport network, ports, cross-border traffic). This section concentrates on making use of EU funding and other forms of international advocacy.

5.7.1 Reform of the TEN-T network

Trans-European transport networks (TEN-T for 'Trans-European Network, Transport') lie at the core of European Union transport policy. The European Commission is currently in the process of preparing a revision of the Regulation on Union guidelines for the development of the trans-European transport network, also known as the 'TEN-T Guidelines Regulation', which includes the requirements for TEN-T transport infrastructure and a description of the scope of the TEN-T networks. The Regulation defines the *core network*, which comprises key European connections and is expected to reach the level specified in the Regulation by 2030. The TEN-T core network is supplemented by the *comprehensive network* comprising routes linked to the core network at regional and national levels. The Member States are largely responsible for funding the comprehensive network. It is also possible to receive funding from certain EU instruments for transport and regional development as well as from innovative financing instruments. The comprehensive network should reach the level specified in the Regulation by 2050. Two of the core network corridors pass through Finland: the North Sea–Baltic and the Scandinavian–Mediterranean TEN-T core network corridors. During the CEF funding period starting in 2021, the North Sea–Baltic TEN-T core network corridor will be extended northwards from Helsinki and further on to Luleå in Sweden via Tornio. The Scandinavian–Mediterranean

TEN-T core network corridor runs from Turku via Helsinki to the Russian border, at Vaalimaa and Vainikkala.

The core network covers about 2,460 km of roads and rails within the Finnish territory. The core network also includes nodes and airports in Helsinki and Turku, as well as the Ports of HaminaKotka, Helsinki, Turku and Naantali, the road and rail transport terminal in Kouvola and the Lake Saimaa water area. The comprehensive TEN-T network covers about 8,800 km of roads and rails as well as 18 airports and 12 ports in Finland. The TEN-T network also includes so-called horizontal priority projects, such as the motorways of the sea and traffic management systems for different modes of transport. In the Regulation, icebreaking is considered part of the maritime and inland waterway transport infrastructure.

Finland's core and comprehensive networks mostly fulfil the criteria set out in the TEN-T Guidelines Regulation. However, there are some gaps in the quality level on the core network. The Regulation provides that exemptions from its requirements may be granted in duly justified cases where investment in infrastructure cannot be justified in cost-benefit terms. As regards the railway network, it should be noted that the Regulation does not require all of its criteria to be implemented on isolated networks. Exemptions for isolated networks must be specifically requested, but Finland has thus far not requested any such exemptions. The Decree on the Main Routes of Highways and Railways and Their Service Levels (the 'Main Route Decree') specifies service levels for the main highway and railway routes from the perspective of national needs. Its approach differs from the technical criteria used at the EU level. The common technical network requirements do not fully serve the varying needs and conditions in different parts of Europe.

- The central government will contribute to the preparation of the TEN-T Guidelines Regulation with a view to ensuring that it will promote the objectives and measures of the National Transport System Plan as effectively as possible. From Finland's perspective, the Guidelines Regulation reform must take account of its long distances to key European market areas, sparse traffic and transport flows, as well as access to peripheral areas. In its advocacy efforts, the central government will take account of the Main Route Decree and promotion of fossil-free transport and transport system digitalisation. Finland's key connections to third countries, incl. Russia, should be taken into account in the Regulation.

- The central government will propose amendments to the Guidelines Regulation that will help obtain CEF funding for the core network corridors located in Finland and for the urban sub-regions situated along the corridors.

- As part of its efforts to influence the Guidelines Regulation reform, the central government will also take note of the fact that EU regulations often provide a basis for considering the scope of application of other EU legislation. From this perspective and considering the focus of infrastructure funding on the rail network and the challenges of achieving an adequate service level for main highway routes, the central government takes a critical view on TEN-T network expansions and high technical requirements for highways. There should be a better match between the TEN-T core network requirements and the funding available from the Connecting Europe Facility (CEF). In the current situation, the core road network requirements are high, whereas the CEF is the only source of funding available for network development outside the cohesion countries.

- As for railway requirements, attention should be paid to Finland's rail gauge (1,524 mm), which differs from the European standard.

- The central government will revisit the fulfilment of the criteria for the core road and rail networks in 2024, prior to drafting the next National Transport System Plan and, if required, will decide whether to request any exemptions from the European Commission. The current Regulation provides that exemptions from the current transport network quality requirements may be granted in cases where investment in infrastructure cannot be justified in cost-benefit terms or for isolated networks.

- Advocacy efforts for development of urban sub-regions will focus on ensuring that the Guidelines Regulation would support sustainable transport and enable densification of community structures in the largest urban sub-regions.

- The central government will contribute to the development of the motorways of the sea concept with a view to making it possible for projects to extensively improve the operating conditions of Finnish businesses and their connections to key market areas. Digitalisation of transport chains should also be taken into account in maritime transport while promoting clean and emission-free maritime transport. Furthermore, attention will also be paid to the role of inland waterway transport.

- Advocacy efforts concerning the specification of the port and airport networks will focus on ensuring that the eligibility criteria for inclusion in the TEN-T network would be well equipped to serve Finnish port and airport

development. Efforts will be made to secure the status of the ports included in the current comprehensive network while also developing other ports.

- Attention should be paid to advancements in intelligent transport in all modes. Digitalisation and automation should be widely harnessed to enhance the efficiency of logistics chains.

- Any potential changes that may need to be made to the core and comprehensive networks will be assessed in view of ensuring that the TEN-T network would be well equipped to serve Finland's transport network development and access to funding.

- The positions on the TEN-T Guidelines Regulation reform set out above will be specified in 2021, once the European Commission has issued its proposal for a new Regulation.

5.7.2 Utilising EU funding

The most important EU funding instrument for the transport system is the Connecting Europe Facility (CEF). Adopted by the European Union in 2020 due to the COVID-19 pandemic, the Recovery and Resilience Facility (RRF) also provides opportunities to finance transport system development in 2021–2023. In addition, small-scale funding is also available from other EU funding instruments, such as the Structural Funds.

Connecting Europe Facility

The Connecting Europe Facility is used to fund transport, energy and telecommunications networks.

The funding instrument provides financing for trans-European TEN-T transport network projects aiming to implement the core and comprehensive networks under the TEN-T Guidelines Regulation. Its funding priorities include the core network corridors and parts of the core network specified in the CEF Regulation. The Member States are largely responsible for funding the comprehensive network.

During the 2021–2027 funding period, the Connecting Europe Facility will provide financing for transport projects as follows (at 2018 prices):

- EUR 11.4 billion for a general transport envelope;
- EUR 1.5 billion for military mobility;

– EUR 10 billion for cohesion funding (only available for cohesion countries).

Finland's shares of the general transport envelope stood at about EUR 250 million in the previous funding period and about EUR 190 million in the period preceding that.

The maximum contributions cover 30% for transport network construction (50% in certain cases) and 50% for planning. According to the Commission working document, support is available for projects with a national funding decision in place and with a benefit/cost ratio above 1.

- The Connecting Europe Facility will be put to full use in implementation of the National Transport System Plan's objectives and measures. As the extension of the North Sea–Baltic TEN-T core network corridor northwards from Helsinki and further on to Luleå in Sweden via Tornio will increase the number of its eligible rail projects, Finland will aim for a higher CEF funding share than in the previous funding periods.

- Finland will work towards implementing the Rail Baltica project with CEF funding because it will improve international access to the country. Energy infrastructure development in the Baltic Sea region is also of considerable importance for Finland, including the perspectives of the transport system's operational reliability and security of supply.

- For the upcoming funding period of the Connecting Europe Facility (2021–2027), the central government will pursue the following aims:

    - Finland's priority for the upcoming CEF funding period is to secure financing for rail project construction and planning as part of the core network corridors on the basis of the strategic situational picture of the transport network and the investment and planning programme produced by the Finnish Transport Infrastructure Agency, as well as for planning by project companies. It is possible to apply for funding for the following links, for example:

        - To develop and plan the main railway and Finland Railway, while also aiming to integrate development of the Tampere, Riihimäki, Kokkola and Oulu railway yards into the projects; main railway development will serve a wide range of links to other parts of the country as well;
        - To develop the Turku–Helsinki line;

    - To plan and develop eastbound rail links (Kouvola–Luumäki–Imatra and Luumäki–Vainikkala lines).

- The Digirail project will make full use of CEF funding.
- Funding will be sought for digitalisation, automation and promotion of intelligent transport in different modes, where possible.
- Funding for military mobility will be utilised in transport system development, where possible.
- CEF funding will be sought for sub-regional rail projects and other projects to promote sustainable transport, where these are eligible and promote sustainable community structures in urban sub-regions. The local authorities of the TEN-T urban nodes will be responsible for ensuring that project assessments are drawn up for projects eligible for CEF support.
- Full efforts will also be made to secure funding for projects carried out by other Finnish parties besides the central government, including local authorities as well as ports, airports or other private sector parties.
- In addition to rail projects, CEF funding will also be utilised in promoting other modes of fossil-free transport as well as digitalisation and automation. Finland's needs in these areas are specifically related to developing the distribution of alternative propulsion systems in all modes (ports, airports, heavy-duty transport and public transport at urban nodes), promoting digitalisation and managing traffic in all modes. Access to information on the effects of projects will be improved to provide a basis for making decisions on funding applications.
- Opportunities provided by the CEF will be utilised to finance a communications network in support of transport digitalisation and automation.
- Finland will also seek funding for highways and the comprehensive network whenever available from funding instruments.
- The central government (Ministry of Transport and Communications) will play an active role in ensuring that the Commission will identify the themes prioritised by Finland as eligible for funding in its work programmes at the right time. For this purpose, the central government (Ministry of Transport and Communications and Finnish Transport and Communications Agency Traficom) will step up advocacy cooperation with potential applicants and other relevant parties. During the upcoming funding period, it will be important to influence the timing of application rounds relating to winter

navigation so as to serve Finland's needs. Furthermore, Finland will aim to influence the benefit/cost ratio used to assess funding applications with a view to ensuring that project assessment will also take account of the broader economic, ecological and social effects of projects as well as national circumstances.

- In the post-2027 funding period, funding may also be sought for construction of the projects being planned by project companies, as long as decisions on national funding have been made.

- The Digirail project will make use of CEF funding through to the 2040s.

- The plan on utilisation of CEF funding laid out above will be further specified once decisions have been made on the content of the multiannual work programme for the Connecting Europe Facility, the terms of its application rounds and allocations to its different priorities.

EU Recovery and Resilience Facility

The national recovery and resilience plans aim to bring about structural reforms and to put together consistent investment and project packages in support of such reforms. The packages will be formed with emphasis on the following horizontal principles:

- long-lasting positive impact;
- increasing growth potential as well as socio-economic resilience and cohesion;
- contributing to green and digital transitions and enhancing productivity across the country;
- temporary nature of funding.

In order to receive funding from the Recovery and Resilience Facility, each Member State is required to submit its recovery and resilience plan to the Commission. Payment of grants from the Recovery and Resilience Facility requires achievement of the targets specified for investments and reforms.

Funding through Structural Funds

The next European Regional Development Fund (ERDF) programme is currently being prepared for the 2021–2027 period. During the previous funding period, projects within the administrative branch of the Ministry of Transport and Communications (about 50 in total) received about EUR 60 million in Eastern and Northern Finland. The implementation

area is limited to Eastern and Northern Finland because infrastructure investments are supported through special funding for sparsely populated regions. EU contributions have covered about half of the costs.

- The central and local governments will make use of funding from the European Regional Development Fund to implement the measures of the National Transport System Plan during the 2021–2027 period, where possible. The central and local governments will use ERDF funding to carry out measures included in the National Transport System Plan and other measures to improve regional accessibility that will particularly promote business operating conditions.

5.7.3 Cooperation, advocacy and maintenance of situational awareness

- Finland will engage in broad international cooperation in transport system development, taking account of the international trends and changes in the operating environment that have an impact on its transport system. Special attention will be paid to Nordic cooperation and joint advocacy in the European Union.

- The central government will assume an active role in drafting European Union legislation so as to ensure that it will support the objectives the National Transport System Plan. In particular, it will step up its advocacy efforts within the International Maritime Organisation (IMO). Key areas of international advocacy for the next few years include supranational regulation of transport emission reductions, information utilisation and automation and the above-mentioned reform of the Regulation on Union guidelines for the development of the trans-European transport network. International access to Finland is also heavily influenced by international air transport agreements, for example. In terms of transport system funding, it is important to contribute to ensuring that EU funding opportunities can be put to full use in national transport system development, as described above.

Related to the following strategic guidelines:

- **International access to regions**
- **Interregional accessibility**
- Intraregional accessibility
- Travel and transport service levels
- Sustainability
- Efficiency

5.8 Development of transport system planning

National transport system planning is a continuous process, which is carried out by the Ministry of Transport and Communications in cooperation with the Finnish Transport and Communications Agency Traficom and the Finnish Transport Infrastructure Agency. In addition to the national level, transport system planning is also carried out at supra-regional and regional levels as well as in urban sub-regions and municipalities. The transport system planning process is based on interaction and cooperation. Its aim is to consolidate cooperation between different parties through the drafting of National Transport System Plans.

Impact assessment forms an essential part of all transport system planning. Assessment improves the quality of planning and promotes informed decision-making while also making decisions more transparent and legitimate. An environmental impact assessment conducted in keeping with the Act on the Environmental Impact Assessment of Plans and Programmes by the Authorities creates the basis for assessing the impacts of the National Transport System Plan. Besides environmental impacts, it is also important to produce information more broadly from the perspectives of all of the Plan's objectives. Finland does not have a national traffic forecast model system for producing systematic quantitative assessment data. Building a model system is extremely important to provide a basis for long-term transport system planning.

- The central government will develop a cooperation model for transport system work between national and regional levels by establishing a broad transport system forum that will convene on a regular basis and by initiating annual discussions with regional transport system operators in accordance with the geographical division based on supra-regional transport system cooperation between regional councils. The transport system forum would

discuss topical issues of transport system development, such as situational awareness of the transport system (transport system analysis), monitoring of the objectives of the National Transport System Plan and development of impact assessment methods. Discussions with regions would cover the implementation of the National Transport System Plan from the regional perspective, based on regional transport system plans. Furthermore, the need to arrange annual discussions with urban sub-regions will be assessed.

- Moving forward, the central government will continue to participate in supra-regional, regional and sub-regional transport system cooperation in keeping with its functions. The central government will assess whether there is any need to amend legislation governing the duties of government agencies from the perspective of transport system development. Transport system development will also be addressed as part of cross-sectoral regional development discussions between the central government and regional councils.

- The central and local governments, regional councils and urban sub-regions will develop transport system planning methods and cross-sectoral cooperation. With regard to local authorities, development work will take account of aspects such as the results of EU-level cooperation concerning urban transport, where applicable.

- Any sub-regional plans that may be included in the reform of the Land Use and Building Act will be drafted in coordination with transport system plans in the largest urban sub-regions, giving due consideration for the National Transport System Plan's objectives and the government funding programme.

- The central government (Finnish Transport and Communications Agency Traficom) will develop the transport system analysis, which is based on quantitative and qualitative data about the current state of the transport system and foresighting changes in the operating environment. The transport system analysis will provide regularly updated information, serving transport system planning and development at both national and regional levels. The transport system analysis will also promote informed decision-making. The analysis will pay special attention to accessibility while also covering a regularly updated strategic situational picture of the transport network drawn up in cooperation with the Finnish Transport Infrastructure Agency. Regional councils, urban sub-regions and local authorities will participate in producing regional data. The transport system analysis will be prepared in interaction with a wide variety of parties.

- As part of the transport system analysis, the central government (Finnish Transport and Communications Agency) will cooperate with other parties to develop a model for monitoring progress towards the objectives of the National Transport System Plan. The monitoring model will include a set of indicators for monitoring progress towards the Plan's objectives and those set out in the Act on the Transport System and Highways. Information obtained through monitoring progress towards the Plan's objectives will be put to use in drafting the National Transport System Plan and in other decision-making processes. Information on the Plan's monitoring will be communicated on a regular basis.

- The central government (Ministry of Transport and Communications, Finnish Transport and Communications Agency and Finnish Transport Infrastructure Agency) will continue to develop the transport system's impact assessment. Developing informed decision-making will improve its transparency. The central government (Finnish Transport and Communications Agency Traficom) will work with other parties to develop a national traffic forecast model such that it will be available for drafting future National Transport System Plans. Building a traffic forecast model system will require an average annual increase of EUR 1.5 million in Traficom's operating expenditure over the period from 2021 to 2024. The model system is expected to be ready for use in 2027 and its maintenance costs will thereafter amount to approximately EUR 250,000 per year. The central government (Finnish Transport Infrastructure Agency) will develop assessment of the impacts of transport infrastructure projects and basic transport infrastructure management.

- The central government and other parties will work together to develop impact assessment methods. Impact assessment methods will be harmonised to obtain comparable results, such that regional councils and local authorities will, where possible, adopt methods compatible with those used at the national level in order to increase transparency in decision-making, for example.

5.9 Funding allocations and thematic compilations

5.9.1 Funding allocations

Transport infrastructure projects co-financed by the central government and urban sub-regions and development of services

- The central government will reserve a total of EUR 22.8 to 100 million per year for new agreement-based infrastructure projects co-financed with urban sub-regions and for potential development of services over the 2024–2032 period (about EUR 661 million in total). In the early years of the planning period, funding will mainly be allocated to sustainable transport infrastructure in urban sub-regions and on the state network.

  In addition to infrastructure, this funding allocation can also be used to supplement public transport development measures in urban sub-regions, for example, especially towards the end of the planning period. Allocation of funding will mainly be specified as part of the land use, housing and transport (LHT) agreements between the central government and urban sub-regions.

Pilot project funding

- The central government will reserve a total of EUR 76.5 million for pilots other than those separately specified as part of the measures over the period from 2023 to 2032. The pilot projects will especially promote utilisation of information and automation in the transport system. They will also cover urban logistics projects.

- Funding for promoting information utilisation and automation will be channelled into road transport pilot projects (incl. transport infrastructure experiments) and other testing-related projects, development of digital aviation data and unmanned air transport experiments, as well as into maritime transport for development and experiments of the intelligent fairway concept, and development of the coverage and exchange of digital maritime data. EU funding will also be sought for pilot projects.

- Funding will be allocated to development projects for automation in communications networks while seeking EU funding for this purpose.

5.9.2 Thematic compilations

Urban sub-regions

For urban sub-regions, the Plan's measures place emphasis on the sustainability objective and the strategic guidelines according to which the aim is to improve people's opportunities to choose more sustainable modes of mobility, particularly in urban sub-regions. Emission reductions in urban sub-regions are supported by factors such as the population base, dense community structure and urbanisation. Promoting public transport, walking and other sustainable modes of mobility will make it possible to take steps to reduce emissions. The central government and urban sub-regions will also develop their agreement-based cooperation relating to transport networks and services.

Sustainable mobility will be promoted in urban sub-regions by a wide variety of means. Transport infrastructure will be maintained and developed so as to enable promotion of sustainable transport (e.g. rail transport, walking and cycling infrastructure and park-and-ride facilities). During the planning period, the central government will reserve a total of EUR 22.8 to 100 million per year for infrastructure and service purchases co-financed with urban sub-regions over the 2024–2032 period. These funds will mainly be allocated to sustainable transport infrastructure in urban sub-regions and on the state network, as specified in further detail in LHT agreements and their updates. The funding allocation can also be used to finance public transport, especially towards the end of the planning period. Public funding for public transport will be increased with a view to promoting service provision in large and medium-sized urban sub-regions. In parallel with efforts to increase public transport provision, mobility services and travel chains will also be developed by means such as improving information utilisation and cooperation between relevant parties. Travel chain development will serve the entire country, including urban sub-regions. Key passenger transport nodes in urban sub-regions will be developed to create sustainable mobility centres. Public transport will also be developed between urban sub-regions. Furthermore, urban sub-regions will invest in development of urban logistics.

Sparsely populated areas

For sparsely populated areas, the most relevant of the Plan's objectives and strategic guidelines is securing accessibility: these areas should be accessible within a reasonable time by some mode of transport or a combination of modes. Furthermore, ensuring the adequate availability and service level of communications networks will safeguard opportunities to work and use services independent of location. Sparsely populated areas will also develop sustainable transport and invest in more cost-efficient organisation of transport services.

Basic transport infrastructure management measures aim to ensure safe and fluid transport throughout the country. In particular, taking the increases in the costs of winter maintenance and infrastructure repairs into account during the planning period will serve the needs of sparsely populated areas. Raising the amount and rate of the appropriation for private road grants will make it possible to increase the number of renovation projects on private roads.

Development funding for transport networks aims to improve accessibility across the country. Funding for highways will be targeted at the most significant main infrastructure projects and at improving the service level at specific points throughout Finland. On the low-grade road network, the aim is to implement the most urgent and important projects. Implementation of extensive rail network renovation and improvement projects will maintain accessibility across the whole of Finland.

In the context of public transport provision and cooperation, attention will also be paid to the specific characteristics of sparsely populated areas in terms of periodically scarce demand and supply of services and related special needs, while also promoting their ability to ensure operating conditions for market-based public transport services. Regional parties may draw on the service levels specified for long-distance transport when planning their own services. Developing purchases and cooperation models between various parties will guarantee the availability and cost-efficiency of basic mobility services in sparsely populated areas.

Effective travel chains and their development will also serve sparsely populated areas by linking them as part of regional and national service networks. By way of example, development of interoperability between different ticketing systems plays a key role in terms of travel chain fluidity in the entire country. At the same time, this will safeguard important business and commuting connections between regional peripheries and regional and other key centres.

The declining base public transport in sparsely populated areas will be improved to provide a foundation of support for statutory integrated passenger transport services. Cross-sectoral efforts will be made to promote integrated passenger transport services with the aid of intelligent technologies and market-based services.

The main focus in development of passenger information and ticketing and payment systems is on rural areas because they have most gaps in services. This will also help make information on and access to more limited services more readily available to passengers.

Transport subsidies will reduce transport costs incurred by SMEs operating in remote areas due to long distances, improving business profitability in these areas. Commuter vessel

transport will be developed with a view to improving the capacity to meet the transport needs of archipelago areas.

Freight transport

The most relevant of the Plan's objectives and strategic guidelines for freight transport is accessibility: the transport system is geared towards guaranteeing access to the whole of Finland and responding to the needs of businesses. The fluidity of international transport and the accessibility of work-related travel are particularly important for the business world.

Funding for transport infrastructure maintenance, repairs, improvement and planning aims to enhance service levels cost-efficiently to meet business and commuting needs. Priority will be given to significant business connections between regional centres and between Helsinki and different parts of the country. The fluidity of international transport will be safeguarded while developing the operating conditions for shipping, incl. winter navigation. These are the prerequisites for effective international freight transport.

Improving the condition of highways and ensuring an appropriate standard of winter maintenance will step up business transport operations on highways while promoting emission reductions. Heavy investment in rail network repairs and improvements will also enhance reliability and punctuality in freight transport. Funding will be channelled into measures such as improving timber loading areas. Development funding will be allocated to projects contributing to business operating conditions across the highway network. Prioritising the main infrastructure network will especially serve business needs while efforts will also be made on the low-grade road network to address the most critical issues for businesses.

The central government will likewise develop winter navigation, which is essential for international freight transport. Waterway development will enable significant new industrial investments and the related increase in maritime transport while improvement funding will be used to increase the number of intelligent safety devices.

The Digirail project will also make it possible to improve the capacity and safety of the rail network in terms of freight transport.

Ensuring Helsinki Airport's development potential and preserving the airport network, combined with financial support for airfields and air transport, will serve the needs of air freight and business life.

Increasing the amount and rate of private road grants will especially serve transport needs in the agriculture and forestry sectors. Private roads also constitute an important part of international transport chains.

Efforts to reduce the maintenance backlog on municipal street networks will facilitate delivery transport, among other activities. Specific attention has been paid to the needs of port traffic on the street network, such as heavy-duty transport service areas.

Traffic management helps step up transport system efficiency and traffic data use, which will also enhance the fluidity of freight transport.

Freight transport efficiency and emission reductions will be promoted by means such as digitalisation while facilitating a shift to more sustainable modes of transport. Efforts will be made to develop the operating conditions for shipping, without neglecting the potential of inland waterway transport. In order to advance these objectives, studies will be conducted on opportunities to reduce logistics emissions, promotion of integrated transport services, and transit transport.

Support will be provided for local authorities for development of more efficient and environmentally friendly urban logistics. Use of smaller, quieter and more environmentally friendly delivery fleets will be promoted while improving the usability of address data for the needs of urban logistics. Commuter vessel and road ferry transport will be developed taking account of the needs of business development, including tourism. Extending the validity of transport subsidies will reduce transport costs for businesses based in remote areas.

Working on development of border crossing points in cooperation with the neighbouring states will maintain opportunities to develop cross-border freight transport.

Aspects relating to information utilisation and automation

Information utilisation and automation are means to promote all of the Plan's objectives. According to the strategic guidelines, opportunities provided by digitalisation will be put to full use in all modes of transport.

During the planning period, information utilisation will be heavily promoted by making use of the potential of Traffic Management Company Fintraffic Ltd, which is responsible for traffic management in all modes of transport. Central government funding will make it possible to offer transport service providers fair and consistent operating models for developing new multimodal services. Active efforts will also be made to promote information utilisation and automation at the international level and, where necessary, by

legislative means and by boosting pilot projects focused on advancing new technologies and automation in all modes.

Making use of information will help enhance infrastructure management, business transport operations as well as travel chain performance. Compiling timetable and route information and improving interoperability between ticketing and payment systems will contribute to stepping up the use of sustainable modes of mobility. Funding for pilot projects will ensure opportunities to develop automation in Finland.

Digitalisation can contribute to enhancing the fluidity and efficiency of transport chains and reducing transport emissions by means of new innovations and operating models. Implementing the Digirail project will also ensure rail transport performance in the future when the existing traffic control system becomes obsolete.

Transport system digitalisation requires comprehensive communications networks, which will be developed with a view to ensuring that communications available on transport routes and at nodes are sufficient to meet each specific need. Making use of information and promoting automation will also provide businesses operating in the sector with opportunities to grow their operations.

Traffic safety

Improving traffic safety is key to achieving all of the Plan's objectives. In keeping with the strategic guidelines, efforts will specifically focus on promoting road safety, which has the most room for improvement.

The Plan includes commitments to the Vision Zero for traffic safety and long-term traffic safety strategy work. Improving the condition and reducing the maintenance backlog of the existing state infrastructure network and the street network will promote traffic safety, similar to development investments in all types of transport infrastructure. Funding for highway network improvement and development will also be allocated to road safety measures. On the rail network, attention will be paid to safety at level crossings.

Developing traffic management and information utilisation will also promote traffic safety. Modernising the automatic train protection system and developing safety devices for shipping lanes will improve traffic safety.

Increasing the share of public transport and other sustainable modes of mobility through the Plan's various measures will promote road safety, as decreasing traffic volumes will also reduce the risk of accidents. Taking the needs of different user groups into account in nodal development and promoting accessibility will also contribute to improving traffic safety.

6 Government funding programme

The government funding programme compiles the estimated appropriations for transport system development over the period from 2021 to 2032. Its realisation depends on decisions to be made on spending limits and budgets.

The government funding programme will be revised as required when the General Government Fiscal Plan changes. The funding programme mainly consists of appropriations within the administrative branch of the Ministry of Transport and Communications (Table 1).

The National Transport System Plan will result in additional costs for local authorities, in particular for promoting sustainable transport, as any additional central government contributions for purposes such as public transport require equivalent municipal contributions.

Table 1. Estimated funding for transport system development within the administrative branch of the Ministry of Transport and Communications in 2021–2032 (in EUR million).

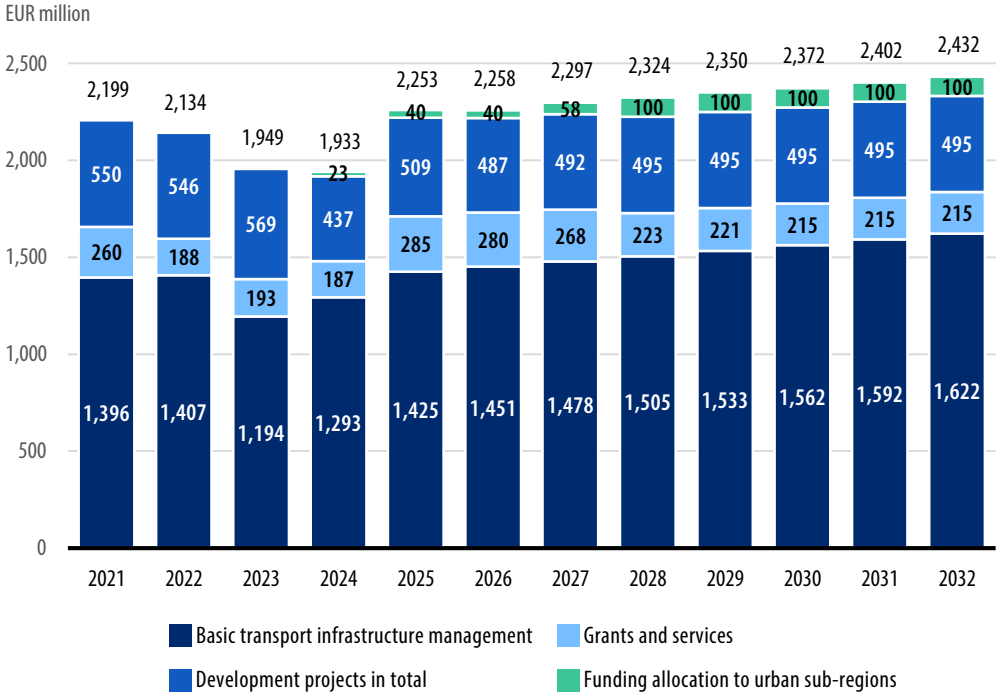
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Basic transport infrastructure management	1,396	1,407	1,194	1,293	1,425	1,451	1,478	1,505	1,533	1,562	1,592	1,622	17,458
Projects decided and life-cycle projects	529	566	393	241	185	170	109	103	67	38	38	38	2,477
Planned transport infrastructure development and Digirail	13	0	188	189	317	316	383	393	429	457	458	457	3,600
Funding allocation to urban sub-regions	0	0	0	23	40	40	58	100	100	100	100	100	661

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Grants for municipal rail transport projects (already decided)	67.1	43.2	12.6	7.2	35.1	35.1	35.1	0	0	0	0	0	235.3
Grants for repairs and maintenance of private roads	30	13	25	25	25	25	25	25	25	25	25	25	293
Promotion of walking and cycling	29.3	3.5	3.5	3.5	30	30	30	30	30	30	30	30	279.8
Park-and-ride facilities development on street networks	0	0	0	0	10	10	10	0	0	0	0	0	30
Airports outside Finavia's network	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	10.8
Long-distance public transport purchases	0	0	0	0	10	10	10	10	8	0	0	0	48
Rail transport purchases	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	362
Air transport purchases	13	1	1	1	1	1	1	1	1	1	1	1	24
Bus transport organised by ELY Centres	32.3	32.3	32.3	32.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	435.9
Public passenger transport subsidies to medium-sized urban sub-regions	8.1	8.1	8.1	8.1	14.1	14.1	14.1	14.1	14.1	16.1	16.1	16.1	151.5
Public passenger transport subsidies to large urban sub-regions	9.8	9.8	9.8	9.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	277.6
Climate-based public transport subsidy	20	20	20	20	20	20	20	20	20	20	20	20	240
Interoperable ticketing systems	0	0	1	0.5	0.5	0	0	0	0	0	0	0	2

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Nodal passenger information	0	0	2	2	2	0	0	0	0	0	0	0	6
Accessibility	0	0	1	1	1	0	0	0	0	0	0	0	3
Integrated passenger transport services	0	0	3	3	3	0	0	0	0	0	0	0	9
Mobility management	0.6	0.6	0.6	0.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	22.4
Commuter vessel transport purchases	19.1	20.4	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	218.4
Basic digital business services (Fintraffic)	0	5	10	10	0	0	0	0	0	0	0	0	25
Pilot projects	0	0	14	14	14	15	3.3	3.3	3.3	3.3	3.3	3.3	76.5

Figure 11 shows estimated funding for transport system development broken down into basic transport infrastructure management, transport network development, discretionary government grants and services, and funding allocations for infrastructure and service purchases co-financed by the central government and urban sub-regions in 2021-2032.

Figure 11. Estimated appropriations for transport system development within the administrative branch of the Ministry of Transport and Communications during the planning period. Funding allocations refer to infrastructure and service purchases co-financed by the central government and urban sub-regions.



Allocation of appropriations for basic transport infrastructure management are also shown by product (maintenance, repairs, improvement and transport services) in Figures 12–14 below.

Figure 12. Basic transport infrastructure management by product on highways, highway development projects decided, and planned highway development (in EUR million).

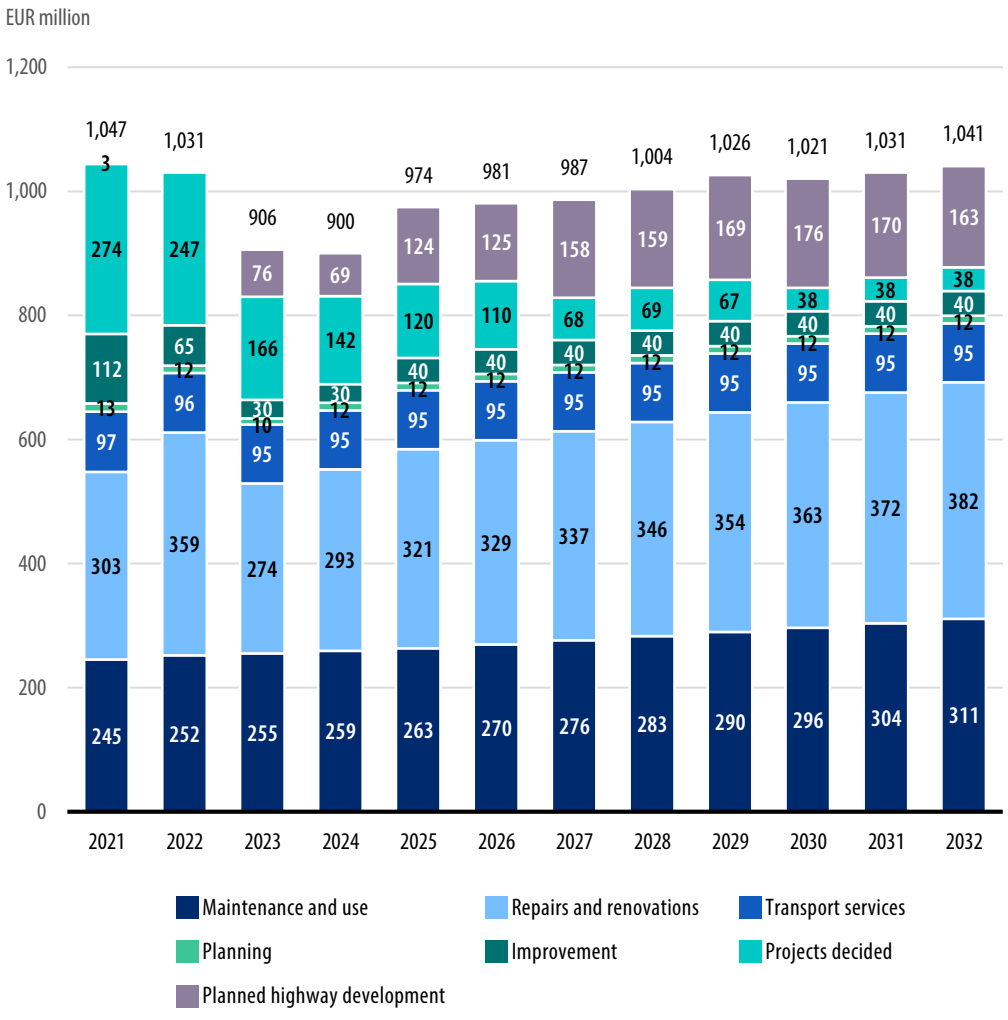


Figure 13. Basic transport infrastructure management by product on the rail network, rail network development projects decided, and planned rail network development (in EUR million).

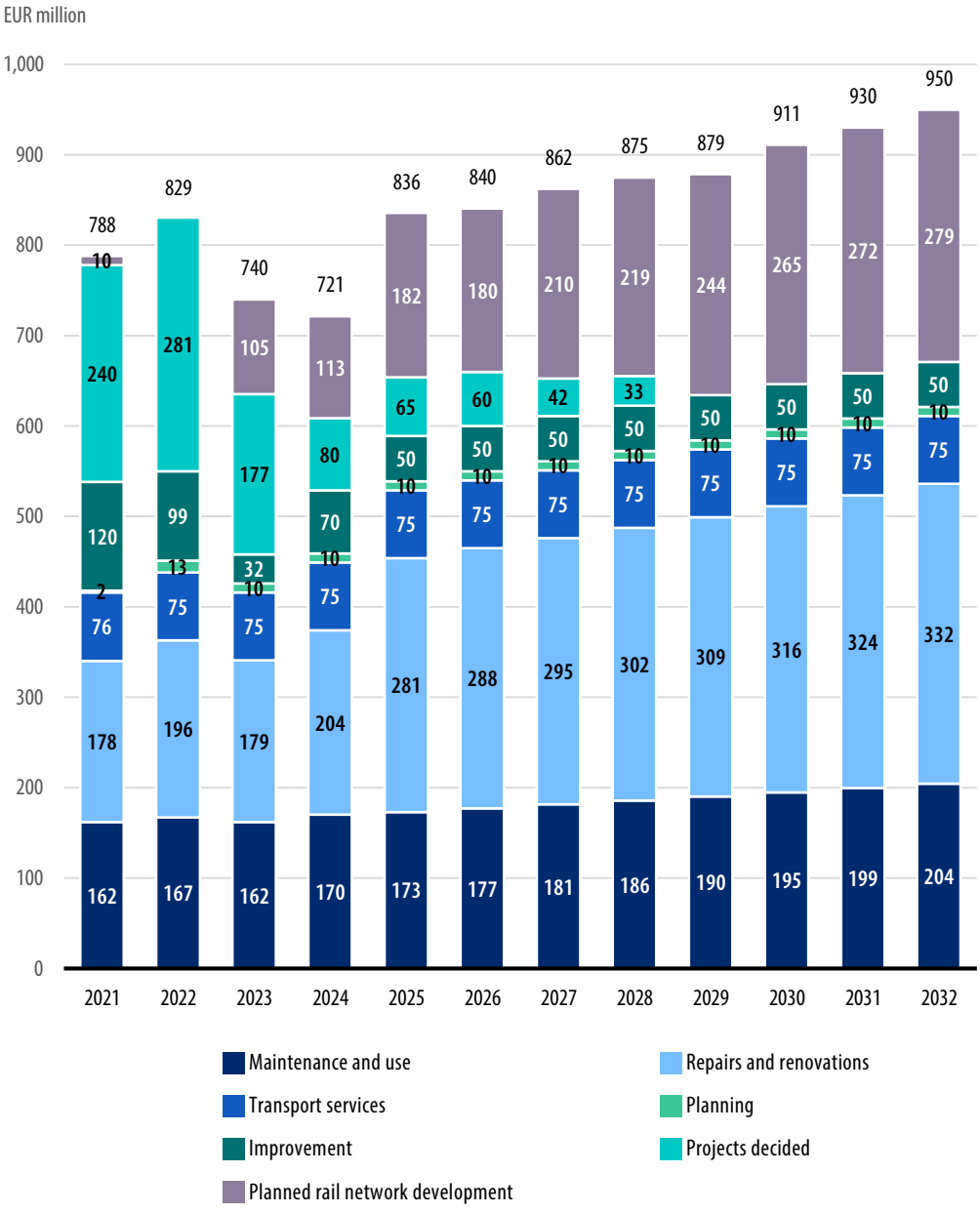
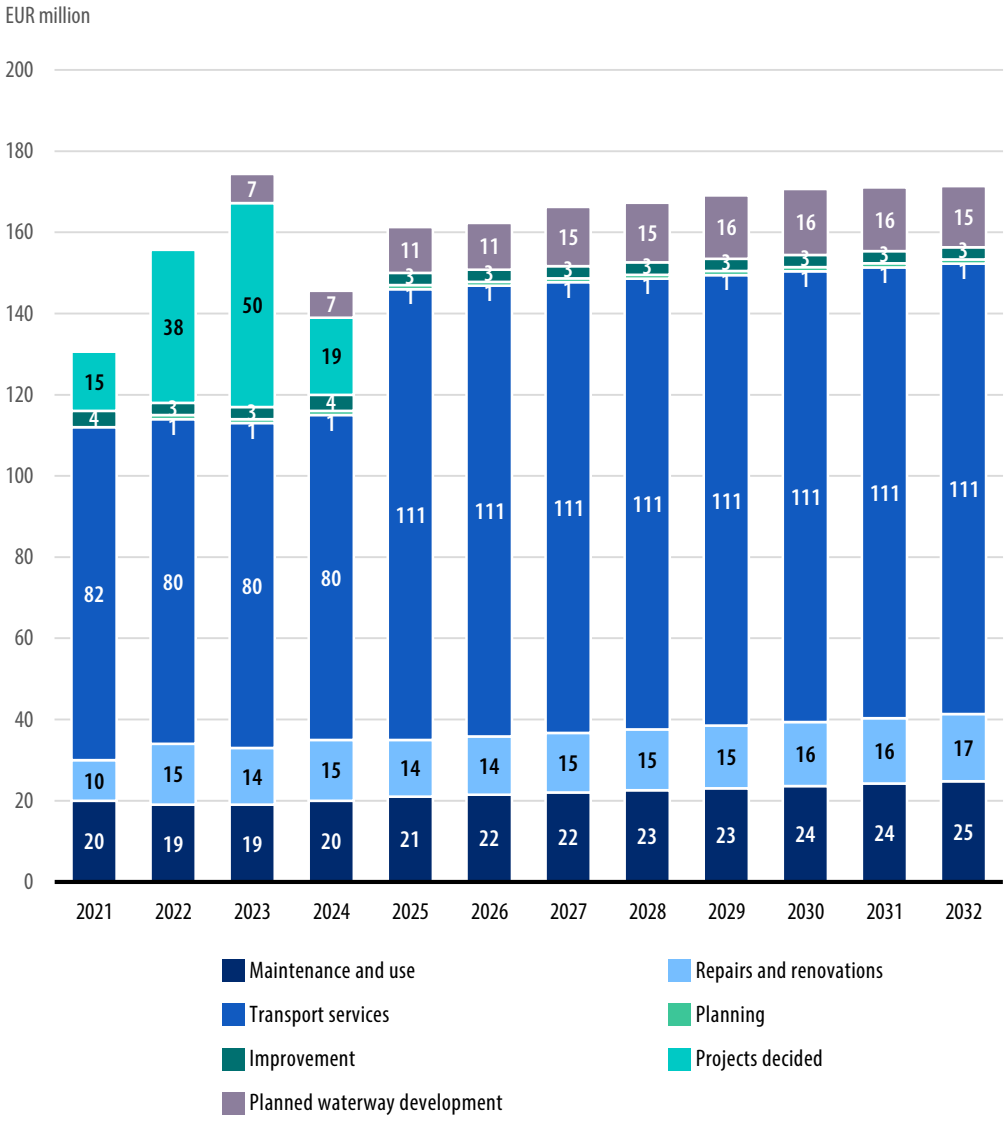


Figure 14. Basic transport infrastructure management by product on waterways, waterway development projects decided, and planned waterway development (in EUR million).



Implementing the National Transport System Plan will require adequate resourcing for the Ministry of Transport and Communications administrative branch. The annual operating appropriations should be raised permanently by about EUR 1.19 million for the Finnish Transport Infrastructure Agency, by EUR 1.75 million for the ELY Centres and, for the first few years, by about EUR 3.62 million per year for the Finnish Transport and Communications Agency Traficom. The need to raise the operating appropriations for the Finnish Transport Infrastructure Agency is specifically based on drawing up the planning and investment programmes to ensure long-term infrastructure network development as

well as on expanding the scope of project assessments. The need to raise the operating appropriations for the Finnish Transport and Communications Agency Traficom is specifically due to development of transport system analysis to serve transport system development as a whole and to implementation of measures relating to passenger and freight transport services, discretionary government grants and utilisation of information. Moving forward, the Finnish Transport and Communications Agency Traficom will also play a significant role in making use of the Connecting Europe Facility.

7 Summary of the impact assessment

7.1 Impact assessment as part of drafting the National Transport System Plan

Impact assessment constituted an essential part of drafting the National Transport System Plan. Its aim was to increase understanding of the impact of transport system development and promote informed decision-making. An environmental impact assessment was conducted for the National Transport System Plan in keeping with the Act on the Environmental Impact Assessment of Plans and Programmes by the Authorities (the 'SEA Act'). Furthermore, the Plan was assessed in terms of the extent to which it would meet its objectives. Impacts were assessed relative to the alternative reference scenario. To create a basis for impact assessment, an impact assessment programme was drawn up for the National Transport System Plan.[41] The Ministry of Transport and Communications requested opinions on the Plan's premises and impact assessment programme in early 2020. The opinions provided views on aspects such as handling and monitoring the environmental impact assessment. Based on feedback received, the assessment programme was updated by compiling health impacts as one of the areas to be assessed, for example. The views expressed in the opinions were taken into account in drafting the Plan and its impact assessment.

The impact assessment provided support for drafting the National Transport System Plan and taking environmental considerations into account at different stages of planning. The Plan's contents were developed making use of information obtained from the impact assessment. The relevant environmental protection objectives adopted at the international, EU or national levels were taken into account in preparing the Plan. In late 2020, an environmental report was drawn up on the Draft Plan in keeping with the SEA Act.

The Ministry of Transport and Communications requested opinions on the Draft National Transport System Plan for 2021–2032 and on its impact assessment in early 2021. Most parties that submitted opinions considered that the impact assessment provided a sufficient overview of the Plan's impacts, even if the assessment remained at a general level due to the Plan's generic approach. Submitting parties also put forward suggestions

41 National Transport System Plan: Impact Assessment Programme. Publications of the Ministry of Transport and Communications 2019:15. Available in English at: https://julkaisut.valtioneuvosto.fi/handle/10024/161892.

on how to address environmental issues, especially in terms of biodiversity and water protection. The opinions likewise stressed the importance of monitoring the Plan's impact on the environment in particular.

The Plan's environmental impact assessment, other assessments and opinions on the assessment process were not considered to give rise to any changes to the contents of the National Transport System Plan for reasons such as its nature and generic approach. The views expressed in the opinions were taken into account in finalising the environmental report and they will be considered as part of developing the impact assessment. The impact assessment and recommendations for mitigating and preventing adverse environmental effects will be taken into account as part of implementing the National Transport System Plan and drafting the next Plan.

The monitoring process of the National Transport System Plan constitutes part of the transport system analysis and it was also described in the environmental report. The aim of monitoring progress made towards the Plan's objectives is to collect and produce qualitative and quantitative information, which is then analysed and interpreted to form situational awareness of monitoring. The monitoring obligations under section 12 of the SEA Act are taken into account in the Plan's monitoring process, which covers monitoring progress towards the Plan's objectives as well as monitoring its environmental impacts.

7.2 Impacts relative to Plan objectives

The measures included in the National Transport System Plan are relatively well equipped to support achievement of the accessibility objective. Accessibility will equally improve at the international, interregional and intraregional levels as well as within urban sub-regions as a result of basic transport infrastructure management, public transport development and travel chain measures. In particular, the better level of travel and transport services and greater user benefits compared with the alternative reference scenario will contribute to ensuring access to the whole of Finland. Access to urban sub-regions will change for the better in terms of business, commuting and housing needs. The Plan's measures will support sub-regional connections and community concentration. Improved socio-economic efficiency will also support the accessibility objective, as effective measures will produce better service levels and accessibility relative to spending.

The Plan's measures are well equipped to realise the sustainability objective. Its measures will improve people's opportunities to choose more sustainable modes of mobility. Choices will particularly increase in urban sub-regions, where internal accessibility will improve with investments in walking, cycling, public transport, travel chains and railways. Measures on the highway network and investments in walking and cycling will

improve road safety, which in turn will promote walking and cycling. The effects of the Plan's different themes on greenhouse gas emissions from transport are insignificant when compared with the alternative reference scenario, whereas its measures will facilitate a shift towards sustainable modes of mobility. The Plan will increase the range of opportunities to adapt to climate change.

The Plan's measures are well equipped to support progress towards the efficiency objective. Growing user benefits, especially in freight transport, will enhance socio-economic efficiency. Accessibility improvements will mostly take place on existing infrastructure networks, which – combined with better operational reliability and promotion of digitalisation – will boost efficient use of the networks. A higher level of funding for basic transport infrastructure management will enable life-cycle efficiency in maintenance. Socio-economic efficiency will also improve as a result of accident cost reductions and health benefits from walking and cycling. In order for socio-economic efficiency to improve, the Plan's implementation must be based on carrying out socio-economically viable projects.

7.3 Environmental impact assessment

The National Transport System Plan's environmental impacts as referred to in the SEA Act are insignificant as a whole, compared with the alternative reference scenario. The environmental issues identified as being relevant to the Plan included climate change, use of natural resources, biodiversity decline, and regional and community dispersion. The Plan's measures will enhance the transport system's energy efficiency while reducing greenhouse gas emissions, but the scale of these effects is limited. Nevertheless, the Plan will facilitate the transition towards sustainable mobility modes and support sustainable community structures. These effects will only amplify over a longer term than the period covered by the Plan's impact assessment (2021–2032).

The Plan has indirect effects on biodiversity and use of natural resources. The appropriations allocated to transport infrastructure development and improvement will have significant indirect effects on resource use once the projects become concrete. Depending on individual projects, there may also be indirect effects on habitat fragmentation, connectivity of ecological corridors and habitats of endangered species. For other environmental impacts under the SEA Act, it was similarly assessed that the Plan would mostly have indirect effects.

The environmental impact assessment will be further specified as part of the Plan's implementation, including the process of drafting the investment programme. Projects may have significant local and regional environmental impacts on aspects

such as community and regional structures, biodiversity or status of water bodies. The environmental report includes a compilation of recommendations for the Plan's implementation to mitigate and prevent adverse environmental effects.

8 Insights for the next planning round

The next National Transport System Plan will be drafted so as to be ready for adoption in the spring of 2025.

The drafting process of the next National Transport System Plan will take account of the effects of the transport sector's climate targets and any possible changes in taxes and charges as well as public transport development efforts. Attention will likewise be paid to improving accessibility and promoting employment, economic and industrial policies.

Over the years to come, project companies Finnish Rail Ltd and Turku One Hour Train Ltd will keep planning the major rail projects while negotiations on an eastbound rail project company will carry on. As the project companies make progress in planning, the drafting process of the next National Transport System Plan will be able to pay more attention to considering how to develop the Finnish rail network as a whole.

In particular, the next planning round will focus on exploring the outlook for air transport in light of fresh information.

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