

Sustainability of national road funding

Can existing national roads be repaired and maintained to the desired standard and new roads be built within the agreed timeframe when funding is decreasing?

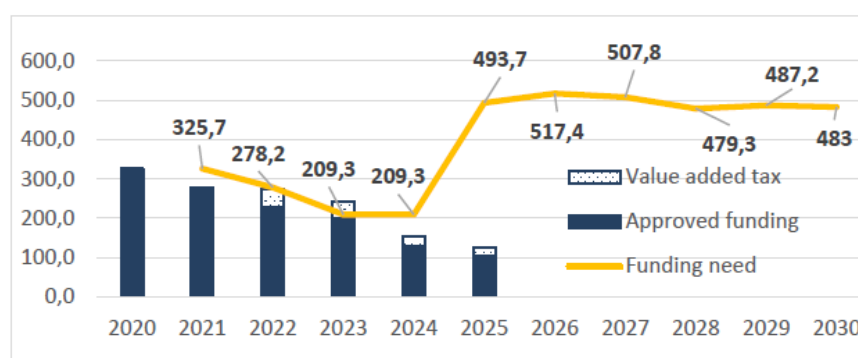
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Summary of audit results

With decreasing funding, not all the objectives set for the maintenance and development of national roads can be met. In a situation where there is not enough money to meet the targets, the Ministry of Economic Affairs and Communications (MEAC) must set priorities that correspond to available funding or propose additional funding options for road maintenance.

Figure. Approved funding for road maintenance and funding needs presented in the road maintenance plan, € million



Source: National Audit Office on the basis of road maintenance plans¹

The decrease in funding for road maintenance increases the risk that existing roads cannot be repaired and maintained to the extent that road quality and road safety do not deteriorate in the near future.

The roughness of roads has improved steadily over the past decade, with the biggest improvements on main roads, which have been reconstructed and built using EU funds. In the years to come, the funds allocated in the budget are significantly smaller than is needed to maintain the roads in their current state. This increases the risk that road quality will start to deteriorate.

It is not realistic to complete the Trans-European Transport Network (TEN-T) by the agreed deadline. Estonia has made a commitment to the European Union to upgrade the roads of the European core road network

¹ The years 2022–2025 are given on the basis of the financial plan of the Road Maintenance Plan 2022–2025, excluding VAT. The National Audit Office added 20% VAT to create a better comparison. The funding needs are presented in the last approved or 2021–2030 RMP.

to the requirements of the TEN-T Regulation by 2030. The Government of the Republic of Estonia wants to finance the development of roads only with the support of European Union funds, but the money allocated to Estonia for the construction of roads is not enough to meet its commitments.

As funding is decreasing and prices are rising, the MEAC and the Government of the Republic must decide on the priorities of road maintenance. The national strategy documents set out a number of objectives for maintaining and developing the quality of national roads and improving road safety, but there is not enough money to meet these objectives and no long-term plan to secure funding. In a situation where funding is decreasing and construction prices are soaring, it is necessary to step up control over rising costs, ensure a transparent selection of sites and decide which investments to make and in what order.

Main recommendations

Recommendation of the National Audit Office to the Minister of Economic Affairs and Infrastructure:

- Identify the financing opportunities (including long-term) and needs for public roads in conjunction with rail development plans, taking into account the current situation, and then set priorities that correspond to the opportunities.

Response of the Minister of Economic Affairs and Infrastructure:

According to the minister, different financing options have been mapped out in the road maintenance plan for national roads and the action plan for the development of public railway infrastructure. The priorities and objectives for both rail and road maintenance are reflected in the Transport Competitiveness and Mobility Programme and correspond to the possibilities of the state budget strategy. The minister confirmed that both long-term loans and the use of the public-private partnership model have been analysed and proposals have been made to the Government of the Republic.

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Overview of the sector

1. In the Estonian road network, roads are divided into national roads, local roads and private and forest roads. This audit focuses on national roads, the total length of which in early 2022 was 16,662 km.² The development and maintenance of national roads is in the area of responsibility of the Ministry of Economic Affairs and Communications (MEAC).
2. 1,605 km (9.5%) of national roads are main roads, 2,408 km (14.2%) are basic roads, 12,515 km (73.9%) are secondary roads and other national roads and 134 km (0.8%) are ramps and connecting roads (see also Figure 1).

Figure 1. Estonian network of national roads



Source: Transport Administration

Road maintenance – activities related to national roads, including construction, repair, maintenance, etc.

Source: Road Traffic Act § 1¹,
<https://www.riigiteataja.ee/akt/122032022004>

3. Restoration and development measures are distinguished in **road maintenance**. The subdivision of preservation of the road network includes the following road maintenance works:

- road maintenance;
- repair of gravel roads;
- preservation repairs of paved roads to maintain the condition of the surface, generally by surfacing;

² The total length of national roads including light traffic roads and temporary ice roads is 17,020 km.

- restoration repairs of paved roads, the purpose of which is to renew the surface by either overlaying or milling and resurfacing;
- repair of bridges;
- reconstruction of paved roads, the purpose of which is to replace the road embankment or all or part of the road surface road, together with the replacement or repair of the facilities belonging to the road and the improvement of road safety, including the reconstruction of intersections, etc.

Road maintenance plan – the document that is the basis for funding the activities related to the maintenance of national roads, including construction, repair, maintenance, etc.

Source: Road Traffic Act § 1¹,
<https://www.riigiteataja.ee/akt/122032022004>

How is the maintenance of national roads planned?

TEN-T roads – roads belonging to the Trans-European Transport Network. The list of TEN-T roads is set in Regulation No 1315/2013 of the European Parliament and of the Council. 1,291 km of national roads in Estonia are TEN-T roads.

4. The sub-division on road network development in the **road maintenance plan** includes construction sites and their preparation, upgrading of infrastructure for smart transport systems, implementation of the action plan to mitigate the harmful effects of environmental noise, reconstruction of accident blackspots, construction of gravel road surfacing as part of the Dust-free Estonian Roads by 2030 programme and construction of infrastructure that promotes more sustainable mobility.

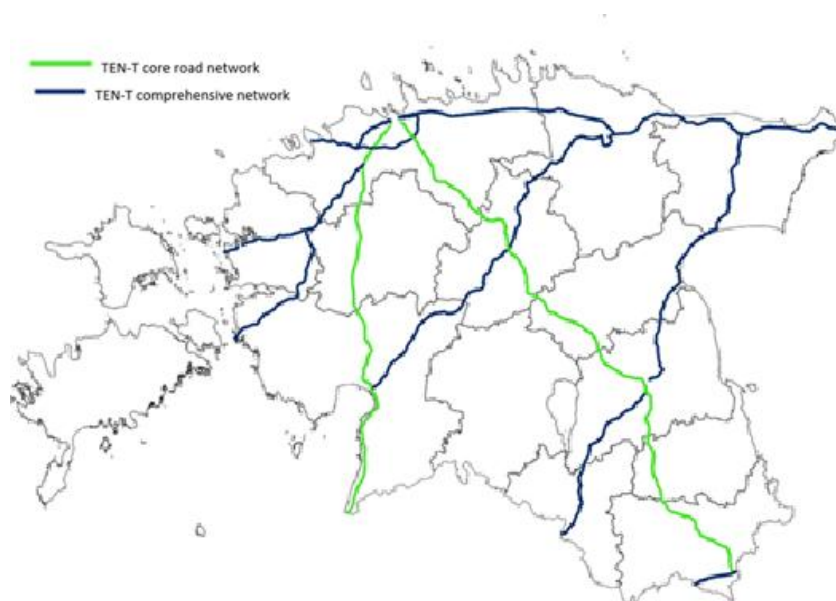
Strategic framework for road development and preservation

5. The state's most important long-term directions have been agreed in the development strategy Estonia 2035³. More detailed road maintenance planning starts with the development plan in which the long-term objectives for national roads are set. In the current Transport and Mobility Development Plan 2021–2035⁴, the main objectives for the development of roads are the development of **TEN-T roads** (see also Figure 2), the reduction of road deaths and covering gravel roads with dust-free surfaces.

³ Estonia 2035, adopted by the Riigikogu on 12.05.2021, available at <https://valitsus.ee/strateegia-cesti-2035-arengukavad-ja-planeering/strateegia/materjalid>.

⁴ Transport and Mobility Development Plan 2021–2030, adopted by the Government of the Republic and submitted to the Riigikogu on 10.06.2021, available at <https://www.mkm.ee/transport-ja-liikuvus/transpordi-tulevik>.

Figure 2. The core and comprehensive network of the Trans-European road network (TEN-T) in Estonia



Source: National Audit Office based on the TEN-T Regulation⁵

6. According to the Road Traffic Act, the MEAC prepares the road maintenance plan considering the possibilities offered by the state budget and the state budget strategy (SBS), and submits it to the Government of the Republic for adoption.

7. The money required for funding roads and the main development projects to be implemented by 2030 have been established in the latest RMP⁶ approved by the Government of the Republic on 12.12.2020.

What did the National Audit Office audit?

8. During the audit, the National Audit Office investigated the state's objectives in preserving and developing public roads. The National Audit Office also analysed whether a financing plan is in place and whether sufficient funds have been allocated for the achievement of the objectives (see Chapter I of the report).

9. In addition, the National Audit Office checked whether the money allocated to road maintenance from the state budget is used economically. For this purpose, the National Audit Office analysed the activities of the Transport Administration in the use of funds planned for the implementation of preservation and development measures, including the conclusion and amendment of maintenance contracts. The results of the analysis are presented in the second chapter of the report.

⁵ The interactive map of the European Commission's trans-European network, including roads, is available at <https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html>.

⁶ Road Maintenance Plan 2021–2030, approved by the Government of the Republic on 10.12.2020, available at <https://www.transpordiamet.ee/maanteed-veeteed-ohuruum/techitus/techoiukava>.

As funding is decreasing and prices are rising, the state must decide on the priorities of road maintenance

10. The National Audit Office clarified the objectives set in the strategy documents for the development and preservation of public roads and checked whether funds for the achievement of the objectives have been allocated in the state budget documents.

The strategy papers set a number of objectives for the condition of national roads, but there are problems in achieving them

11. The National Audit Office assumed that specific and measurable objectives have been set for the preservation and development of public roads and that the milestones have been met.

12. The main objective of road preservation and improvement is to preserve the condition of the national roads. In the previous Transport Development Plan, the condition was measured according to the proportion of roads that were in a very good, good, satisfactory or poor condition, the approach taken in the new programme for the implementation of the Transport and Mobility Development Plan is to use the International Roughness Index (IRI) to measure the condition of national roads. The lower the IRI, the smoother the road.

13. IRI is measured on paved roads, which account for approximately three quarters of all national roads.

14. Roughness has improved steadily over the last fifteen years (see also Figure 3). The condition of the main roads (see also Figure 1) has improved the most and their roughness is *ca* 0.9 mm/m. It has been possible to use European Union funds for the reconstruction and construction of main roads.

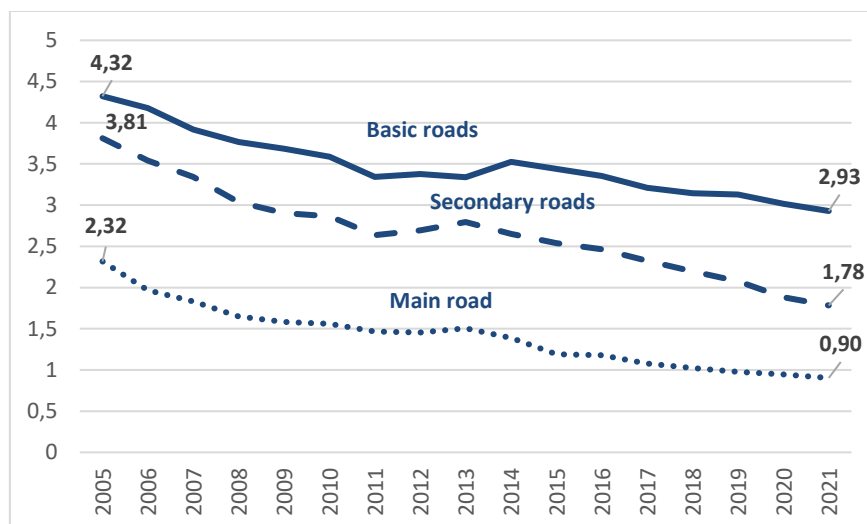
15. The situation is worse on secondary roads, i.e. 74% of national roads, where the average roughness is 2.93, i.e. the condition of the road surface is satisfactory.

What are the objectives of the preservation of national roads?

Did you know that

According to AS Teede Tehnokeskus, the current roughness of secondary roads indicates that the road surface is **relatively uneven**, i.e. although speeds can generally be close to the maximum permitted, the road surface should be observed when driving.⁷

⁷ Read more about road surface roughness and the meaning of measurement intervals here: <https://teed.ee/teenused/katsetamine-ja-mootmine/mootmine/iri/>.

Figure 3. Annual average annual roughness on national roads 2005–2021, mm/m

Source: National Audit Office according to the road register

What are the objectives of the development of national roads?

16. Estonia has made a commitment to the European Union to construct the roads of the TEN-T core road network according to the requirements of Regulation by 2030. The Tallinn-Pärnu-Ikla and Tallinn-Tartu-Võru-Luhamaa roads belong to the TEN-T core network in Estonia (see also Figure 2).

17. The main requirements the TEN-T core network roads must meet in 2030, according to the Regulation, are as follows:

- there are separate carriageways for each direction of traffic, separated by a dividing strip not intended for traffic or, in exceptional cases, by other means;
- crossings with other roads, railways, footpaths, cycle paths and tramways are grade-separated;
- they do not serve properties adjacent to the road.

18. The TEN-T comprehensive network (see also Figure 2) has to be completed in line with the requirements of the Regulation by 2050. The following requirements apply to the comprehensive network:

- access to the road is via grade-separated or regulated intersections;
- stopping and parking on the carriageway is prohibited;
- there is no level crossing of the road and a tramway or railway.

19. Today, 30% of the Tallinn-Tartu-Võru-Luhamaa road and 21% of the Tallinn-Pärnu-Ikla road are TEN-T compliant. 42% of the Tallinn-Narva road that is part of the TEN-T comprehensive network is TEN-T compliant.

20. The target to make all gravel roads used by at least 50 cars per day dust-free by 2030 is also set in the Transport and Mobility Development Plan.

21. In addition, the target for 2025⁸ is to reduce the three-year average number of road deaths to forty⁹. The target for 2021 was 48 road deaths as a three-year average, but the three-year average of road deaths in 2021 was 55.¹⁰

22. According to the Performance Report, the decrease in the number of road deaths has been more than twice as slow as needed to meet the targets set in the road safety programme.

23. According to the MEAC, this is due to the fact that the actions are funded from the budget of the institution responsible for the actions¹¹. Often, however, the activities related to the road safety programme are not a priority for the Transport Administration and other authorities. This means that a large part of the actions is not implemented. For example, 62% of the actions foreseen for 2021 were fully implemented, 18% were partially implemented and 20% were not implemented, according to the MEAC.

24. According to the MEAC, to achieve the road safety objectives, the implementation of the road safety programme must be considered important at the level of the Government of the Republic, and the state budget strategy must provide for targeted funding of critical measures of the road safety programme.

25. According to the expert opinion of AS Teede Tehnokeskus of 2019¹² on the funds needed for the preservation of national roads, the optimal amount required for the preservation of roads per year is €193 million¹³. In other words, it would be necessary to allocate such an amount every year to ensure that the level of all roads of heavy traffic is at least satisfactory and to improve the general condition of the road network.

26. Given the exceptionally high overall inflation in the near future (see Figure 4), this amount is likely to be higher now.

How much will the achievement of the national road targets cost?

AS Teede Tehnokeskus – company providing engineering services in the area of road infrastructure.

The company operates in an open market and has no direct contracts with the state. In addition to Estonia, services are also provided in Latvia, Lithuania and Germany.

⁸ Road Safety Programme 2016–2025, approved by Order No 54 of the Government of the Republic on 16.02.2017, available at <https://www.transpordiamet.ee/liiklusohutusprogramm>.

⁹ The baseline in 2014 was 82 road deaths as the three-year average.

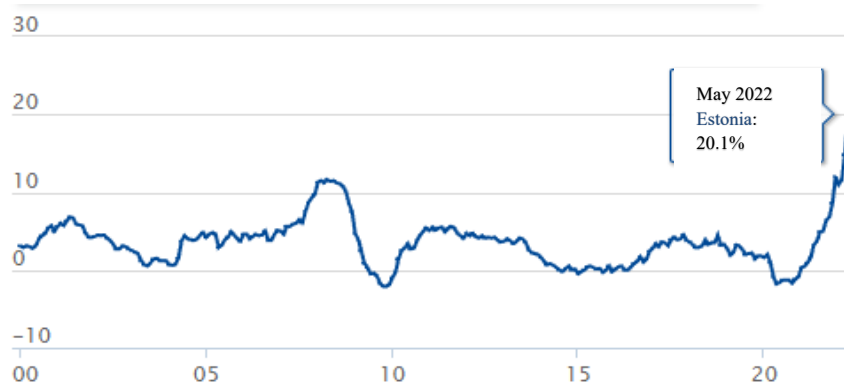
¹⁰ Transport Performance Report 2021, approved by the order of the Minister of Economic Affairs and Infrastructure issued on 30.05.2022.

¹¹ Ministries, agencies (including the Transport Administration and the Police and Border Guard Board) or local authorities are responsible for the activities of the road safety programme for the period 2016–2025.

¹² Strategic Analysis of the Funding Needed for Maintenance of National Roads 2019–2048, 2019, available: <https://transpordiamet.ee/media/3141/download>.

¹³ All amounts in the report are shown inclusive of VAT unless otherwise stated.

Figure 4. Total inflation in Estonia since 2000



Source: Euro area statistics

27. In addition to the preservation of roads, there are also the costs required for developing them, including building new roads and thus improving the road network.

28. According to the explanatory memorandum of Estonia's position on the amendment of the TEN-T Regulation¹⁴, the estimated cost of making the core and comprehensive network comply with the requirements of the current Regulation is €4 billion.

Did you know that

At the end of 2021, there were 176 km of four-lane TEN-T core network roads in Estonia. Of these, 97 km have been built after the restoration of independence.

This means that so far, an average of 3.2 km of four-lane roads per year have been built. In order to build 354 km of four-lane roads by 2050, the pace of construction should be 12.6 km/year.

Source: Four-lane roads would save centuries of time for Estonians every year. *Ärileht*, 08.10.2021.

The Estonian Infra Construction Association pointed out in an interview with the National Audit Office that the fastest pace so far has been 9 km/year.

29. The explanatory memorandum also sets out the expected funding needs up to 2050 by works:

- construction of 354 km of 2+2 roads – €1.6 billion;
- reconstruction of 215 km of existing 2+2 and 2+1 roads to make them comply with requirements – € 200 to 400 million;
- reconstruction of 725 km of the 1+1 roads of the existing TEN-T network to make them comply with the requirements of TEN-T, i.e. 2+1 roads – €2 billion;
- maintenance costs of TEN-T 2+2 and 2+1 roads – €2.5 million per year.

30. However, according to the explanatory memorandum, the requirements established for TEN-T roads will become stricter with the new regulation. According to the draft, the roads of the comprehensive network would also have to meet the same requirements as the roads of the core network, which would mean that the cost of building the roads would also rise to €6 billion¹⁵ (see also points 73–89).

¹⁴ Explanatory memorandum to the decision of the Government of the Republic 'The positions of Estonia on the Regulation of the European Parliament and of the Council of on Union guidelines for the development of the trans-European transport network, amending Regulations (EU) 2021/1153 and (EU) No 913/2010 and repealing Regulation (EU) No 1315/2013 and the Communication from the Commission to the European Parliament and the Council on the extension of the trans-European transport network (TEN-T) to neighbouring third countries', approved on 02.06.2022.

¹⁵ The amounts given in the explanatory memorandum do not include VAT.

31. Thus, the amount that should be allocated for the achievement of the objectives of TEN-T roads by 2050 should be €142.8–214.3 million per year on average.

32. In addition to the development of TEN-T roads, the construction of a dust-free surface on gravel roads must also be financed from the budget of the development measures. In 2020, €20.5 million was spent on paving 200 km of gravel roads.

33. Thus, a dust-free surface should be built on another *ca* 1,800 km of gravel roads¹⁶ by 2030, which amounts to approximately 200 km per year, i.e. €20.5 million per year without considering inflation and price increases.

What did the National Audit Office find?

34. The National Audit Office found that clear and measurable objectives for both the preservation and development of public roads have been set in strategy documents.

35. The preservation goal has been met so far, but there are problems in meeting the road safety goal and potentially also in constructing a dust-free surface on gravel roads.

Achieving the condition and development goals of national roads with the agreed funding is impossible

How is the funding of national roads planned?

36. The National Audit Office assumed that there is a long-term financing plan in place for the maintenance of public roads, including the money needed.

37. Long-term funding needs for road investments are foreseen in the road maintenance plan. However, this does not guarantee the existence of the funds, as the actual funding is decided by the state budget strategy for four years and, more precisely, by the state budget once a year.

38. According to the Ministry of Finance and the Government Office, the road maintenance plan is outdated and not in line with activity-based budgeting or the strategic planning framework.

39. Although ministries can present their opinions on the RMP at the drafting stage, the state budget and the state budget strategy are approved before the RMP, when the overall amounts of funding are fixed, without any discussion of other possible options of the RMP at the level of ministers.

40. The latest approved RMP, i.e. the one made for 2021–2030 also contradicts the SBS for 2022–2025. According to the Transport Administration, the SBS and the RMP are not aligned, as the MEAC expects to receive more money during the preparation of the SBS for 2023–2026, and therefore the Ministry did not want the government to approve the RMP with reduced funding.

¹⁶ Whilst there are more than 4,000 kilometres of gravel roads among national roads in total, a little over half of them are used by fewer than 50 cars a day. Road Maintenance Plan 2021–2030, approved by the Government of the Republic on 10.12.2020, available at <https://www.transpordiamet.ee/maanteed-veeteed-ohuruum/tee-chitus/teehoiukava>.

41. For example, for the year 2025, the MEAC requested almost €271 million in addition to the budget.¹⁷ However, the government did not approve the budget increase the MEAC had hoped for and instead, the decision made with the SBS for 2022–2025 was to cut funding for road maintenance (see also Figure 6).

42. The National Audit Office has highlighted the problem of a lack of long-term funding also in several previous audit reports. For example, in the overview of public investment published in 2020, the National Audit Office found that there is no nationwide view of investment management that goes beyond four years.¹⁸

Did you know that

- **Preparations for the construction of the Kose-Võõbu 2+2 road, including planning and design, took 10 years and the whole project took 13 years.**
- **The design of the Võõbu-Mäo 2+2 will take ca 15 years according to estimates.**

Source: Priit Sauk, Director General of the Road Administration: You cannot build a motorway fast. *Kesknädal*, 19.09.2019 <https://kesknadal.ee/2019/09/19/maanteea-meti-peadirektor-priit-sauk-kiirteed-kiiresti-valmis-ei-ehita/>

Is funding available to meet the objectives set for road maintenance?

43. In overview, the National Audit Office pointed out that a cross-sectoral investment plan covering a longer period would help areas of government to prepare projects over a longer period of time and would give greater assurance that it would be possible to obtain funds for the implementation of the investment, as the preparation of a road construction project alone often takes more than five years, plus the time needed for construction.

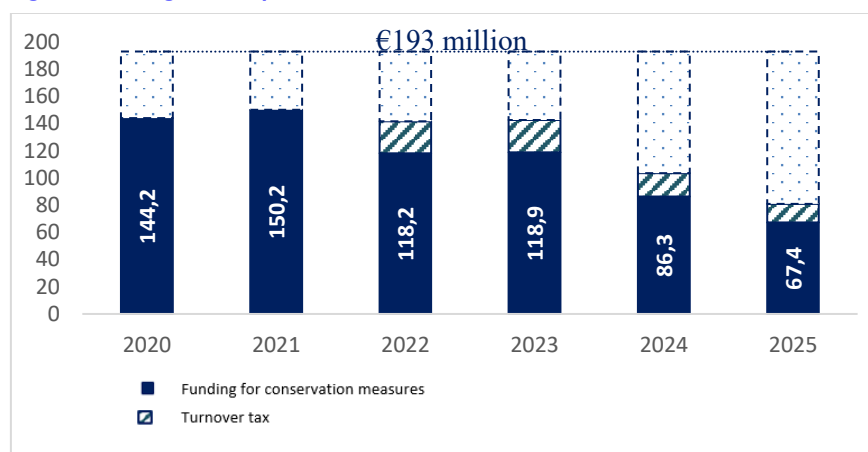
44. According to the Ministry of Finance, road maintenance is not the only area that needs long-term planning. The Ministry of Finance confirmed to the National Audit Office that it has also prepared a plan to improve the efficiency of investments, but the Government of the Republic has not yet discussed it.

45. The analysis of the National Audit Office showed that in the years 2020–2022, the money allocated for maintaining the state of the roads has remained below the funding level found by the company AS Teede Tehnokeskus. According to the financial plan of the RMP for 2022–2025¹⁹, funding will remain below this level also in the following years (see also Figure 5). Whilst the amount of funding to be allocated for road preservation in 2022 is still €141.8 million, it will drop to €80.9 million by 2025.

¹⁷ According to the general rule, the funding for each measure of the additional year of the state budget strategy is automatically the same as the funding for the previous year. Ministries can submit additional requests to increase funding.

¹⁸ Overview of the National Audit Office “Investment planning and management in ministries, larger state-owned companies, hospitals and universities”, published on 06.02.2020, available at <https://www.riigikontroll.ee/tabid/206/Audit/2497/language/et-EE/Default.aspx>.

¹⁹ “Investment plan for 2022–2025 that corresponds to the funding opportunities of the SBS”, Transport Administration 2022, available at <https://www.transpordiamet.ee/maanteed-veeteed-ohuruum/tee-chitus/teehoiukava>.

Figure 5. Funding for road preservation measures 2020–2025, € million*

* The years 2022–2025 are given on the basis of the financial plan of the RMP 2022–2025, excluding VAT. The National Audit Office added 20% VAT to create a better comparison.

Source: National Audit Office on the basis of RMPs

46. However, despite the sub-optimal level of funding for road preservation, the roughness of roads has improved steadily (see also Figure 3). According to the Transport Administration, this is due to the fact that, whilst funding is insufficient, they have targeted resources to areas where they create the most benefit for the network as a whole. For example, the Administration has prioritised resurfacing and levelling courses, which has an impact on the roughness of roads.

47. The Administration adds that cheaper measures have sometimes been used, which were not foreseen in the model of AS Teede Tehnokeskus.

48. Also, in the context of limited funding, the Transport Administration has deliberately left out some of the items of the reconstruction measure and has preferred cheaper works that increase driving comfort. The Administration explained that if a few short sections in a very poor condition appear in the road network, and a large number of sections in a satisfactory condition are being improved at the same time, then the average according to the measure is progress.

49. At the same time, the Transport Administration added that these short sections in a very poor condition require increasing investment as their condition continues to deteriorate.

50. The Transport Administration also explained that the condition of roads cannot be judged by their roughness alone, as it is also indicated by, for example, rut depth, defects and load-bearing capacity.

51. The condition of roads is also shown by the ‘repair debt’, i.e. the investment the state should make to bring road sections that are in a poor condition or do not comply with requirements up to a good standard.

52. AS Teede Tehnokeskus estimated the repair debt for 2019 at €689 million, which according to the Estonian Infra Construction Association²⁰

²⁰ Construction News, “Infra Association: national road repair debt will continue to grow in 2022”, 17.12.2021, available at <https://www.ehitusuudised.ee/uudised/2021/12/17/taristuliit-riigiteede-remondivolg-kasvab-ka-2022-aastal>.

will increase further as a result of insufficient funding for road maintenance.

53. The Transport Administration admitted in an interview with the National Audit Office that in 2025, the defects in roads will probably be such that more money than planned should be allocated for their repair (resurfacing).

Is funding available to meet the objectives set for road development?

In comparison:

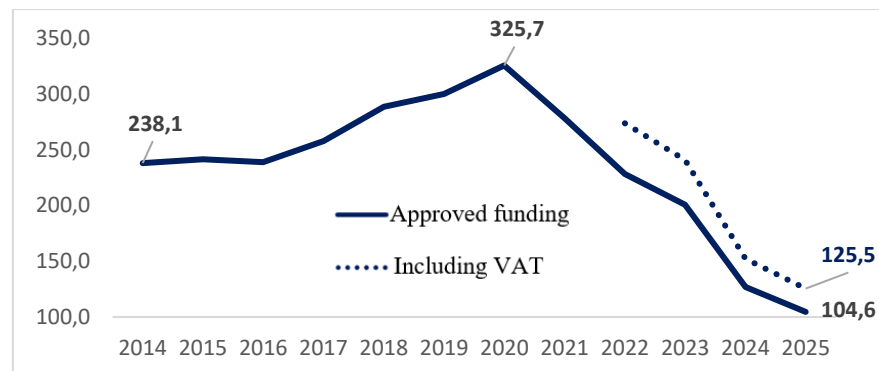
the construction procurement for the 9.6 km Pärnu-Uulu section alone is expected to cost €30 million.

Source: The construction of the Pärnu-Uulu 2+2 section will cost €30 million. ERR, 14.06.2022. <https://www.err.ee/1608629629/parnu-uulu-2-2-lojgu-ehitus-laheb-maksmat-30-miljonit-eurot>

54. In addition to preservation measures, development measures are also funded from the road maintenance plan. Following the logic of road maintenance, funding should be allocated in this order – preservation first and development if possible.

55. At the same time, the SBS for 2022–2025 allocates just over €125 million in total for road preservation and development for 2025 (see also Figure 6).

Figure 6. Funding for road maintenance 2014–2025, € million*



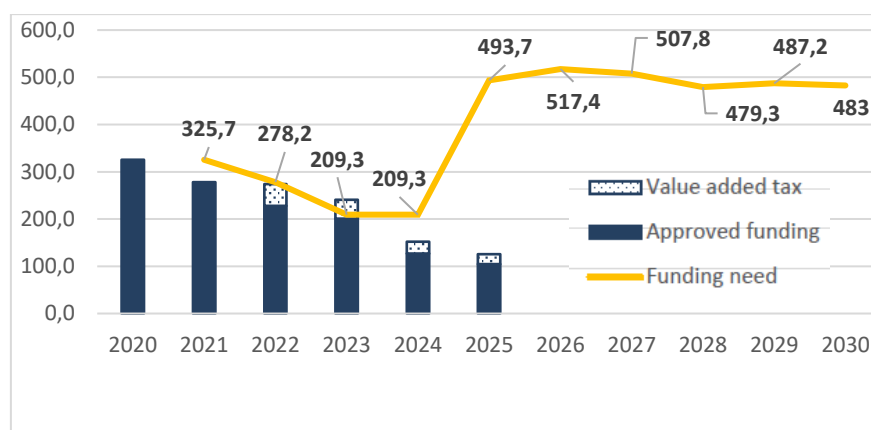
* The years 2022–2025 are given on the basis of the financial plan of the RMP 2022–2025, excluding VAT. The National Audit Office added 20% VAT to create a better comparison. In the period 2014–2020, road maintenance funding also included the administrative costs of the Road Administration. Administrative costs have not been included since 2021, when the Transport Administration was established.

Source: National Audit Office on the basis of RMPs

56. For example, less than €5 million per year is planned for the construction of dust-free surfacing on gravel roads in 2022–2023, and the level of funding for road maintenance planned for 2024–2025 does not allow for the construction of surfacing on gravel roads.

57. The latest approved RMP for 2021–2030 also includes the estimate of the Transport Administration of how much money is needed to implement the objectives of the preservation and development of state roads. Figure 7 shows the difference between the total road maintenance funding needs estimated by the Transport Administration and the funding approved in the state budget strategy.

Figure 7. Funding for road maintenance until 2025 and need for funding from 2026–2030, € million*



* The years 2022–2025 are given on the basis of the financial plan of the RMP 2022–2025, excluding VAT. The National Audit Office added 20% VAT to create a better comparison. In the period 2014–2020, road maintenance funding also included the administrative costs of the Road Administration. Administrative costs have not been included since 2021, when the Transport Administration was established. The funding for road maintenance also includes funding from the Cohesion Fund for the period 2021–2025, which is not included in the funding needs.

Source: National Audit Office on the basis of RMPs

58. Since even before the cut, funding for road maintenance was not sufficient in the opinion of the MEAC²¹, the cut in funding will, according to the Ministry, lead to both a sharp deterioration in the condition of roads and high unemployment in the road maintenance sector. According to the Transport Administration, the deterioration of bridges is also a problem.

59. According to the MEAC, road safety and environmental requirements cannot be met either. For example, according to the Transport Administration, the operating budget was cut, which reduced funding for road marking, outdoor toilets and waste management.

60. It must also be kept in mind that the Russian-Ukrainian war has also made the construction, repair and maintenance of roads more expensive because of the cost of raw materials. In particular, the prices of fuel, bitumen and metal have risen.

61. The final impact of the war on road development and maintenance plans and maintenance contracts is not known, but the Transport Agency estimates that in 2022 it will cost around €15 million to compensate contractors for bitumen price increases and around €5 million to compensate for other material price increases.²²

How much money is spent on preparing projects?

62. At the same time, the Transport Administration has been actively preparing projects. According to the Administration, 326.6 km of roads concerning the three larger main roads are being or planned to be

²¹ Transport Performance Report 2021, approved by the order of the Minister of Economic Affairs and Infrastructure issued on 30.05.2022.

²² Ain Alvela "Builders: you get 15–20% less than last year for the same money", June 2022, available at <https://ehitusest.ee/uudis/2022/06/13/ehitajad-sama-raha-cest-saab-mullusest-15-20-vahem/>.

designed in 2022. Most of the preliminary projects will be completed in 2022–2023.

63. In 2020–2021, €2.73 million was spent on the design of development measures, and €4.97 million is planned for 2022–2024.

64. However, with declining funding and rising prices, it is not certain when the projects will reach the construction stage. There is a risk that some of the money spent on design will be wasted, as completed projects become outdated and expire fast.

65. Projects expire within a few years for several reasons. For example, a building permit granted for a preliminary or main project is valid for five years, and approvals of the main project with third parties (e.g. utility network owners) generally expire within a year.

There are no plans to use non-state budget funds to meet the TEN-T road development commitments

66. According to the Action Plan of the Government of the Republic for 2021–2023²³, the plan is to finance TEN-T roads from the European Union Cohesion Fund.

67. However, the MEAC knows from the Programme for Cohesion Policy Funds 2021–2027 and the draft partnership agreement that €159 million will be allocated to public roads during the financial period 2021–2027.

68. The Ministry of Finance admits that the financial capacity for the construction of four-lane roads in Estonia is low under the current SBS and that PPPs are the only non-budgetary alternative for the construction of four-lane TEN-T roads.

69. To achieve the objectives of the Action Plan of the Government of the Republic for 2019–2023, the feasibility of PPP transactions was analysed and it was concluded that PPPs can be implemented on the basis of the legislation in force in Estonia.

70. However, the option of using PPPs was abandoned with the change of government in 2021, as PPPs are costly for the state in the long term.

71. The MEAC assured the National Audit Office that no additional transport taxation measures are planned in the coming years in addition to the road user charge introduced in 2018, which applies to all lorries over 3.5 tons.

72. The Ministry also says there are no plans to borrow money to cover the increase in road maintenance costs.

Has the MEAC considered other ways to finance development projects?

Did you know that

the Libatse-Nurme project alone (21.6 km) is estimated to cost €105 million.

PPP – Public-Private Partnership

²³ Action Plan of the Government of the Republic for 2021–2023, available at <https://www.valitsus.ee/valitsuse-eesmargid-ja-tegevused/valitsemisselused/tegevusprogramm>.

Is it possible for the Estonian state to withdraw from its commitment to the European Union to build TEN-T roads?

73. As EU regulations are directly applicable, the Estonian state cannot directly withdraw from the construction of TEN-T roads.

74. However, under the current TEN-T Regulation, Estonia can apply to the European Commission for a derogation from the provisions of the Regulation if the investments in infrastructure cannot be justified on the grounds of socio-economic cost-effectiveness.

75. For example, the Ministry of Economic Affairs and Communications has requested a derogation for the Uulu-Ikla and Ülenurme-Võru-Luhamaa sections, which are part of the core network, citing low traffic volumes.

76. Whilst the TEN-T Regulation does not explicitly state what the traffic volumes should be for a project to be considered socio-economically cost-effective, the new draft TEN-T Regulation provides that an exception may be made in particular if the traffic volumes are below 10,000 cars per day.²⁴

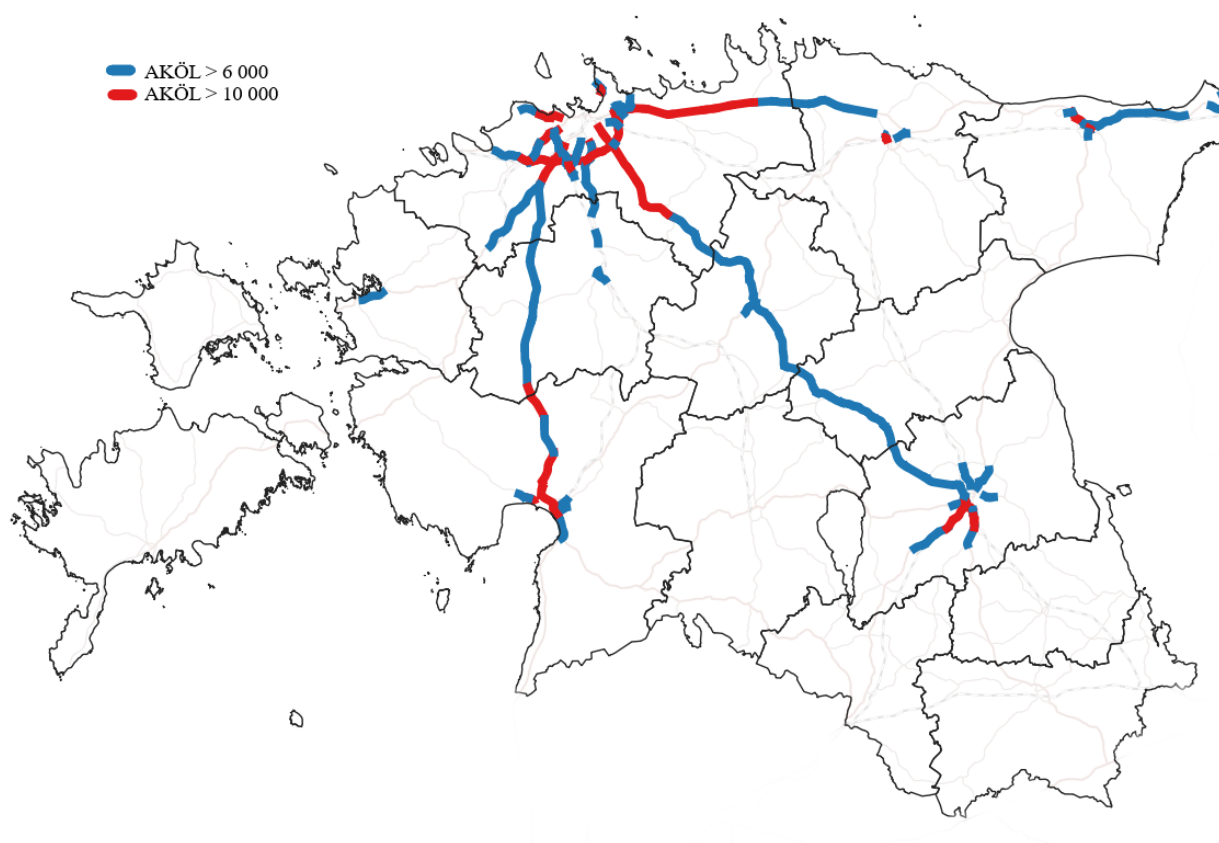
77. Based on this, the MEAC would have grounds to request a derogation for a large part of the TEN-T roads. The areas where the annual average daily traffic volumes are 10,000 cars or more are shown in red in Figure 8.

78. According to the cost-benefit analysis of the Rõmeda-Haljala 2+2 road commissioned by the Transport Administration in 2010, and the Administration's subsequent preliminary cost-benefit calculations, the cost-benefit limit for the 2+2 road is generally a traffic volume of more than 6,000 cars per day (shown in blue in Figure 8).

79. However, it should be kept in mind that TEN-T roads must also meet all the requirements of the Regulation (see also from point 17), which means that their construction is generally more expensive than that of ordinary roads.

²⁴ Proposal: Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) 1315/2013, Strasbourg, 14.12.2021.

Figure 8. Annual average daily traffic volume in Estonia in 2021



Source: National Audit Office according to the traffic volume data of the road register

AKÖL- annual average daily traffic volume cars/day

80. Although the addition of the Rail Baltic railway connection will have an impact on the reduction of passenger and freight traffic on the Tallinn-Pärnu road, both the MEAC and the Transport Administration estimate that traffic on national roads will nevertheless continue to increase in the future.

81. In order to assess the impact of the added railway on roads, the Transport Administration commissioned a Via Baltica traffic forecast, which was completed in 2017. It shows that after the Rail Baltic railway is taken in use, traffic on Via Baltica will nevertheless increase 1.7 times in 20 years. However, the situation for passenger and freight traffic has changed since the outbreak of the Russia-Ukraine war.

82. The Transport Administration has requested funding to create a mobility model covering all modes of transport: rail, road, water and air. So far, however, funding for the mobility model has not been found due to budget cuts.

What did the National Audit Office find and what does it recommend?

83. The National Audit Office finds that the state does not have a long-term and stable financing plan for the development and preservation of state roads that considers realistic financing possibilities. Although the Transport Administration has highlighted the long-term funding needs for road maintenance in the road maintenance plan, in practice this does not

mean that the activities and projects set out in the plan will actually be funded.

84. Also, the RMP is approved after the state budget and the state budget strategy, in accordance with the overall amounts set out therein. This also means that, although the RMP is approved by the Government of the Republic, it is not substantively discussed.

85. The National Audit Office find that achieving the objectives of the preservation, safety and development of roads – including the commitment to the EU to complete the TEN-T core network by 2030 – with the planned funding is not realistic.

86. Due to underfunding and price increases, the National Audit Office also estimates that there is a risk that the condition and drivability of national roads will deteriorate in the near future.

87. Nor has the state agreed on alternative financing for public roads, such as the use of PPPs or the establishment of additional taxes. It is therefore unlikely that the state will be able to fully meet its own targets and its commitments to the European Union.

88. Consequently, the National Audit Office believes that the MEAC and the Government of the Republic of Estonia should think more broadly about the priorities in the field of road maintenance and what can be implemented with the existing funding or where the missing funding can be found. In the opinion of the National Audit Office, it is also unreasonable to proceed with the preparation of projects that are not selected as a priority.

89. Recommendations of the National Audit Office to the Minister of Economic Affairs and Infrastructure:

- Initiate an amendment to the Road Traffic Act in such a manner that the road maintenance plan does not have to be approved by the Government of the Republic and include it in the Transport and Mobility Development Plan, in order to better ensure the planning of the state's various transport networks and the monitoring of development trends and project implementation.
- Until the Road Traffic Act stipulates that the road maintenance plan must be approved by the Government of the Republic, submit
 - to the Government of the Republic regularly an overview of the implementation of the road maintenance plan, including the timeliness of the sites and their adherence to the budget;
 - all construction and reconstruction projects to the road maintenance plan.
- Analyse how to avoid the deterioration of the condition of the current national road network by reallocating funds between the measures in the road maintenance plan, where necessary.

- Identify the financing opportunities (including long-term) and needs for public roads, taking into account the current situation, and then set priorities that correspond to the opportunities.
- Take into account the actual funding possibilities and the real need for road construction when ordering design. Avoid spending money on the preparation of projects that cannot be carried out with the approved funding and do not need to be fully built.

Response of the Minister of Economic Affairs and Infrastructure: We will consider implementing the proposal. However, we would like to point out that the Transport and Mobility Development Plan is a long-term sectoral development document approved by the Riigikogu. The Transport Competitiveness and Mobility Programme, which sets targets for the quality of transport services within the limits of funding possibilities, can be seen as the operational programme of the Transport and Mobility Development Plan. The road maintenance plan, which takes funding options into account, is also a more detailed implementation plan than the programme, which highlights, among other things, longer funding needs as set out in the Transport and Mobility Development Plan 2021–2035, which the programme does not include.

The road maintenance plan is, among other things, a document for monitoring the implementation of the objectives of the Action Programme of the Government of the Republic, playing an important role in aspects of national security, regional policy implementation and environmental protection, thus influencing not only the Ministry of Economic Affairs and Infrastructure but also the functioning of other sectors.

The road maintenance plan is submitted to the Government of the Republic for approval, usually once a year. An overview of the implementation of the road maintenance plan so far, the main concerns and possible solutions will be given with the approval of the new plan. The road maintenance plan to be presented in 2022 will outline the construction and reconstruction projects for the whole road maintenance period. The Ministry is certainly ready to submit to the Government of the Republic various overviews together with the information requested by the Government of the Republic.

This analysis will be carried out every year in when the road maintenance plan is updated, taking into account the volume of funds allocated to road maintenance. The road maintenance plan is prepared according to the principle of ‘preserve first, then develop’ in order of priority – maintenance, preservation and then development.

The maintenance of national roads is financed on the basis of the Road Traffic Act, according to which the amount of funding for road maintenance is set out in the state budget strategy and in the state budget for each financial year, which includes various sources of funding. In addition, under the Railways Act, the Government of the Republic approves an action plan to guide the development of the public railway infrastructure, with the aim of providing sustainable funding for the maintenance, renewal and development of the infrastructure needed to meet future mobility needs. Under the State Budget Act, a four-year budget strategy is drawn up, including sectoral programmes. The

priorities and objectives for rail and road maintenance are reflected in the Transport Competitiveness and Mobility Programme and correspond to the possibilities of the budget strategy. Long-term road infrastructure objectives and infrastructure priorities are set out in the Transport and Mobility Development Plan 2021–2035, which, among other things, addresses all modes of transport and their interactions. Different financing options have been mapped out in the road maintenance plan for national roads and the action plan for the development of public railway infrastructure. The Ministry of Economic Affairs and Communications, the Transport Administration and AS Eesti Raudtee are actively involved in EU targeted assistance programmes to improve railways, road maintenance and road safety (e.g. ITS, military mobility, etc.). Among other things, both long-term loans and the use of the public-private partnership model have been analysed and proposals have been made to the Government of the Republic.

The methodology for selecting road maintenance projects is in place, but selection has not been transparent

How is it decided which projects will be funded?

90. The National Audit Office assumed that the projects that receive funding from the state budget are the ones that most need to be implemented. This means that the Transport Administration has developed a methodology for selecting the road sections that need repairs the most and has implemented this methodology in practice.

91. The National Audit Office also assumed that the data used in the analyses were complete, timely and relevant, and that they were collected according to established methodologies.

The Transport Administration has guidelines and a methodology for selecting road maintenance projects

92. According to the Road Traffic Act, the Ministry of Economic Affairs and Communications is responsible for the preparation of road maintenance plans. The financial plan of the RMP and the list of construction and reconstruction projects are prepared by the Transport Administration during the drafting of the RMP.

93. The Transport Administration collects various data on the condition and usability of roads, including data on road roughness, traffic volumes and defects.

94. The analysis of the data of the road register by the National Audit Office showed that the data are collected according to the established guidelines and are largely both timely and relevant.

95. The National Audit Office ordered a data analysis from Positium OÜ, a research company of the University of Tartu, to assess the quality of the traffic volume data of the Transport Administration.

96. Traffic volumes are one of the main criteria for selecting both preservation and development projects. Data on traffic volumes also influence maintenance contracts.

97. Comparing the results of the analysis with the traffic volume data of the Traffic Register, the National Audit Office concluded that the traffic volume data of the Transport Administration are largely correct and reflect the real traffic on national roads.

98. Positium OÜ also confirmed to the National Audit Office that the differences between the mobile positioning data and the traffic volume data are acceptable and the discrepancies can be explained by the differences between the two measurement methods – the number of vehicles on the road is measured in the case of traffic volumes and mobile positioning measures the number of all people, including, for example, pedestrians.

The selection of projects is not always sufficiently justified

99. Based on the data collected, the Transport Administration analyses the need for road section repairs in the Estonian Pavement Management System (EPMS).

100. Based on the ranking, the person responsible for each repair measure puts together an investment plan for the measure and submits it, with the justifications, to the road maintenance plan working group of the Transport Administration for discussion.

101. The working group approves the prepared measure-based investment plans and submits them to the management for decision. However, the management does not see the analysis or justification of the choices of items and approves the plans as a whole. This means that the management does not know how many projects have been removed from the list and why, and what the need for repairs of these projects was like (see also Figure 10).

How does the Transport Administration select projects?

Figure 10. Process for selecting sites to be funded from the repair measures of the Transport Administration



Source: National Audit Office on the basis of the documents and explanations of the Transport Administration

102. The National Audit Office analysed the list of the repair measures of the RMP for 2018–2022 and the EPMS analyses on which they were based to determine whether the selection of RMP sites was justified and transparent.

103. However, the analysis showed that the process of drawing up the lists of the road maintenance plan for 2018–2022 was not transparent.

104. Although the EPMS analyses of all repair measures had been carried out in accordance with the applicable guidelines, the Transport Administration did not document how the sites were selected from the ranking of the analysis to the RMP list. This means that it was not entirely clear why some of the sites identified in the analysis as being in greater need of repair were excluded from the RMP list, while those lower down the EPMS ranking were funded under the RMP.

105. In an interview with the National Audit Office, the Transport Administration pointed out that an object may be excluded from the RMP list, for example, because a decision is made in favour of another repair measure or postponing the commissioning of the object. In addition to condition, other important factors in the selection of sites include the proximity of another site, the availability of human resources, the time needed for preparation and land acquisition, political guidelines, etc.

106. At the same time, the Transport Administration also sent the National Audit Office an analysis table of the reconstruction measure that was the basis for the RMP for 2021–2030, which contains a much more thorough explanation as to why each site should or should not be financed under the RMP.

107. Although the Transport Administration has improved the analysis table of the reconstruction measure, the National Audit Office did not analyse all of the analysis tables and RPM lists that were the basis for the RMP for 2021–2030 and cannot confirm that the Administration now adequately justifies all RMP investments.

108. The analysis of the National Audit Office also showed that the reconstruction projects included as an annex to the RMP for 2018–2022 should not have been taken on as a priority according to the EPMS analysis. However, according to the Transport Administration, the road sections that are eligible for the EU Cohesion Fund are specified in the annex to the RMP.

109. According to the Road Traffic Act, the RMP should contain lists of all construction and reconstruction projects.

110. However, only road construction projects are included in the RMP for 2021–2030. According to the Transport Administration, the TEN-T road projects are included in the annex to the RMP because they are the only ones that are likely to receive funding from the Cohesion Fund, and the requirement to submit projects applying for funding in a road maintenance plan arises from the regulation that regulates the implementation of the Fund²⁵.

111. According to the Administration, there are no more reconstruction projects in the last RMP because there is no hope of obtaining external funding for them.

What did the National Audit Office find and what does it recommend?

112. The National Audit Office finds that despite the existence of guidance materials and methodologies; there is no assurance that the projects financed from the state budget are the ones that most need to be implemented. The audit showed that the selection of projects for the RMP for 2018–2022 has not been transparent and the Transport Administration was also unable to explain to the National Audit Office why some of the projects at the bottom of the EPMS ranking list were included in the RMP list, whilst the projects ranked higher, i.e. the projects in a worse condition, were excluded.

²⁵ § 6 (1) of Minister of Economic Affairs and Infrastructure Regulation No 85 “Development of transport infrastructure in 2014–2020”, entered into force on 10.10.2014, available at [RT I, 07.10.2014, 16](#).

113. At the same time, the National Audit Office is of the opinion that the data on the condition of the roads collected in the road register is accurate and up-to-date.

114. Recommendation of the National Audit Office to the Director General of the Transport Administration: ensure that the agreed dataset and methodology for the selection of sites for the road maintenance plan are actually used and that the selection of sites is documented and transparent at every stage.

Response of the Director General of the Transport Administration: We confirm that the Transport Administration uses the agreed dataset and methodologies for the selection of sites for the road maintenance plan. We agree with the observation that the documentation of decisions needs to be improved. Therefore, we will review the methodologies for the selection of sites of all measures and will update the process of obtaining lists from the ranking in those methodologies where this part is missing or unclearly described, with a deadline of 01.08.2023. As a quicker measure for the improvement of documentation, we will add additional justifications to the lists of sites to be approved as of 01.08.2022 if the procedure for the selection of sites is not described clearly enough.

The costs of maintaining national roads are rising constantly, but supervision of the increase in costs is weak

115. The National Audit Office also investigated the use of budgetary funds during the audit. For this purpose, the National Audit Office analysed the effectiveness of maintenance contracts, their amendment and the amendment of major development and preservation contracts.

Supervision of amendments to maintenance contracts is weak

How are contracts amended?

116. The National Audit Office assumed that the development, preservation and maintenance contracts concluded by the Transport Administration would be amended only in justified cases and that a clear division of roles and responsibilities has been established for their amendment.

117. The sample of development and preservation sites analysed by the National Audit Office (see Annex A) revealed that contracts are rarely amended. The Transport Administration explained that contracts are mainly amended when it is necessary to correct errors in a project. In a few cases, the term of the contract is also changed, or an amendment is made if the person named in the contract changes, for example, the representative of one of the parties or the roadmaster.

118. Increases in the cost of procurements under development and maintenance measures that remain under than €100,000 are approved by the head of the regional unit of the infrastructure construction and maintenance department of the Transport Administration.

119. If the cost of a project increases by more than €100,000 or if the tenders exceed 30% of the expected cost when the procurement is

opened, the increase will be approved by the road maintenance plan working group of the Transport Administration.

120. Whilst the responsibility of the working group of the Transport Administration is described in the working group's rules, the responsibility of the Administration's regional managers for the amendment of contracts is not. The Transport Administration explained that the responsibility of the managers of regional units in amending contracts is governed by the Public Procurement Act and the extent of the reserve provided for in the contract. In general, the reserve is 15% of the total cost of the contract.

121. Maintenance contracts are generally amended when the price of the contract is adjusted once a year in line with changes in the consumer price index and when there are changes in the road network. The Transport Administration changes the volume of the contracts when a new road is added to the maintenance, a road is taken off the national road network or the Administration raises the **condition level** of an existing road.

122. The input for changing condition levels comes from the results of the measurement of traffic volume. According to the statutes of the Transport Administration²⁶, the Administration carries out traffic counts on national roads and publishes the results on its website and in the road register in the first quarter.

123. Amendments to the maintenance contracts are approved and signed by the regional manager of the Transport Administration.

124. The cost of maintenance contracts increases almost every year, mainly due to the indexation of maintenance contracts with the consumer price index, the increase in condition levels due to the increase in traffic volumes, and changes in the road network as new junctions, collector roads, light roads, etc. are built.

125. The Transport Administration explained that maintenance contracts can become more expensive when one contract expires and the terms of the new contract are stricter compared to the previous one.

126. On the one hand, the increase in condition levels brings greater driving comfort and safety, but the maintenance contracts analysed by the National Audit Office also show that maintenance contracts have become increasingly costly for the state.

127. Using the Lääne-Viru contract as an example, the cost of a contract year can increase by up to 37% compared to the original contract – while the amount that had to be paid for a contract year in the period 01.11.2017–31.10.2018 was €1.97 million, the amount that had to be paid for a contract year in 01.11.2021–31.10.2022 was €2.7 million (see also Figure 11).

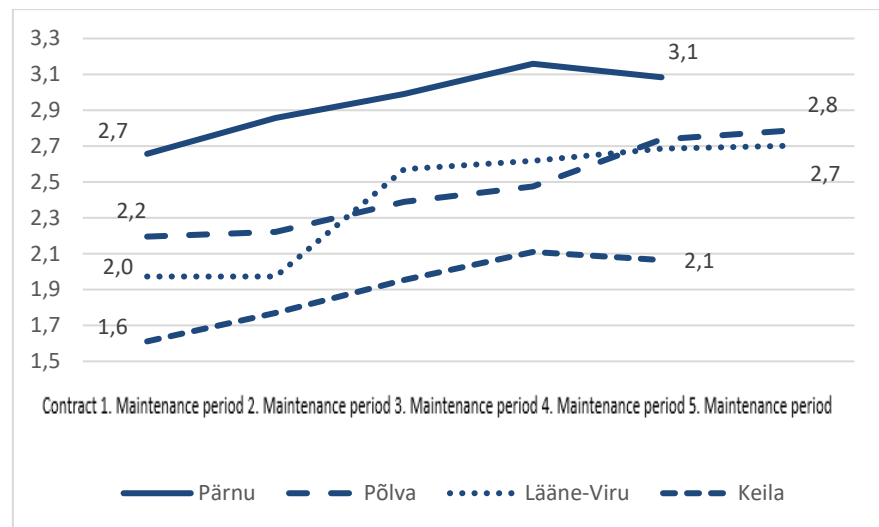
Condition level – the level of the requirement a road must meet. Condition levels vary according to road type, traffic volumes and season. The level requirements established for each type of road are approved by the Regulation of the Minister of Economic Affairs and Infrastructure.

Source: Minister of Economic Affairs and Infrastructure Regulation No 92 "Requirements for the condition of roads" of 14.07.2015, [RT I, 15.07.2015, 13](#)

What is causes the increases in the cost of maintenance contracts?

²⁶ Minister of Economic Affairs and Infrastructure Regulation No 82 "Statutes of the Transport Administration" of 03.12.2020, [RT I, 09.12.2020, 1](#).

Figure 11. Increase in the cost of maintenance contracts by the contracts of 4 regions, € million



Source: National Audit Office on the basis of maintenance contracts

128. Due to a significant increase in the consumer price index in 2022, the existing contracts will be more expensive for the Transport Administration than originally planned. The change in the index in 2022 compared to the previous year is 4.6%. According to the Transport Administration, the cost of maintenance contracts will increase by €4 million in 2022 due to the consumer price index.

Did you know that

road maintenance is divided into routine and periodic maintenance. Routine maintenance is further divided into summer and winter maintenance. The maintenance contracts also include preservation repairs based on unit prices.

Source: RMP 2021–2030

129. The increase in the cost of existing contracts was affected the most by the amendment to the regulation “Requirements for the condition of roads”²⁷ made in 2018, as a result of which all roads on which more than 1,000 cars drive per day on average have the highest level, i.e. condition level 3. Preventive 3+ de-icing is separately paid for in addition to this.

130. Although the Transport Administration receives the traffic volume data on which the road condition levels are based at the end of every March, some contracts show that the condition levels have been changed up to four times a year.

131. The Transport Administration has no procedure for the amendment of contracts on the basis of new traffic data. The Administration explained that it is common practice that contract amendments are made as and when necessary.

132. Decisions to change the condition levels are taken independently by each region of the Transport Administration. Whilst the regulation lays down rules on the condition level a road must meet depending on the traffic volume, the Administration says that in addition to the traffic volume, it also takes into account the proportion of heavy goods traffic and the need to ensure the comprehensive condition level of the road.

²⁷ Minister of Economic Affairs and Infrastructure Regulation No 92 “Requirements for the condition of roads” of 14.07.2015, [RT I, 15.07.2015, 13](#).

What did the National Audit Office find and what does it recommend?

133. The National Audit Office found that the roles and responsibilities for amending contracts in the Transport Administration have been defined, with the regional managers having greater responsibility. However, the audit showed that the Administration's supervision of amendments to maintenance contracts is weak, there are no financial limits on amendments to maintenance contracts, and the Administration needs clearer rules on how often and for what reasons contracts can be amended.

134. Recommendations of the National Audit Office to the Director General of the Transport Administration:

- Establish the thresholds within the scope of which the decision in the case of an increase in the cost of a maintenance contract is made by a regional manager and when the price increases must be discussed in the road management plan working group of the Transport Administration.
- Establish a common procedure for changing condition levels for all regions, based on traffic volume data.

Response of the Director General of the Transport Administration: We will make the changes in the processes from 01.01.2023.

We will establish a single procedure in 2023 at the latest. In addition to traffic volumes, we also take into account other criteria that are relevant for the determination of condition levels.

The cost of maintenance contracts increases also due to the increase in the volume of periodic maintenance and repair work

Periodic maintenance – additional performance of maintenance work not included in routine maintenance, such as resurfacing, dust control, installation of traffic signs and cleaning of the road area
Repair work – replacement of part of a road with an equivalent, e.g. repair of gravel surface, construction of new culverts, construction of side ditches.

Source: Transport Administration

135. The National Audit Office assumed that a procedure for ordering additional periodic and repair work had been agreed and is followed.

136. In order to ensure the condition of the roads, the maintenance contracts foresee, in addition to the routine maintenance works, **periodic maintenance** works and **repair works**, which are added to the contract every year as necessary. This, in turn, increases the cost of road maintenance.

137. The biggest changes in periodic maintenance are related to the increase in the volume of dust control.

138. For example, while the Saare maintenance contract foresaw 44 km of dust control works at the time it was concluded, a total of 66 km of dust control works were ordered in 2021.

139. Also, the volume of ordered dust control work has increased every year according to the Pärnu contract. Whilst 100 km of dust control works were initially ordered, 137 km have been ordered in 2022 according to the contract.

140. Although the maintenance contracts state that the contracting authority and the road maintenance contractor review the performance of the periodic maintenance planned for the year on an ongoing basis and enter the composition, volumes, locations and deadlines of these works in

a record, the Transport Administration says that no record is usually prepared about this.

141. According to the regional representatives of the Administration, periodic maintenance is agreed on an ongoing basis by email and, once the work has been carried out, a periodic maintenance record is prepared, indicating the work that was carried out, its location and volume.

142. The analysis of four maintenance contracts (Põlva, Keila, Lääne-Viru and Pärnu) by the National Audit Office also showed that more work was done than set forth in the contract. Records of the added works were prepared after the works were carried out.

143. The maintenance contract of Põlva County for the period 01.10.2020–30.09.2021 stated that dust control will be performed on 202 km, but according to the record prepared in September 2021, the work was performed on 213 km.

144. The Transport Administration explained that in 2017–2019, the objective of the Administration was to join the dust control sections and this significantly increased the volume of work. The decision on which sections would be joined was made during the contract period, and it was not possible to know before the procurement how many extra kilometres would be added.

145. The Administration added that larger volumes in the records are due to the need that emerged in a specific situation, such as repeated complaints from citizens or the joining of two dust-free sections. In addition, volumes increase when non-traditional HGV traffic spoils the dust control and it must be redone.

146. The analysis of the National Audit Office showed that, contracts also become more expensive when repair works are added. For example, the amendment to the Põlva contract increased the cost of repair works in 2020 by €157,215 (excluding VAT) due to the emergency works related to the wear layer of gravel roads on six gravel roads covering 68,267 m². Initially, repair works on 100 m² were provided in the contract.

147. Additional repair works have also been ordered in other regions, for example, an amendment to the Võru maintenance contract in 2020 increased the cost of repairs by 75%, or €67,378.²⁸

148. The National Audit Office also drew attention to the addition of large volumes of repair works in its 2012 audit “Road maintenance and supervision of road maintenance”. At the time, the predecessor of the Transport Administration, the Road Administration, replied that it was considering excluding preservation repairs from maintenance contracts. The Transport Administration explained that large-scale works, such as resurfacing of a few tens of kilometres and major repairs of gravel roads, have been excluded from the contracts.

149. However, an analysis of the maintenance contracts showed that preservation repair works are still included in the existing contracts and that there are no procedures on how and within which financial limits

What did the National Audit Office find and what does it recommend?

²⁸ The amount set for repair works in the initial contract was €89,318.

periodic works and repairs are ordered within the scope of maintenance contracts.

150. The Transport Administration explained that the repairs included in the maintenance contracts are small-scale and without them, it is not possible to guarantee the condition requirements, and that separate procurements will be announced for repairing frost damage and cracks, and marking.

151. However, the analysis of the National Audit Office showed that it is not possible to get an overview of the roads on which additional repairs are carried out and the criteria according to which these roads have been selected. For example, in the case of the Põlva and Võru contracts, the volume of repair works was increased significantly, but in neither case does the amendment to the contract state on which sections and for what reasons it was necessary to carry out such a volume of repair works, it is only stated that the volume of emergency works on gravel roads, including repair works, will be increased.

152. The National Audit Office also drew attention to the same problem in its 2012 audit “Road maintenance and supervision of road maintenance”, where it highlighted that the contracts do not contain information on the condition and repair needs of roads.

153. Recommendation of the National Audit Office to the Director General of the Transport Administration: establish clear rules within the Transport Administration on how, within which financial limits and on the basis of which data additional works within the scope of maintenance contracts are decided upon, and record additional works with justifications before the works are carried out.

Response of the Director General of the Transport Administration: We will prepare and establish the rules by the end of Q1 2023 at the latest.

The volume of the works to be ordered is not clear when the procurements of maintenance contracts are carried out, and the unit prices in maintenance contracts differ significantly

Is the volume of maintenance to be ordered clear in procurement?

154. The National Audit Office assumed that maintenance contracts are amended only in justified cases, the volume of work to be carried out is known before the contract is signed and the unit prices in maintenance contracts do not differ significantly.

155. An analysis of the effectiveness of public contracts showed that maintenance contracts are amended either within one to two months after the start of the first year of the contract or even before the start of the first year of the contract.

156. In most cases, the contract is amended on the grounds that the overall length and condition levels of the roads to be maintained have changed.

157. For example, in the case of the Keila contract, the first amendment entered into force before the start of the first contract year. The reason given in the amendment to the contract was that the total length and condition levels of the roads to be maintained in the Keila road

maintenance area of Harju County had changed, and consequently the cost of maintenance had also changed.

158. The price for one period of this contract increased by €30,689 before the start of the first year, bringing the total maintenance cost to €1,611,353. The change increased the total length of the maintenance of paved roads by *ca* 20 km.

159. The maintenance contract of the Ida-Viru maintenance area was signed at the end of April 2021, but the amendment that came into force in September increased the length of the roads to be maintained by 11 km.

160. The Transport Administration explained that the road network changes a lot during the procurement process and the status of the roads has to be aligned with the road register in the contract.

161. The first amendment to the Lääne-Viru contract was signed a week after the start of the first year of the contract. The reason given in the contract was that rubber bollards had been installed on a 6.5 km section of the road, which required additional maintenance, as the contracting authority had not foreseen the extent of the impact of the installed bollards on road maintenance.

162. The National Audit Office finds, however, that such a cost should be foreseeable for the Transport Administration as a body dealing with road maintenance on a daily basis, as the rubber bollards were installed in the same year when the public contract was awarded. In the opinion of the National Audit Office, there should also be no situations where the contract is amended before the start of the first maintenance period due to changes in the length of the roads to be maintained, as this information should be clear before the procurement is announced.

Are the unit prices of maintenance contracts comparable?

163. It is stated in the 2012 audit of the National Audit Office “Road maintenance and supervision of road maintenance” that the prices per kilometre of routine maintenance obtained through procurement vary by almost two times between regions.

164. An analysis of the unit prices of the four maintenance contracts showed that the situation is the same also in the case of effective contracts. For example, in the Lääne-Viru contract for the period 01.11.2021–31.10.2022, the unit price for condition level 3 (single carriageway sections) is €1,978.34, while in the Põlva contract, the unit price for the same condition level is €958.58 euros cheaper, i.e. €1,019.52.

165. The Transport Administration explained that the main emphasis during the preparation of a tender is on the final cost and the contracting authority cannot control how the planned profit is distributed between the expenditure budget lines

166. The unit prices of repair works also differ considerably. For example, while the cost of cleaning 5 km of ditches in Ida-Viru County is €15,000 per year, the state pays €4,000 per year to have the same quantity of ditches cleaned in Järva County.

167. The problem has also been highlighted in the study commissioned for the preparation of the Mobility Development Plan, which recognised the lack of a database of infrastructure unit prices that could be used for cost forecasting.²⁹

168. The Transport Administration explained that it has compiled a more detailed database of maintenance prices, and that the cost per kilometre of maintenance is published on its website. According to the Administration, unit prices are obtained because of procurement and differences in unit prices between regions depend on volumes, the existing roads, regional specificities.

169. In order to reduce the impact of unreasonable unit prices, the Transport Administration has taken several measures, such as a more detailed description of the technical specifications in procurement, a review of the ratio between routine and periodic maintenance, and the selection of the best tenderer based on quality in addition to price.

170. In conclusion, the National Audit Office considers that the supervision of the performance of maintenance contracts in the Transport Administration in relation to the increase in expenditure has been weak, and the responsibility for the expenditure has been placed on the regional managers of the Administration, who do not have to justify the increase in expenditure.

171. The audit showed that the justification and the volumes of repair and periodic maintenance works are not fixed with the contractor in advance and are only revealed when the works are received, which does not allow the National Audit Office to assess whether the works were justified and whether the contractor performed the works in the required volume. Also, the volume of the work to be ordered is not always clear before the maintenance contract is signed, and the unit prices in maintenance contracts sometimes differ multiple times.

172. Recommendations of the National Audit Office to the Director General of the Transport Administration:

- set thresholds for the cost of additional repair work ordered under maintenance contracts, above which a new procurement must be organised for ordering work.
- Establish a database of unit prices in the area of infrastructure to better forecast road maintenance costs and exclude tenders that are too cheap.

Response of the Director General of the Transport Administration:
We will prepare and set limits on the cost of additional repairs ordered under maintenance contracts by 01.01.2023 at the latest.

The Transport Administration has a database of the unit prices of maintenance contracts, on the basis of which forecast budgets are calculated. The Transport Administration will continue to compile and

²⁹ Baseline study of the Organisation for Economic Co-operation and Development (OECD) for the Estonian Transport and Mobility Development Plan 2020, available at <https://www.mkm.ee/media/6871/download>.

What did the National Audit Office find and what does it recommend?

update the database on unit prices and will clarify whether the data can be processed and analysed more efficiently.

/digitally signed/

Ines Metsalu-Nurminen
Director of Audit, Audit Department

Recommendations of National Audit Office and responses of the auditee

On the basis of the audit, the National Audit Office made various recommendations to the Ministry of Economic Affairs and Communications, and the Transport Administration. The Minister sent his responses to the recommendations made by the National Audit Office on 11.08.2022 and the Director General of the Administration on 28.07.2022.

Recommendations of the National Audit Office	Responses of auditees
<p>Funding for national roads</p> <p>89. Recommendations to the Minister of Economic Affairs and Infrastructure:</p> <ul style="list-style-type: none"> ▪ Initiate an amendment to the Road Traffic Act in such a manner that the road maintenance plan does not have to be approved by the Government of the Republic and include it in the Transport and Mobility Development Plan, in order to better ensure the planning of the state's various transport networks and the monitoring of development trends and project implementation. ▪ Until the Road Traffic Act stipulates that the road maintenance plan must be approved by the Government of the Republic, submit <ul style="list-style-type: none"> - to the Government of the Republic regularly an overview of the implementation of the road maintenance plan, including the timeliness of the sites and their adherence to the budget; - all construction and reconstruction projects to the road maintenance plan. ▪ Analyse how to avoid the deterioration of the condition of the current national road network by reallocating funds between the measures in the road maintenance plan, where necessary. ▪ Identify the financing opportunities (including long-term) and needs for public roads in conjunction with rail development plans, taking into account the current situation, and then set priorities that correspond to the opportunities. ▪ Take into account the actual funding possibilities and the real need for road construction when ordering design. Avoid spending money on the preparation of projects that cannot be carried out with the approved funding and do not need to be fully built. <p>(points 36–88)</p>	<p>Response of the Minister of Economic Affairs and Infrastructure: We will consider implementing the proposal. However, we would like to point out that the Transport and Mobility Development Plan is a long-term sectoral development document approved by the Riigikogu. The Transport Competitiveness and Mobility Programme, which sets targets for the quality of transport services within the limits of funding possibilities, can be seen as the operational programme of the Transport and Mobility Development Plan. The road maintenance plan, which takes funding options into account, is also a more detailed implementation plan than the programme, which highlights, among other things, longer funding needs as set out in the Transport and Mobility Development Plan 2021–2035, which the programme does not include. The road maintenance plan is, among other things, a document for monitoring the implementation of the objectives of the Action Programme of the Government of the Republic, playing an important role in aspects of national security, regional policy implementation and environmental protection, thus influencing not only the Ministry of Economic Affairs and Infrastructure but also the functioning of other sectors.</p> <p>The road maintenance plan is submitted to the Government of the Republic for approval, usually once a year. An overview of the implementation of the road maintenance plan so far, the main concerns and possible solutions will be given with the approval of the new plan. The road maintenance plan to be presented in 2022 will outline the construction and reconstruction projects for the whole road maintenance period. The Ministry is certainly ready to submit to the Government of the Republic various overviews together with the information requested by the Government of the Republic.</p> <p>This analysis will be carried out every year in when the road maintenance plan is updated, taking into account the volume of funds allocated to road maintenance. The road maintenance plan is prepared according to the principle of 'preserve first, then develop' in order of priority – maintenance, preservation and then development.</p> <p>The maintenance of national roads is financed on the basis of the Road Traffic Act, according to which the amount of funding for road maintenance is set out in the state budget strategy and in the state budget for each financial year, which includes various sources of funding. In addition, under the Railways Act, the Government of the Republic approves an action plan to guide the development of the public railway infrastructure, with the aim of providing sustainable funding for the maintenance, renewal and development of the infrastructure needed to meet future mobility needs. Under the State Budget Act, a four-year budget strategy is drawn up, including sectoral programmes. The priorities and objectives for rail and road maintenance are reflected in the Transport Competitiveness and Mobility Programme and correspond to the possibilities of the budget strategy. Long-term road infrastructure objectives and infrastructure priorities are set out in the Transport and Mobility Development Plan 2021–2035, which, among other things, addresses all modes of transport and their interactions. Different financing options have been mapped out in the road maintenance plan for national roads and the action plan for the development of public railway infrastructure. The Ministry of Economic Affairs and Communications, the Transport Administration and AS Eesti Raudtee are actively involved in EU targeted assistance programmes to improve railways, road maintenance and road safety (e.g. ITS, military mobility). Among other things, both long-term loans and the use of the public-private partnership model have been analysed and proposals have been made to the Government of the Republic.</p>
<p>Project selection</p> <p>114. Recommendation to the Director General of the Transport Administration: ensure that the agreed dataset and methodology for the</p>	<p>Response of the Director General of the Transport Administration: We confirm that the Transport Administration uses the agreed dataset and methodologies for the selection of sites for the road maintenance plan. We</p>

Recommendations of the National Audit Office	Responses of auditees
<p>selection of sites for the road maintenance plan are actually used and that the selection of sites is documented and transparent at every stage.</p> <p>(points 99–113)</p>	<p>agree with the observation that the documentation of decisions needs to be improved. Therefore, we will review the methodologies for the selection of sites of all measures and will update the process of obtaining lists from the ranking in those methodologies where this part is missing or unclearly described, with a deadline of 01.08.2023. As a quicker measure for the improvement of documentation, we will add additional justifications to the lists of sites to be approved as of 01.08.2022 if the procedure for the selection of sites is not described clearly enough.</p>

<p>Supervision of amendments to maintenance contracts</p> <p>134. Recommendations to the Director General of the Transport Administration:</p> <ul style="list-style-type: none"> ▪ Establish the thresholds within the scope of which the decision in the case of an increase in the cost of a maintenance contract is made by a regional manager and when the price increases must be discussed in the road management plan working group of the Transport Administration. ▪ Establish a common procedure for changing condition levels for all regions, based on traffic volume data. <p>(points 116–133)</p>	<p>Response of the Director General of the Transport Administration: We will make the changes in the processes from 01.01.2023.</p> <p>We will establish a single procedure in 2023 at the latest. In addition to traffic volumes, we also take into account other criteria that are relevant for the determination of condition levels.</p>
<p>Increase in the cost of maintenance contracts</p> <p>153. Recommendation to the Director General of the Transport Administration: establish clear rules within the Transport Administration on how, within which financial limits and on the basis of which data additional works within the scope of maintenance contracts are decided upon, and record additional works with justifications before the works are carried out.</p> <p>(points 135–133)</p>	<p>Response of the Director General of the Transport Administration: We will prepare and establish the rules by the end of Q1 2023 at the latest.</p>
<p>Volume of maintenance contracts</p> <p>172. Recommendations to the Director General of the Transport Administration:</p> <ul style="list-style-type: none"> ▪ Set thresholds for the cost of additional repair work ordered under maintenance contracts, above which a new procurement must be organised for ordering work. ▪ Establish a database of unit prices in the area of infrastructure to better forecast road maintenance costs and exclude tenders that are too cheap. <p>(points 154–171)</p>	<p>Response of the Director General of the Transport Administration: We will prepare and set limits on the cost of additional repairs ordered under maintenance contracts by 01.01.2023 at the latest.</p> <p>The Transport Administration has a database of the unit prices of maintenance contracts, on the basis of which forecast budgets are calculated. The Transport Administration will continue to compile and update the database on unit prices and will clarify whether the data can be processed and analysed more efficiently.</p>

Characteristics of audit

Audit objective

The aim of the audit was to find out whether, in a situation of decreasing funding for road development and maintenance under the RMP and the SBS, the quality of existing national roads can be maintained while meeting international commitments and building new TEN-T roads at the same time.

Assessment criteria

The National Audit Office is of the opinion that the funding model is effective if the development plans and other strategic documents for maintaining and improving the quality of national roads (including the SBS, the state budget and the SBS) reflect the objectives of maintaining and improving the quality of national roads and there is stable and sufficient funding to achieve the objectives. In addition, the rules for the preparation of the RMP and the management of changes, including roles and responsibilities, must be agreed.

The National Audit Office finds that the management of contract amendments by the Transport Administration is effective if the Administration accepts the amendment of the public contracts for development and major preservation projects only in justified cases, while respecting the limits set by the Public Procurement Act; and if procedural rules have been agreed for informing decision-makers if the RMP projects become more expensive or falls behind the agreed schedule.

According to the National Audit Office, the objectives set for the preservation and development of national roads have been achieved and are achievable if the quality of national roads has not deteriorated or will not deteriorate in the coming years for any type of road, and the projects of the Trans-European Transport Network have been implemented on schedule and the construction objectives are feasible.

Scope and focus of audit

The audited institutions were the Ministry of Economic Affairs and Communications, the Ministry of Finance, the Government Office and the Transport Administration. In addition, a contract was signed with OÜ Positium, which analysed traffic volumes on Estonian national roads using mobile positioning data. The result of the work done by Positium is the dataset of annual average daily traffic volume on the entire Estonian road network.

Table 1. People interviewed in the course of the audit

Agency	Interviewed
Ministry of Economic Affairs and Communications	Julia Bergštein, Head of Road Division
Transport Administration	Erki Ernits, Head of Mobility Planning Department
	Mehis Leigri, Head of Infrastructure Asset Management Department
	Martin Lengi, Director of Mobility Planning Division
	Urve Õis, Senior Budgeting and Strategy Expert
	Janar Tükk, Head of Road Infrastructure Construction and Maintenance Department
	Janno Sammul, Head of Design Department
	Jaan Tarmak, Head of Road Infrastructure Development and Standards Department
	Jaan Ingermaa, Asset Management Expert at Road Infrastructure Asset Management Department

	Elmar Aruja, Principal Analyst at Road Infrastructure Asset Management Division
	Erkki Vaheoja, Head of Road Management Department
Government Office	Triin Reisner, Advisor at the Strategy Unit of the Government Office
Ministry of Finance	Rando Kängsepp, Advisor at Strategy Division
Tallinn University of Technology	Ain Kendra, Road Engineering and Geodesy Research Group
Estonian Infra Construction Association	Sven Pertens, Chairman of the Management Board
AS Teede Tehnokeskus	Taivo Möll, Director
	Stanislav Metlitski, Head of Intelligent Transport Systems and Road Information Systems Department
	Marek Truu, Head of Development and Research Department

The following documents were analysed during the audit:

- EU TEN-T Regulation, its draft amendment and the positions of Estonia on the draft amendment;
- sectoral legislation and its explanatory memoranda, in particular the Road Traffic Act;
- sectoral development plans, programmes and action plans and their performance reports;
- Estonian state budgets and state budget strategies, and their explanatory memoranda;
- approved road maintenance plans and lists of sites of development and preservation measures since 2014;
- Action Programme of the Government of the Republic 2011–2015, 2016–2019 (including amendment), 2019–2023, 2021–2023;
- Data from the Ministry of Finance and the Ministry of Economic Affairs and Communications on road maintenance funding since 2014;
- Strategic Analysis of National Roads in 2011, AS Teede Tehnokeskus, 2011;
- strategic Analysis of the Funding Needed for Maintenance of National Roads 2019–2048, AS Teede Tehnokeskus 2019;
- Memos of the joint meetings of the Ministry of Transport and the Ministry of Economic Affairs and Communications in 2021;
- Records of the investment committee of the Transport Administration;
- Rules and regulations of the working groups of the Transport Administration;
- Methodologies of the Transport Administration for selection of sites for preservation measures;
- Road Register Data 2006–2021;
- ISKE Audit Report of the Road Register, FocusIT, 2019;
- output tables from the analysis of the selection of preservation measures in the EPMS, which was the basis for the Road Maintenance Plan for 2018–2022;
- effective maintenance contracts and their amendments;

- Reports and records of routine and periodic maintenance and repairs in Võru, Põlva, Pärnu and Keila maintenance areas;
- Reports of road maintenance audits of the supreme audit institutions of Baltic and Scandinavian countries;
- survey of the National Audit Office on road maintenance funding among the supreme audit institutions of Baltic and Scandinavian countries (Latvia, Lithuania, Finland, Sweden and Norway).

Time of completion of audit

The audit activities were carried out from November 2021 to April 2022.

Audit team

The audit team consisted of Audit Manager Silver Jakobson and auditors Kristiina Visnapuu, Silja Einberg and Meeli Saksing.

Contact information

Further information on the audit is available from the Communication Unit of the National Audit Office telephone: +372 640 0704 or +372 640 0777; email: riigikontroll@riigikontroll.ee

An electronic copy of the audit report (PDF) is available online at www.riigikontroll.ee.

A summary of the audit report is also available in English.

The number of the audit report in the record management system of the National Audit Office is 80086.

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Previous audits of the National Audit Office in the area of financing and maintenance of state roads

03.02.2012 – **Road maintenance and supervision of road maintenance**

22.11.2013 – **Renovation of main national roads**

30.11.2017 – **Financing public functions from European Union support**

All reports are available on the website of the National Audit Office at www.riigikontroll.ee

Annex A. Sample of public contracts for sites of development and preservation measures

The National Audit Office selected a random sample of sites costing more than 1 million in 2014–2020 to analyse the costs and changes in the public contracts for sites of development and preservation measures. This included making sure that the sites did not all end up in the same region, and that sites completed in different years were included.

Road No	Measure	Name of road	Initial starting kilometre	Initial end kilometre	Year	Type of work	Owner supervision	Contractor
3	Preservation	Jõhvi-Tartu-Valga	109.60	118.97	2015	Reconstruction of paved road	Teedeinsenerid OÜ	YIT Infra Eesti AS
11412	Preservation	Liikva-Rannamõisa	0.00	5.16	2020	Reconstruction of paved road	Lindvill OÜ	Trev-2 Grupp AS
43	Preservation	Aovere-Kallaste-Omedu	30.72	40.80	2017	Reconstruction of paved road	Sweco Projekt AS	Trev-2 Grupp AS
2	Development	Tallinn-Tartu-Võru-Luhamaa	188.55	191.50	2015	Construction of a completely new paved road	Taalri Varahalduse AS	Nordecon AS
11	Development	Tallinna ringtee	0.65	2.87	2018	Construction of a completely new paved road	P.P. Ehitusjärelvalve OÜ	Nordecon AS
5	Development	Pärnu Rakvere-Sõmeru	74.70	75.60	2015	Construction of a completely new paved road	Teehoiu Partnerid OÜ	YIT Infra Eesti AS