Audit Conclusion

19/10

Repair and maintenance of bridges

The audit was included in the audit plan of the Supreme Audit Office (hereinafter the "SAO") for 2019 under number 19/10. The audit was headed and the Audit Conclusion drawn up by SAO member Ing. Jan Málek.

The aim of the audit was to verify whether the funds intended for the repair and maintenance of bridges were sufficient to maintain the bridges in a satisfactory condition, and whether those funds were being spent efficiently, effectively, and economically.

The audit was carried out on the audited entities between May 2019 and January 2020. The audited period was the period from 2014 until the completion of the audit and, where relevant, the period preceding this.

Audited entities:
Ministry of Transport (hereinafter the "MoT"), Ministry of Regional Development (hereinafter the "MoRD"), Road and Motorway Directorate of the Czech Republic, Prague (hereinafter the "RMD"), State Fund for Transport Infrastructure, Prague (hereinafter the "SFTI"), Centre for Regional Development of the Czech Republic, Prague (hereinafter the "CRD"), South Bohemian Region, České Budějovice (hereinafter the "SB Region"), Regional Road Management and Maintenance of the Central Bohemian Region, contributory organization, Prague (hereinafter the "RRMM of the CB Region"), Road Management and Maintenance of the Pardubice Region, Pardubice (hereinafter the "RMM of the Pardubice Region"), Road Management and Maintenance of the Pilsen Region, contributory organization, Pilsen (hereinafter the "RMM of the Pilsen Region"), Road Management and Maintenance of the South Moravian Region, contributory organization of the region, Brno (hereinafter the "RMM of the SM Region").

The ***Board of the SAO*** at its XI meeting held on 20 July 2020

approved by Resolution No 7/XI/2020

the following wording of the ***audit conclusion***:

Repair and maintenance of bridges[1]

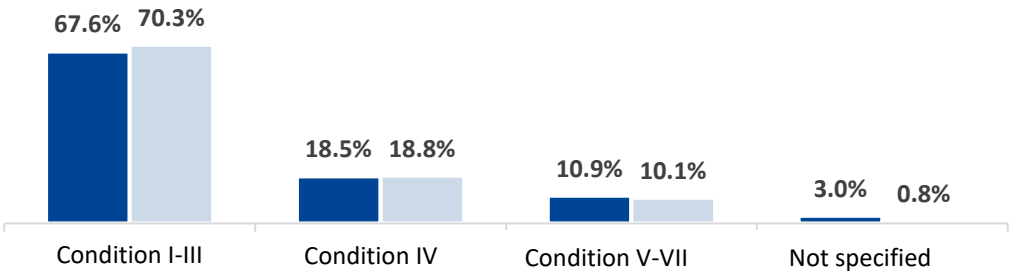
17,533 — **Number of bridges on motorways and class I–III roads in the Czech Republic;**
of which 1,701 bridges are on motorways and 3,236 bridges on class I roads (under the administration of the RMD) and 12,596 bridges on class II and class III roads (under the administration of regions).

10.1 % — **Proportion of bridges on motorways and class I roads in poor to emergency condition.**

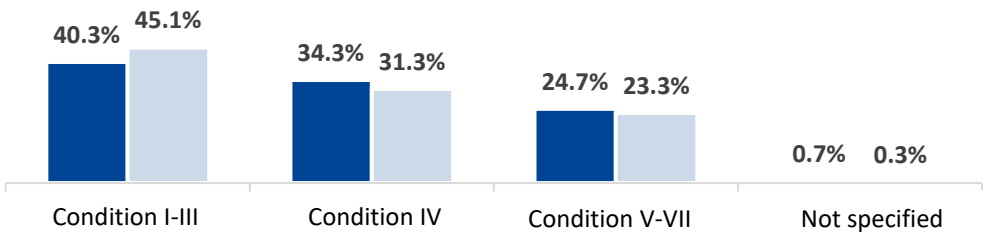
23.3 % — **Proportion of bridges on class II and class III roads in poor to emergency condition.**

??? — **The MoT and the RMD do not have an accurate overview of the amount of funds needed to achieve at least a good condition of motorway and road bridges owned by the state by repairing them and to ensure their proper maintenance to the extent necessary to maintain that condition.**

Condition of bridges on motorways and class I roads as of 1 January 2014 and 1 July 2019



Condition of bridges on class II and class III roads as of 1 January 2014 and 1 July 2019



[1] Source: RMD, reports from the *Road and Motorway Network Information System of the Czech Republic*, status as of 1 July 2019. Evaluation of the condition of bridges on a seven-point scale: condition I – perfect, II – very good, III – good, IV – satisfactory, V – poor, VI – very poor, VII – emergency (for more details see Annex 1 to this Audit Conclusion).

I. Summary and Evaluation

1. **The current manner of caring for bridges does not guarantee effective, efficient and economical spending of state funds.** Sufficient coordination of the provision of aid for repairs and reconstruction of bridges from various sources is not provided. The financing of repairs and reconstruction of bridges under the so-called global items[2] of the SFTI budget is not completely transparent. The submitted documents and analyses show that, **with the current pace of repairs and reconstructions of road bridges and the number of bridges in a poor to emergency condition, it is not realistic to quickly achieve a significant improvement in their overall condition.**

   Unit prices of repairs or reconstructions of road bridges were, in the audited projects, in a wide range from CZK 3,812/m^2 to CZK 161,260/m^2.

2. **The MoT does not have an analytical document dealing with the condition of motorway and road bridges and with ensuring proper care for them.** This issue is not addressed in more detail in the Transport Policy[3] or in other MoT conceptual documents. Neither the MoT nor the RMD has set specific objectives or indicators for measuring changes in the overall condition of bridges and the effects of the aid provided for their repairs and reconstruction.

3. **Since 2007, the MoT has not been meeting its statutory obligation to keep the *Central Register of Roads*[4], and has not yet issued the relevant implementing regulation.** As early as 2007, however, it spent CZK 2.7 million on the preparation of a draft decree and the creation of the relevant Internet application. However, it did not issue the decree and did not utilise the application. **The amount of CZK 2.7 million was therefore spent by the MoT inexpediently, contrary to the law[5]. There is no uniform system of bridge registration containing current, complete and reliable information on their condition and defects. Data on bridges on class II and class III roads are published by the RMD without guaranteeing their completeness and timeliness.**

4. **In 2001–2007, the MoT aided the development of an information system known as the *Bridge Management System*** (hereinafter the "BMS") **with a subsidy of CZK 5.7 million. However, the RMD and other public administration entities use the BMS only partially. The scope of the actual use of the BMS was not addressed by the MoT.**

5. **The MoT, as the guarantor of expertise issuing certificates and authorisations for bridge inspections, did not sufficiently ensure the professional level and objectivity of the assessment of the condition of bridges.** The SAO found a large number of cases where reports from the inspections of bridges contained formal and factual shortcomings or

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[2] Unlike the so-called specified items assigned to specific projects (actions), the global items in the SFTI budget are presented in aggregate amounts, the drawing of which for individual projects (actions) is determined according to the schedules only during the year.

[3] *Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050*, approved by Resolution of the Government of the Czech Republic of 12 June 2013 No 449, *on the Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050*.

[4] Section 29a of Act No 13/1997 Coll., on Roads.

[5] Section 14(1) of Act No 219/2000 Coll., on the Property of the Czech Republic and the Representation of the Czech Republic in Legal Relations.

discrepancies. **The MoT did not carry out inspections focused on the professional level and quality of outputs from bridge inspections.**

6. **In the audited period of 2014–2019, the MoT did not perform supreme state supervision, state supervision, inspections of bridges or other control activities aimed at fulfilling obligations in the area of bridge inspections or in the area of registration and maintenance of bridges** as imposed on bridge owners and administrators by legal regulations and the Czech technical standard[6]**.**

7. **The register of the condition of bridges kept by the RMD in the BMS is unreliable.** For all 27 motorway and road bridges owned by the state and under the administration of the RMD, which the SAO audited at the RMD, the SAO found discrepancies in data, shortcomings consisting in non-compliance with deadlines and time limits for bridge inspections, and long delays in completing and approving inspections.

8. **The RMD has not created a comprehensive system of planning, monitoring, evaluation and control of maintenance of bridges with a link to their condition and defects detected during their inspections.** It does not have accurate and complete information on the maintenance of individual bridges. The road management system is only just beginning to be implemented.

9. **The RMD did not perform proper maintenance and timely repairs of most of the audited bridges. For a long time, it did not address the defects indicated by the inspections of the bridges, and postponed the implementation of the recommended measures.** The result was a gradual deterioration of the condition of the bridges, especially damage to their structures by flowing water, to the extent that some of the bridges could no longer be repaired and had to be reconstructed at a high cost or torn down and built anew. **The RMD thus violated the obligations imposed on it by law[7].**

10. **When awarding a public contract for dealing with the emergency condition of a bridge on the D1 motorway in 2015, the RMD did not proceed in accordance with the law.** The contract with a price of CZK 51.7 million was awarded in a negotiated procedure without prior publication, without meeting the statutory requirement of objective unpredictability and no fault on the part of the contracting authority[8]. The emergency condition of the bridge was the result of long-term neglect of its maintenance and postponement of its repairs.

11. **With regard to its competence, which makes it impossible to audit the management of regional property, the SAO could not evaluate the level of care for bridges on class II and class III roads.** The maintenance of those bridges was financed by the regions from their budgets, i.e. from funds outside the SAO's audit competence. However, when auditing the repairs of bridges financed with the participation of funds provided from the SFTI or IROP budget, the SAO found that, at least for some of the bridges, not all defects found by inspections were removed through maintenance and timely repairs, so the

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6 Act No 13/1997 Coll., on Roads, Decree No 104/1997 Coll., implementing the Act on Roads, ČSN 73 6221 Inspections of road bridges.

7 Section 14(3) of Act No 219/2000 Coll., on the Property of the Czech Republic and the Representation of the Czech Republic in Legal Relations, Section 9(3) and (4) of Act No 13/1997 Coll., on Roads, Section 10 of Decree No 104/1997 Coll., implementing the Act on Roads.

8 Section 23(4)b) of Act No 137/2006 Coll., on Public Contracts.

condition of those bridges gradually deteriorated and their subsequent repairs became more expensive.

12. **The MoRD did not independently monitor bridge reconstruction projects in the IROP**[9] and did not set any specific objective or indicator for them that could measure the effects of the aid provided at the level of the programme or projects. **The SAO's audit of the CRD found partial shortcomings in its procedure for the inspection and evaluation of certain aid applications.**

II. Information on the Audited Area

Pursuant to Act No 13/1997 Coll., on Roads (hereinafter the "Road Act"), the state is the owner of motorways and class I roads. The owner of class II and class III roads is the region in whose territory the roads are located. The owner of a motorway, road or local road is obliged to keep a register of the roads it owns and to perform their administration and management, including, in particular, regular and extraordinary inspections, maintenance and repairs. Administration and management can be performed through an administrator[10].

The method of keeping the register, performing inspections, performing maintenance and repairs of motorways, roads and local roads shall be determined by an implementing regulation[11]. The scope and method of carrying out inspections of bridges, deadlines and intervals for carrying out regular inspections, the method of keeping records of inspections and other details, as well as more detailed information on the maintenance and repair of bridges, are contained in the Czech technical standard[12] to which the implementing regulation refers.

Bridge maintenance consists of a set of works by which bridges and their equipment are maintained in a proper technical, safe and drivable condition in all weather conditions and under normal traffic conditions. During bridge repairs, the construction work carried out in accordance with the approved documentation removes any detected damage or defects[13].

The MoT is the central state administration body in transport matters. It is responsible for the elaboration of the state transport policy and, within the scope of its competence, for its implementation[14]. The MoT exercises the powers of the Road Administration Authority (hereinafter the "RAA") in motorway matters[15]. At the same time, it performs state supervision on motorways and supreme state supervision over the performance of state supervision carried out by the competent RAA (regional authorities, municipal authorities of

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9 *Integrated Regional Operational Programme* (IROP) approved by Resolution of the Government of the Czech Republic of 9 July 2014 No 555, *on the Integrated Regional Operational Programme for 2014–2020*, status as of 20 December 2019.

10 Section 9 of Act No 13/1997 Coll., on Roads.

11 Section 8 and Section 10 of Decree No 104/1997 Coll., implementing the Act on Roads.

12 ČSN 73 6221 Inspections of road bridges.

13 Section 10 of Decree No 104/1997 Coll., implementing the Act on Roads.

14 Section 17 of Act No 2/1969 Coll., on the Establishment of Ministries and Other Central State Administration Bodies of the Czech Republic.

15 Section 40(2)c) of Act No 13/1997 Coll., on Roads.

municipalities with extended powers)[16]. The MoT approves project plans related to the construction and renewal of roads (including bridges) prepared by the RMD and recommends their inclusion for financing from the SFTI budget. The MoT is also the managing authority of the Operational Programme *Transport* (for the programming period of 2014–2020) (hereinafter the "OPT").

The RMD is a state contributory organisation established by the MoT. According to the founding charter, the basic purpose and subject of the RMD's activities is, among other things, management of motorways and class I roads with their components and accessories, ensuring their maintenance and repairs, including bridges, ensuring property administration, keeping relevant property registers and passports, ensuring bridge inspections, providing warehouses for bridge temporaries, operation of the Road Management Information System, including a road databank, and the *Uniform System of Traffic Information* (hereinafter "USTI").

The MoRD is the central state administration body in, inter alia, matters of regional policy. It is the managing authority of the *Integrated Regional Operational Programme* for 2014–2020 (hereinafter the "IROP"), under which aid was provided, among other things, for the reconstruction and construction of road bridges within projects of reconstruction and modernisation of selected sections of class II and class III roads. The CRD is a state contributory organisation, which was entrusted with performing the tasks of the IROP intermediate body by decision of the Minister for Regional Development. It provides, among other things, reviews and evaluation of aid applications, the processing of documents for issuing subsidy decisions and the monitoring of aided projects.

State property must be used effectively and economically. The organisational unit of the state is obliged to act in such a way that its actions do not damage the property and do not unreasonably reduce its scope and value. It is also obliged to take care of the preservation and maintenance of the property and to protect it from damage, destruction, loss, theft or misuse[17].

Heads of public administration bodies have, within the scope of their management authority, inter alia, the obligation to organise financial control in order to ensure effective management of public administration performance, to monitor and evaluate its results, and, if any shortcomings are found, to immediately take specific corrective measures as well as systemic measures to detect incorrect operations and their causes in a timely manner and prevent them[18].

Regions manage their affairs independently. State authorities may intervene in their independent competence only if the protection of the law so requires and only in the manner prescribed by law[19].

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[16] Section 41(1) of Act No 13/1997 Coll., on Roads.

[17] Section 14(1) and (3) of Act No 219/2000 Coll., on the Property of the Czech Republic and the Representation of the Czech Republic in Legal Relations.

[18] Section 5(1) of Act No 320/2001 Coll., on Financial Control in Public Administration and on Amendments to Certain Acts (the Act on Financial Control).

[19] Section 2(1) of Act No 129/2000 Coll., on Regions (Establishment of Regions).

III. Scope of Audit

In Audit No 19/10, the SAO examined the use of funds from the state budget, SFTI and the European Union (hereinafter the "EU") intended for repairs and maintenance of road bridges. The audit was focused mainly on three areas:

- system of care for bridges on motorways, class I roads (competence of the MoT and the RMD) from the point of view of ensuring good operational and technical condition of bridges,
- system of financing repairs and maintenance of motorway and road bridges,
- the procedure of the audited entities in the preparation, approval, implementation and monitoring of selected projects of repairs and reconstructions of bridges.

The audit of bridges on motorways and class I roads was performed at the RMD on a sample of 27 bridges. The selection of the sample was made so as to include motorway bridges on two modernised sections of the motorway and also various types of bridges in different structural and technical conditions on class I roads. Bridge repair and reconstruction projects with a total cost of CZK 903.7 million were examined. The audit of bridges on class II and class III roads was carried out for 14 projects of bridge repairs and reconstructions financed with the participation of SFTI or IROP funds with a total cost of CZK 404.6 million. The SAO also examined the procedure of the MoRD in determining the conditions for the provision of aid under the IROP used to finance the reconstruction and construction of bridges on class II and class III roads and in deciding whether to grant such aid. At the CRD, the SAO examined its procedure in the administration and monitoring of 10 bridge reconstruction projects with a total volume of eligible expenditure of CZK 1.2 billion.

The audit followed, among other things, Audits No 13/27[20] and No 17/09[21], in which the SAO had found recurring shortcomings in the activities of the MoT and the RMD, in particular the failure to establish an effective investment management system, the postponement of repairs and failure to carry out maintenance.

Note: The legal regulations contained in this Audit Conclusion are applied in the version effective for the audited period.

IV. Detailed Facts Ascertained by the Audit

1. System of care for motorway and road bridges and its financing

Motorway and road bridges are critical points of transport infrastructure. Their poor condition can significantly affect the safety and smoothness of road traffic. Although the RMD is responsible for ensuring proper care of bridges on motorways and class I roads, the MoT is responsible for this area as the founder of the RMD and as the central state administration

[20] Audit No 13/27 – *Funds earmarked for road repairs and maintenance*, the Audit Conclusion was published in Volume 2/2014 of the *SAO Bulletin*.

[21] Audit No 17/09 – *Construction-like activity carried out with a view to modernising and developing the road network in selected regions which was co-funded from EU funds and national resources*, the Audit Conclusion was published in Volume 3/2018 of the *SAO Bulletin*.

body under whose competence and responsibility this issue falls. The SAO found that neither the MoT nor the RMD had set any specific objectives in this area, nor did they systematically monitor and evaluate the level of bridge care.

The data on the condition of bridges published by the RMD show that the proportion of bridges in a poor to emergency condition in the total number of motorway and road bridges in the Czech Republic has decreased very little over the last five years and, especially in the case of bridges on class II and class III roads, remains high (for more details see Annexes 6 and 7 to this Audit Conclusion).

The RMD has not created a system of bridge care in which it materially, temporally and financially plans, monitors and evaluates the maintenance and repairs of bridges in connection with the results of their inspections. Repairs and reconstructions of bridges are addressed in separate projects or as part of projects of repairs and modernisation of individual sections of motorways and class I roads. It does not have accurate and complete information on the performed maintenance of bridges, i.e. it is not able to sufficiently document its performance for individual bridges. The road management system (hereinafter the "RMS") could contribute to the elimination of these shortcomings; however, the RMD, unlike the regions, has not yet implemented it (see clause IV.8 of this Audit Conclusion).

Maintenance, repairs and reconstruction of bridges on motorways and class I roads were financed from the global items of the SFTI budget, "RMD repairs and maintenance – motorways" and "RMD repairs and maintenance – class I roads", and within specified actions. The SFTI released a total of CZK 52.6 billion for repairs and maintenance of class I roads (including bridges) and CZK 21.9 billion for repairs and maintenance of motorways (including bridges), i.e. a total of CZK 74.5 billion, in 2015–2019 (see Annex 8 to this Audit Conclusion). From global items, the RMD financed not only small actions but also investment-intensive projects, such as the repair of the Žďákov Bridge carried out in 2015–2017 for CZK 170.6 million excluding VAT. According to the information provided in the SFTI documents, global items are not intended for the financing of such actions.

The RMD spent a total of CZK 9.8 billion on repairs and reconstructions of bridges on motorways and class I roads in 2014–2019. However, it did not provide further details, stating that it was not able to provide information on the structure of the property under repair. It was therefore not possible to determine which bridges were covered by these costs, or to verify the reliability of the data provided.

Repairs and reconstructions of bridges on modernised sections of the D1 motorway were financed with the participation of EU funds within projects included in the financing under the OPT. The project of *D1 Modernisation – section 02, EXIT 21 Mirošovice – EXIT 29 Hvězdonice* was approved by the MoT in April 2018 and the work schedule was adjusted in November 2018. The project of *D1 Modernisation – section 15, EXIT 112 Jihlava – EXIT 119 Velký Beranov* was approved in March 2017 and the work schedule was adjusted in September 2018.

Information on the scope of repairs and reconstruction of bridges differs in individual parts of this documentation. For example, in the detailed budget of the project of modernisation of section 02 of the D1 motorway, the costs of repairs of three bridges were roughly one-half

compared to the project plan and, in the case of one bridge, on the contrary, almost three times the costs set out in the project plan. At the same time, it did not include two bridges and three underpasses, without explaining this difference in the project documentation. The RMD stated that the scope of modernisation of individual bridges was specified on the basis of diagnostic surveys carried out as a basis for the preparation of project documentation. Furthermore, it stated without further details that it had carried out repairs and reconstructions of some bridges in advance or that it intended to address them only subsequently within the framework of separate projects.

It is not clear in the documentation of both projects, which serves as a basis for their approval, how the RMD determined the method and scope of repairs and reconstructions of bridges on the given sections of the motorway, or whether they will eliminate all their defects that may affect the safety and smoothness of road traffic after the modernisation of the motorway.

In addition, the SAO found that some bridges the poor condition of which may endanger traffic on the motorway remain on the modernised sections of the motorway. For example, the condition of the bridge leading the Hrusice–Hrušov road over the D1 motorway at kilometre 23.404 has been classified as V – poor since March 2011 according to the information in the BMS.The report on the major inspection of that bridge dated April 2019, in addition to describing a number of defects, stated that it was necessary to fundamentally reconstruct the bridge without any delay. According to the plan of the project of modernisation of section 02 of the D1 motorway, a complete reconstruction of the bridge was to be carried out. However, the RMD only stated, as regards that reconstruction, that the bridge conformed to the future layout of the D1 motorway, therefore it was not included in the D1 modernisation project and its reconstruction should be arranged by its owner, which is the municipality of Hrusice. No further information on the solution of the poor condition of the bridge was provided, and the RMD stated that the data in the BMS assigning the bridge under the administration of the RMD were not correct.

Maintenance of bridges on class II and class III roads was financed by individual regions, i.e. from funds outside the SAO's competence. Repairs and reconstruction of bridges on those roads were financed with the use of funds provided from the SFTI budget to the regions and the organisations established by them providing road management, within the framework of global items intended for the financing of class II and class III roads. The amount of funds was determined only during the year by budgetary measures following the decision of the Government of the Czech Republic. The SFTI released a total of CZK 16.5 billion to those beneficiaries for the financing of class II and class III roads (including bridges) in 2015–2019.

According to the analysis of tenders announced by individual regions for "repairs" of class II and class III roads financed from the SFTI budget in 2015–2018, which the SFTI prepared in 2019, it provided a total of CZK 2.2 billion for the repair of 327 bridges on class II and class III roads in 2015–2018. There are large differences in the number of bridges thus repaired in individual regions. 99 bridges were repaired in the Central Bohemian Region, 69 bridges in the South Bohemian Region and 60 bridges in the South Moravian Region. In contrast, in the Ústí and Moravian-Silesian Regions, no bridge was repaired using funds provided from the SFTI budget; in the Liberec Region, only 3 bridges were repaired, and 9 bridges in the Pilsen Region. Making decisions on the scope and method of financing bridge repairs in individual regions

and on whether they will use funds provided from the SFTI budget for this purpose falls under the independent competence of the regions. The SFTI does not have a similar analysis for bridges on motorways and class I roads.

In the case of bridge reconstruction and construction projects on selected sections of class II and class III roads, the regions could also use EU funds provided in support of modernisation and development of priority regional road infrastructure networks under the IROP. Coordination of providing funds for repairs and reconstruction of bridges on class II and class III roads from the SFTI budget and under the IROP was not sufficient, as it consisted only in setting the requirement, in the SFTI Rules with effect from 2018, that the beneficiary had to prove (e.g. by an affidavit) that it had a sufficient number of projects ready where it expected funding under the IROP.

The method of financing class II and class III roads from the SFTI budget, which the SAO evaluated as non-systemic in Audit No 17/09, has not changed.

2. Conceptual activities of the MoT

The MoT does not have any document that deals with the analysis of the current condition of bridges and identifies existing or possible future problems and risks. The Transport Policy does not address the issue of administration, repairs and maintenance of road bridges. It is mentioned only marginally for two specific objectives in connection with the maintenance of transport infrastructure and with the issue of road safety.

For one of these specific objectives, measures are set, among other things, to promote the systematic implementation of maintenance and repairs of infrastructure according to a pre-set schedule under the responsibility of the MoT, transport infrastructure administrators and regions. This is meant to be an "ongoing process". Regarding the implementation of measures in the area of maintenance and repairs of road bridges, the MoT stated that ensuring their operable condition, including the schedule of maintenance and repairs, was the responsibility of the RMD. At the same time, it stated that, with the exception of the winter maintenance plan, it did not have any schedule for the maintenance and repairs of road bridges. The MoT did not comment on cooperation with the regions in this area.

In evaluating the effectiveness of the Transport Policy[22], the MoT stated that it was implementing the above measure, the measure being elaborated and evaluated in more detail within the follow-up *National Road Safety Strategy for 2011–2020 with effect from 2017*[23]. However, the aforesaid document does not deal with the issue of motorway and road bridges.

[22] Evaluation of the effectiveness of the *Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050* dated August 2017, which the MoT submitted to the Government on the basis of the task set when approving the Transport Policy.

[23] *National Road Safety Strategy for 2011–2020 with effect from 2017* approved by Resolution of the Government of the Czech Republic of 27 February 2017 No 160 *on the Revision and Update of the National Road Safety Strategy for 2011–2020 with effect from 2017.*

In the document entitled *Transport Sector Strategies, Phase 2*[24] (hereinafter "TSS2"), which follows the Transport Policy and represents the basic departmental concept of the MoT formulating priorities and objectives in the field of transport and transport infrastructure development, the issue of bridges is not addressed separately. According to clause 37.5 *Evaluation and maintenance of the structure*, the service life of the performed work and key structural parts is to be monitored, among other things, and the construction maintenance, repairs and reconstructions should be monitored and evaluated from the point of view of costs and service life of the performed work.

At the request of the SAO for the provision of information and documents on the implementation of the measure in the area of bridges, the MoT did not provide any specific information on monitoring and evaluation of their maintenance, repairs and reconstructions in terms of costs and service life of the work performed. To meet the objectives of the cross-sectional priority PP5 Ensuring quality maintenance of existing and newly built transport infrastructure, including the introduction and consistent application of modern systems for planning, monitoring and evaluation of maintenance, the MoT provided only information on road transport infrastructure in general and mentioned the RMS, which the RMD had not yet introduced. The information provided by the MoT shows that the MoT does not have specific information on how (i.e., in particular, to what extent, in what quality and at what costs) the RMD ensures the maintenance of bridges.

3. Central Register of Roads and register of bridges

The *Central Register of Roads* (hereinafter "CRR") is a public administration information system[25], in which information on roads is to be registered, including information on detours, closures and traffic restrictions. Road owners are to transmit the relevant data to CRR to the extent specified by the MoT, and the CRR operator (the MoT or a person authorised by it) is to publish this information and provide it to rescue services, carriers etc. The manner of keeping CRR, transmission of data and publication of data kept in CRR is to be determined by an implementing regulation.

The MoT has been obliged to keep CRR and issue the relevant implementing regulation since 2007. In 2007, the MoT aided a research and development project that was to be completed in 2011 with a subsidy of CZK 2.7 million. The result of the project was a draft decree on CRR and a model application of road registration. As regards the use of the results of that project, the MoT stated that it had used the draft decree to initiate the legislative process, which, however, was not completed due to legal defects in the draft decree. Due to the non-issuance of the decree, the aforesaid application was not used either. The MoT did not provide more detailed information concerning its procedure. The MoT envisages a new initiation of the legislative process in the second half of 2020. The reason for this delay was not explained by the MoT.

[24] The TSS2 were approved by Resolution of the Government of the Czech Republic of 13 November 2013 No 850, *on Transport Sector Strategies, Phase 2.*

[25] Section 2b) of Act No 365/2000 Coll., on Public Administration Information Systems and on Amendment to Certain Acts.

According to the MoT, the performance of certain obligations related to the collection and publication of information on roads and their closures is procured through the RMD – Road Databank in Ostrava. At the request of the SAO for information on whether or when and to what extent the MoT entrusted the RMD with the fulfilment of obligations concerning the keeping of CRR, however, the RMD stated that it had not been entrusted with such activities by the Ministry. The MoT did not provide any further information on the future scope of registration of bridge data in CRR, with the vague justification that, given the current state of preparation of the decree concerning CRR, it would be premature to provide that information.

The obligation to keep a register of roads is imposed on their owner by the Road Act[26]. According to the implementing decree to the Road Act, the basic register of roads is a passport kept by the road administrators. The scope and manner of keeping the passport of motorways and roads is determined by the owner[27]. According to the Road Act, bridge structures are part of a motorway, road or local road that runs along them[28]. The owner or administrator of bridge structures is obliged to arrange their inspections, including keeping records of them in a manner regulated by the Czech technical standard[29].

The RMD uses the BMS information system to keep passports of the bridges it manages and records of their inspections, similarly to most regions. Summary information on bridges and their current condition is collected by the RMD in the *Road and Motorway Network Information System of the Czech Republic* (hereinafter "RMNIS") and subsequently published in the form of regular reports. Data on bridges on class II and class III roads are taken over from the BMS and, in the case of bridges located in the Pardubice, Hradec Králové and South Bohemian Regions, the RMD obtains the data by exporting data from other information systems used by them. Data are sent to the RMD on request twice a year by organisations that manage roads and bridges in the given regions, and only on the basis of previous practice. The RMD publishes data on the condition of bridges on class II and class III roads without determining the responsibility for the accuracy, completeness and timeliness of the data published.

In addition to RMNIS, the RMD also operates USTI, which was established as a joint project of the Ministry of Transport, the Ministry of the Interior and the Ministry of Informatics to ensure the collection, processing and sharing of traffic information[30]**.** USTI mainly gathers current information affecting the safety and smoothness of road traffic. Unlike USTI, the status of the RMD in ensuring the operation of RMNIS is not regulated by any resolution of the Government of the Czech Republic or by a legal regulation that stipulates, in a binding manner, the procedure and responsibility for collecting, transmitting and publishing information.

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[26] Section 9(2) of Act No 13/1997 Coll., on Roads.

[27] Section 5(1) and (2) of Decree No 104/1997 Coll., implementing the Act on Roads.

[28] Section 12(1)b) of Act No 13/1997 Coll., on Roads.

[29] Section 8(2) and (3) of Decree No 104/1997 Coll., implementing the Act on Roads, ČSN 73 6221 Inspections of road bridges.

[30] USTI was established by Resolution of the Government of the Czech Republic of 18 May 2005 No 590 *on the project of the Uniform System of Traffic Information for the Czech Republic*. Its operation is regulated by Decree No 3/2007 Coll., on the nationwide traffic information system.

4. Bridge Management System

The MoT aided two research and development projects with a total subsidy amount of CZK 5.7 million; the object of those projects was the creation of a BMS application, including a financial module. The application was to provide objective information on the condition of bridge structures and, at the same time, enable better financial planning of their maintenance and repairs. The first of these projects was implemented in 2001–2003 with the use of the MoT subsidy in the amount of CZK 2.7 million, the second in 2005–2007 with the use of the MoT subsidy in the amount of CZK 3.0 million. Both of these projects are mentioned, among other things, in the document entitled *Update of the implementation action plan of the road transport sector* dated December 2014.

In September 2008, the MoT issued methodological guidelines for the operation of the BMS, stating that the system was divided into five basic interconnected modules: the registration, inspection, maintenance, financial and administrative modules. The methodological guidelines state, among other things, that the main purpose of the BMS is to optimise maintenance and construction activities in order to achieve the optimal use of invested funds. The BMS was to unify the methodologies for keeping bridge passports, evaluating the condition of bridges and their management systems for the administrators of all bridges in the Czech Republic, and to enable them to ensure better financial planning of their maintenance and repairs.

Among other things, the BMS financial module was to enable improved decision-making on the maintenance and repair of bridge structures on the basis of a comparison of financial costs for individual variants. However, the SAO found that the RMD used the BMS only to a limited extent to register data on bridges and their inspections. The RMD does not use the maintenance or financial module and does not have the system connections provided. Although the MoT aided the creation of the BMS with subsidies in 2001–2007, the extent of its actual use was not addressed. It does not use it in the performance of supreme state supervision, state supervision or control of the activities of the RMD in the area of care for motorway and road bridges.

5. Inspections of bridges

According to the Road Act, the administration of a motorway, road or local road includes, among other things, regular and extraordinary inspections[31]. The implementing decree divides the inspections of bridges into routine, major and extraordinary, the inspections being provided by the owner or administrator of each bridge, also during the temporary decommissioning of the bridge or before its re-commissioning[32]. In addition, the decree lists check inspections. The details are set out in the recommended Czech technical standard to which the implementing decree refers[33].

According to the technical regulation, major bridge inspections (hereinafter “MBI”) constitute a detailed supervision of the bridge condition, reliability and safety, where the MBI should be

[31] Section 9(3) of Act No 13/1997 Coll., on Roads.
[32] Section 8 of Decree No 104/1997 Coll., implementing the Act on Roads.
[33] ČSN 73 6221 Inspections of road bridges.

the basis for planning the maintenance and repair of bridges. Routine bridge inspections (hereinafter "RBI") constitute routine supervision of the bridge condition and safety, where the RBI should be the basis for planning the maintenance of bridges. All accessible parts of the bridge are inspected. Extraordinary bridge inspections (hereinafter "EBI") constitute a detailed supervision of the bridge condition, reliability and safety after the occurrence of emergency situations or in the case of doubts about the condition of bridges. The scope and details of each EBI shall be determined in connection with the reasons for its implementation, which must be part of the EBI assignment. Check inspections of bridges constitute expert supervision over the implementation and quality of RBI and MBI, over the implementation of prescribed measures, and over the performance of bridge maintenance.

Based on the results of MBI or EBI, each bridge is assigned to one of seven classification levels in the range from level I – perfect condition to level VII – emergency condition (see Annex 1 to this Audit Conclusion). The inclusion of each bridge in one of these classification levels (the substructure and load-bearing structure of the bridge are evaluated) leads to the time limits and intervals in which the MBI and RBI of the given bridge are to be performed. Adherence to time limits and deadlines and consistent inspections of bridges to the specified extent are important for a timely detection and elimination of defects that may affect the service life of the bridge and the safety of traffic on and under it.

According to the technical regulation, inspections of bridges may only be performed by professionally qualified persons on the basis of authorisation by the competent RAA superior to the owner/administrator of the bridge. The MoT issues certificates or authorisations to perform bridge inspections to persons who prove their expertise and integrity in the prescribed manner. The requirements and procedure for obtaining these certificates and authorisations are regulated by the MoT's methodological guidelines.

The audit carried out by the SAO on a sample of 27 bridges on motorways and class I roads under the administration of the RMD found a number of shortcomings. In some cases, the reports on the inspections apparently did not correspond to the actual condition of the bridge at the time of the inspection. Some of the reports ignored defects in parts and elements of the bridge which could reasonably be expected to have existed at the time of the inspection and should, therefore, have been identified by the inspections. These are, in particular, cases where the persistence of the same defects is evident from the inspection reports prepared immediately before and after the inspection which ignored those defects. Cases were found where a similar condition of components and elements of the bridges was evaluated in different ways and the diversity of that evaluation was reflected in the classification of bridges with similar defects in different classification levels of their condition, or the degree of usability of the bridge was determined differently. The classification level of the same bridge could thus be improved or worsened without changing its actual condition, only on the basis of the subjective opinion of the person carrying out the inspection, without explaining and justifying the implementation of such a change of classification in the inspection report. Great differences were found in the determination of measures to eliminate the defects found during the inspection. In some cases, the inspection report required immediate rectification of the defect but, in subsequent inspections, a several-year time limit was set for the same defect, or no measure was proposed at all.

The seriousness and number of identified shortcomings indicate an incorrect setting of the methodology for conducting bridge inspections or its non-compliance and the need for inspections that draw attention to shortcomings and thus create the preconditions for their solution. However, the MoT, as the guarantor of the expertise of inspections, did not carry out any inspection focused on the professional level and quality of outputs from bridge inspections performed by persons to whom it issued the relevant certificate or authorisation in the audited period of 2014–2019.

Examples of shortcomings identified by the SAO in the area of inspections of bridges managed by the RMD are given in Annex 2 to this Audit Conclusion.

6. Inspection activities of the MoT

State supervision on motorways and also supreme state supervision over the performance of state supervision carried out by the competent RAA fall under the competence of the MoT pursuant to the Road Act[34]. The person authorised to perform state supervision is to detect breaches of obligations stipulated by the Road Act, i.e., inter alia, failure to ensure proper maintenance and repairs of motorways, roads, local and special-purpose roads and their components.

The scope and content of the performance of supreme state supervision is not precisely defined by legal regulations. The MoT stated that this was a kind of management and regulatory (methodological) activity the aim of which was to draw the attention of authorised persons to incorrect procedures in the implementation of state supervision, or to rectify their inactivity. In the case of detected inactivity, the MoT may take over the performance of state supervision from the RAA or persons authorised by it, and itself directly check whether the owners, administrators and users of the road in question properly fulfil their obligations, inter alia, in the field of registration, inspections and proper maintenance of bridges.

The situation in the area of state and supreme state supervision over class I roads is rather complicated. These roads are owned by the state, which is represented by the MoT in transport matters. These roads are managed by the RMD, which is an organisation subordinated to the MoT. According to the Road Act, state supervision over class I roads is performed by the competent RAA, which is the regional authority. The supreme state supervision is performed by the MoT. Therefore, within the scope of state supervision, the regional authority has to check, among other things, whether the state or the MoT as the owner and the RMD as the administrator of class I roads ensure proper road maintenance and repairs (including road bridges) in the territory of the given region. At the same time, however, the MoT is to check the performance of state supervision by the regional authority within the framework of supreme state supervision. Therefore, the MoT should check whether the regional authority properly performs the supervision of the RMD.

The SAO found that the MoT, in the area of motorway and road bridges in the audited period of 2014–2019, had not performed supreme state supervision or state supervision and did not have any information on the performance of state supervision by the competent RAA.

[34] Section 41(1) of Act No 13/1997 Coll., on Roads.

In the aforesaid period, the MoT also did not arrange the check inspection of any bridge under the administration of the RMD. Nor did any other inspection verify whether the RMD was performing the obligations imposed on it in the area of bridge inspections and their registration and maintenance by legal regulations, and whether it was taking proper care of the state property it managed. Therefore, the MoT did not fulfil the obligations imposed on it by legal regulations in this area.

7. Registering the condition of bridges on motorways and class I roads

According to the Czech technical standard, the report on the bridge inspection, including draft measures, must be discussed with the owner/administrator of the bridge without undue delay and a record of the discussion must be included in the inspection report. The scope and details of the inspection report must, within the scope of the inspection, enable the identification of changes in the condition of the bridge, its parts and components since the last inspection (e.g. repairs performed), the identification of critical defects and failures of the bridge, its components and elements identified during the inspection, including their scope and possible comparison of their condition with findings from previous inspections of the given bridge.

The RMD did not carry out all regular inspections (MBI and RBI) for any of the 27 bridges audited by the SAO within the set deadlines/intervals. For some bridges, only extraordinary inspections of the bridge were carried out instead of regular ones, without this practice being supported by legislation.

For all the inspected bridges, the SAO found greater or lesser discrepancies in the time data as regards the dates of execution, completion and approval of the inspections, which make these data unreliable. According to the data in the BMS, a number of inspections were completed in a several-year interval and approved by the RMD several years later. In some cases, according to data in the BMS, several unfinished inspections of the same bridge thus took place simultaneously. For a large number of inspections, the same date of completion or approval was indicated. The RMD had not approved a large number of inspections by the time of the SAO audit (January 2020).

Examples of shortcomings identified by the SAO in the area of registering the condition of bridges managed by the RMD are given in Annex 3 to this Audit Conclusion.

8. System of care for bridges on motorways and class I roads

The RMD has not created a comprehensive system of planning, monitoring, evaluation and control of maintenance of motorway and road bridges with a link to their condition and defects detected during their inspections and the resulting recommended measures. The BMS is used only for the registration of bridges and their inspections. The BMS maintenance and financial modules, which enable material, financial and temporal planning of maintenance and repairs of bridges, are not used by the RMD. In addition to the BMS, it also collects data on bridges in RMNIS and USTI. To plan repairs and maintenance of bridges, it uses a uniform information system under construction, to which it exports data from the accounting system.

The RMD proceeded with the approval of bridge inspections only formally and inconsistently. It did not check the completeness and factual accuracy of inspection reports. It did not require the completion of missing data and information or the explanation of inconsistencies and ambiguities. According to legal regulations and the Czech technical standard, inspections of bridges ascertain their condition and these inspections are to be the basis for planning maintenance and repairs of bridges. Without proper checks of the completeness and factual accuracy of inspection reports carried out by the contracting authority during their discussion and approval, these requirements cannot be met.

Maintenance and minor repairs of bridges were performed by the RMD within the normal activities of its centres of administration and maintenance of motorways, administrations and branches in Prague and Brno. Their activities in this area were not centrally monitored and the maintenance of individual bridges was not sufficiently documented. At the request of the SAO to submit documents which materially, temporally and financially defined the need for maintenance and repairs of road bridges with regard to available sources of funding, the RMD submitted only an overview of costs for repairs of bridges on motorways and class I roads in 2011–2019 and a bridge repair plan for 2020–2024, but without further details and on the grounds that it was not able to provide information on the structure of the property under repair.

The RMD does not yet use the RMS which, according to the methodology approved by the MoT in February 2010, is to provide up-to-date and objective information on the condition of roads and its purpose is to optimise construction activities based on data and knowledge of available technologies in order to achieve technically and economically optimal use of funds, or to achieve other selected priorities.

The RMS was already operated at the end of the 1990s under the auspices of the RMD at the Road Maintenance Administrations in individual districts of the Czech Republic. After the transfer of the network of class II and class III roads into the ownership of the regions, it is, to varying degrees, further used within the scope of the independent competence by the regions or organisations providing road administration and established by the regions. The use of the RMS has been a precondition for the provision of funds for the financing of class II and class III roads from the SFTI budget since 2018. The SFTI did not set this precondition for the financing of motorways and class I roads.

The tender for a public contract for the new creation and implementation of the RMS was launched by the RMD in the form of a competitive dialogue in May 2017. In December 2019, the RMD concluded a contract with a price of CZK 179.1 million excluding VAT with the selected contractor. The introduction of the RMS should take two years. The deadline for the elaboration of an implementation study addressing, inter alia, communication between the BMS and the RMS was set for April 2020.

At the request of the SAO for information on how coordination was provided in planning repairs and reconstructions of bridges or roads under the administration of the RMD and under the administration of regions and municipalities with regard to ensuring transport availability and traffic flow in the Czech Republic, the RMD stated that it was not systemically authorised to coordinate closures and planned repairs of the road and motorway network.

9. Maintenance, repair and reconstruction of bridges on motorways and class I roads

The obligation of the owner or administrator to ensure proper maintenance and repair of bridges follows from the Road Act and the relevant implementing decree[35] and at the same time from the law regulating the management of state property[36]. The aim of maintenance is to keep the bridges in good condition; repairs are to remove any detected damage or defects. Bridge inspections should serve as the basis for planning maintenance and repairs of bridges. By comparing the description of defects and measures stated in the reports from the successively performed inspections of bridges, the SAO verified how the RMD fulfilled the stated obligations and objectives. At the same time, the SAO requested from the RMD documents on the performed maintenance and repairs of bridges.

The inspection reports for all the 27 audited bridges on motorways and class I roads provided information indicating either insufficient or, in some cases, completely non-existent maintenance of the bridges and the postponement of their repairs. These were mainly repeated findings of defects consisting in the clogging of bridge expansion joints and drainage systems, damage to sealing elements and anti-corrosion coatings, water leakage through untreated cracks and leaks in the bridge structure, exposure and corrosion of the reinforcement after the concrete cover layer fell off etc.

Most reports on the MBI, in the bridge care assessment, contained the empty information "… *maintenance is performed within the scope of the administrator's capabilities*", even in cases where it was clear from the description of the condition of the bridge and its defects that the maintenance had been neglected. In some reports, insufficient maintenance of the bridge was directly pointed out. The RMD was not able to evidence the maintenance of bridges with adequate documents, as it did not have a system in place to monitor it. The performed repairs of bridges could not be assigned with certainty to specific defects and measures arising from inspections to make it possible to evaluate which defects and to what extent were removed by repairs and which were not addressed and why.

The postponement of the repairs of bridges was justified by the RMD by a lack of funds or by explaining that the defects would be removed only during the future complete reconstruction of the bridge. However, the justification of these reasons or the economy and effectiveness of such a procedure was not substantiated by the RMD with relevant documents. If, as a result of long-term unresolved defects, the RMD allows any bridge to reach a state where it can no longer be repaired and needs to be reconstructed at a high cost or demolished and replaced with a newly built bridge, the RMD should always duly justify its actions. Without relevant and substantiated justification, the SAO does not consider such a procedure to be acceptable. The RMD spent funds on repairs of some bridge structures inexpediently and ineffectively, i.e. the effectiveness, efficiency and economy of their expenditure could not be evaluated from the documents submitted for inspection.

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[35] Section 9(3) and (4) of Act No 13/1997 Coll., on Roads, Section 10 of Decree No 104/1997 Coll., implementing the Act on Roads.

[36] Section 14(3) of Act No 219/2000 Coll., on the Property of the Czech Republic and the Representation of the Czech Republic in Legal Relations.

The condition of some bridges on the modernised sections of the D1 motorway remains unresolved, too. The unsatisfactory condition of these bridges and the later execution of their repairs may negatively affect traffic on already modernised sections of the motorway. Carrying out only partial repairs of bridges without determining the procedure for performing repairs of all their other parts showing defects is associated with the risk of inexpedient spending of funds.

The RMD did not ensure the timely elimination of some bridge defects found during inspections, even in cases where those defects could directly endanger the safety of road traffic on the bridge and the safety of the space under it. For example, it did not change the traffic signs limiting the load capacity of the bridge, did not secure loose parts of the bridge that were in danger of falling under the bridge, and did not address bridge defects on a busy motorway fast and efficiently enough although it could reasonably have assumed dangerous damage to the bridge structure by running water.

Based on the request of the Minister of Transport to perform an extraordinary inspection of bridges with a prestressed concrete structure raised in August 2018, the RMD provided a diagnostic survey of only 77 bridges by January 2020. At the request of the SAO for information on how many bridges with a prestressed concrete structure were covered by the above-mentioned request of the Minister in total and what the temporal and financial plan to complete the full inspection of all those bridges was, the RMD did not respond. It only stated that the completion of the first stage of diagnostics was expected in the course of 2020 and that the diagnostics would continue according to the available capacities of diagnostic companies.

Examples of shortcomings identified by the SAO in the area of registering the maintenance and repairs of bridges managed by the RMD are given in Annex 4 to this Audit Conclusion.

10. Procedure of the RMD for addressing the emergency condition of bridges

The negative consequence of neglecting the maintenance of bridges and postponing the repair of defects found during their inspections is not necessarily only their gradual decay. Based on the reassessment of the structural and technical condition of the bridge, it may suddenly become included in level VII – emergency condition. In such a case, the owner and administrator of the bridge become obliged to take immediate measures to avert the impending accident of the bridge, e.g. to close the bridge or to take other measures to ensure safe road traffic[37].

When awarding public contracts related to dealing with a bridge emergency, it may be difficult to use “standard” types of procurement procedures (open or narrowed-down procedures) due to the need for urgent start of work, as a result of the temporal and process complexity of such standard procedures. The use of a negotiated procedure without prior publication (hereinafter “NPWPP”), which is reserved for extreme or extraordinary situations, is strictly subject to compliance with statutory conditions, e.g. where it is necessary to award a public contract in an extremely urgent case which was not caused by the contracting authority and

[37] Section 8(4) of Decree No 104/1997 Coll., implementing the Act on Roads.

which the contracting authority could not have foreseen, and for time reasons it cannot be awarded in another type of procurement procedure[38].

In the case of addressing the emergency condition of a bridge, the statutory requirement of extreme urgency and the requirement of impossibility to award the public contract, due to time constraints, in another type of procurement procedure are met. However, if the emergency condition of the bridge is the result of long-term neglected maintenance and postponement of its repairs, the requirement that the contracting authority did not cause or could not have foreseen the extremely urgent situation may not be met. In such cases, the contracting authority finds itself in a situation where it practically has no possibility of awarding public contracts for work related to the solution of the emergency condition of the bridge other than in violation of legal regulations. The emergence of such a situation should therefore be prevented by proper care for the bridges.

In the case of the bridge at kilometre 29.161 of the D1 motorway over the Drhlovský Stream, the RMD (see clause 10.4 d) awarded a public contract for emergency support of the bridge in a NPWPP with reference to Section 23(4)b) of Act No 137/2006 Coll. The procurement procedure was initiated on 19 February 2015 by sending a call for tenders to five contractors. From the tenders submitted by them, according to the criterion of the lowest price, the RMD selected a tenderer with a price of CZK 51,697,646.78 excluding VAT and concluded a contract with that tenderer on 24 March 2015. In that case, the RMD used the NPWPP unjustifiably, as the situation requiring immediate start of work on supporting the bridge did not arise suddenly for objective reasons but was the result of long-term unresolved leakage into the bridge structure, the negative consequences of which the RMD could have predicted. Therefore, when awarding that public contract, the RMD acted in violation of legal regulations.

In a similar case in the procedure for reviewing the contracting authority's actions in the case of a public contract for construction works with a price of CZK 116.9 million, which the RMD had awarded in 2013 in connection with addressing a bridge emergency at kilometre 1.315 of class I road No 43 in Brno, the Office for the Protection of Competition (hereinafter the "OPC") ruled in 2016 that the RMD had committed an administrative offence by failing to comply with the statutory procedure, and the OPC imposed a fine of CZK 700 thousand for unauthorised use of a NPWPP[39]. In the grounds for its decision, the OPC stated, inter alia, that the emergency condition of the bridge had been the result of its insufficient maintenance and failure to address defects in a timely manner. It was therefore not a sudden condition that could not have been prevented with due care.

11. Care for bridges on class II and class III roads

With regard to its competence, which makes it impossible to audit the management of regional property, the SAO could not evaluate the level of care for bridges on class II and class III roads. The maintenance of those bridges, which was carried out by public-benefit

[38] Section 23(4)b) of Act No 137/2006 Coll., on Public Contracts, or Section 63(5) of Act No 134/2016 Coll., on Public Procurement.

[39] Decision of the OPC Ref. No. ÚOHS-S0892/2015/VZ-06624/2016/551/DBo of 19 February 2016 upheld by decision of the Chairman of the OPC Ref. No. ÚOHS-R0082/2016/VZ-39889/2016/321/MMI of 29 September 2016.

corporations established by regions and providing road management (hereinafter the "RMM"), was financed from regional budgets, i.e. from funds outside the SAO's audit competence. The SAO therefore focused on auditing the use of financial contributions from the SFTI and IROP budgets used by the SB Region, the RRMM of the CB Region, the RMM of the Pardubice Region, the RMM of the Pilsen Region and the RMM of the SM Region for financing bridge repairs, either within separate projects or within projects of repairs and reconstruction of road sections on which the bridges under repair are located.

The information provided indicates that there is no comprehensive system of planning, monitoring, evaluation and control of maintenance of bridges with a link to their condition and defects detected during their inspections. The planning of maintenance, repairs and reconstruction of bridges took place in various ways, mostly with the use of the RMS (a precondition set for the use of contributions from the SFTI budget – see clause IV.8 of this Audit Conclusion) and on the basis of maintenance plans and investment plans.

The submitted documents and analysis carried out by the SFTI for bridges on class II and class III roads (see clause IV.1 of this Audit Conclusion) show that, with the current pace of repairs and reconstructions of bridges and the number of bridges in a poor to emergency condition, it is not realistic to quickly achieve a significant improvement in their overall condition.

In the case of the audited projects, bridge inspection reports and other documents submitted show that, at least for some of the bridges, maintenance and timely repairs did not remove the defects found during their inspections, so the condition of those bridges gradually deteriorated and their subsequent repairs were or may be more expensive.

For example, the bridge at kilometre 3.995 of class III road No 31216 over Divoká Orlice in the municipality of Nekoř in the Pardubice Region was included in level III – good in 2008. In 2009, the cost of its repair was estimated at CZK 4.8 million. In 2016, its condition deteriorated to levelIV – satisfactory and in 2018 to level V – poor (the BMS contains outdated data from 2016). The report on the EBI carried out in April 2008 listed the defects of the bridge with measures consisting, among other things, in the treatment and sealing of cracks with the required implementation deadline within 5 years. However, similar defects were listed in reports on the RBI conducted in 2015–2017. The RMM of the Pardubice Region did not document the resolution of the above defects. In 2017, the bridge was included in an investment construction plan and its defects were to be removed by reconstruction. However, that reconstruction was postponed to 2018 due to lack of funds. In 2018, the bridge was reconstructed at a cost of CZK 18.5 million using funds provided from the SFTI budget.

The costs of the bridge repairs were very different. Their evaluation and comparison is complicated by the diversity of individual bridges, their initial conditions and the different extent and nature of their repairs. Unit prices of repairs or reconstruction of bridges were, in the audited projects, in a wide range from CZK 3,812/m^2 to CZK 161,260/m^2 (see Annex 5 to this Audit Conclusion).

At the RRMM of the CB Region and the RMM of the Pilsen Region, the SAO further found shortcomings of a formal nature in the procedure for public procurement (non-disclosure of certain parts of the tender documentation on the contracting authority's profile, failure to

comply with the deadline for the conclusion of the contract with the contractor, failure to comply with the deadline for sending a notice of change of the commitment to the *Public Procurement Bulletin*).

12. Aid provided for the repair and reconstruction of bridges under the IROP

Maintenance of bridges on class II and class III roads was funded by regions. To finance their repairs and reconstruction, in addition to their own resources, the regions could use funds provided from the SFTI budget for the financing of class II and class III roads and for the reconstruction and construction of bridges on selected sections of those roads as well as funds provided in support of the modernisation and development of priority regional road infrastructure networks under the IROP.

The IROP documentation set out several criteria according to which road sections were included in the priority regional transport network. The transport and economic significance of the road, its structural and technical condition, traffic intensity, accident rate and impact on the environment were taken into account. In this priority regional network, 7,869 kilometres, i.e. 8,911 kilometres of class II and class III roads, i.e. 16–18% of the length of the nationwide network of class II and class III roads (48,738 kilometres as of 31 December 2014), were thus included. The aided sections of the priority regional transport network were specified in the documentation of individual calls for aid applications.

The length of aided road sections ranged from 40 metres (section on the class II road No 605 in the Pilsen Region) to 130 kilometres (section on the class II road No 101 in the Central Bohemian Region). There were significant differences in the number and total length of sections included in individual regions in the priority regional road network. The MoRD stated that the scope of the priority network was determined by the IROP managing authority on the basis of documents prepared by individual regions, which selected the road sections on the basis of criteria set during the preparation of the IROP documentation.

Part of projects addressing the reconstruction and modernisation of class II and class III roads could also be technical improvement and construction of road bridges located on the given sections. Separately, however, road bridge reconstruction projects were not pursued under the IROP. Therefore, the MoRD did not set any specific objective or indicator for them which could measure the effects of the aid provided in this area. With regard to the selection criteria used for the inclusion of road sections in the priority regional transport network, sections with road bridges in the worst conditions were not necessarily included in the aided road sections.

In the audit carried out on a sample of ten projects involving the reconstruction of bridges, which were aided under the IROP, the SAO identified partial shortcomings in the CRD procedure in the checking and evaluation of aid application for five projects. In those cases, for example, the condition of the bridge was not sufficiently documented in the aid applications, the possibilities of a variant solution of the reconstruction were not evaluated, and the procedure of the contracting authority in public procurement was not sufficiently substantiated.

The condition of bridges on class II and class III roads improved slightly in 2014 and 2019, according to data published by the RMD. In 2014, 24.7 % of them were in a poor to emergency condition; in 2019 it was 23.3 % (for more details see Annex 7 to this Audit Conclusion). With regard to the financing of repairs, maintenance and reconstruction of bridges from several different sources (regional funds, funds provided from the SFTI budget, funds provided under the IROP) and the implementation of repairs and reconstructions of bridges both in separate projects and in projects of repair, reconstruction and modernisation of class II and class III roads, it is not possible to evaluate to what extent the aid provided under the IROP will contribute to a change in the condition of the bridges on those roads.

13. International comparison of the condition of bridges

The comparison of the developments of the condition of motorway and road bridges in different countries is complicated by the differences in the methodologies for evaluating and reporting the condition of bridges in individual countries. However, the use of similar methodologies makes it possible to make comparisons with the Slovak Republic. While in the Czech Republic the condition of bridges on class I roads is significantly better than on class II and class III roads, the data presented in a study prepared by the Slovak Road Administration in 2019 show that, in the Slovak Republic, the opposite is true. A comparison of the developments of the condition of motorway and road bridges in the Czech Republic and in the Slovak Republic follows from the data provided in Annexes 6 and 9 to this Audit Conclusion.

The evaluation of the developments of the condition of motorway bridges in the Slovak Republic is significantly influenced by the large proportion of bridges for which the condition was not determined (34.3% in 2018). The proportion of bridges in a poor to emergency condition in the total number of bridges on class I roads in the Czech Republic decreased from 14.0% to 11.3% in 2014–2018. In contrast, in the Slovak Republic, their proportion increased from 13.2% to 22.7%. The proportion of bridges in a poor to emergency condition on class II and class III roads in the Czech Republic decreased from 24.7% to 23.3% in that period. In the Slovak Republic, it increased from 9.6% to 13.5% (for more details see Annex 5 to this Audit Conclusion). The study does not contain an analysis of the causes of this development.

List of terms and abbreviations

BMS	*Bridge Management System*
RBI	routine bridge inspection
CRR	*Central Register of Roads*
CRD	Centre for Regional Development of the Czech Republic
CR	Czech Republic
CTU	Czech Technical University in Prague
Transport Policy	*Transport Policy of the Czech Republic for 2014–2020 with the Prospect of 2050*
TSS2	*Transport Sector Strategies, Phase 2*
EU	European Union
MBI	major bridge inspection
IROP	*Integrated Regional Operational Programme* for 2014–2020
RMNIS	*Road and Motorway Network Information System of the Czech Republic*
SB Region	South Bohemian Region
NPWPP	negotiated procedure without prior publication
USTI	*Uniform System of Traffic Information*
RRMM of the CB Region	Regional Road Management and Maintenance of the Central Bohemian Region
MoT	Ministry of Transport
MoRD	Ministry of Regional Development
EBI	extraordinary bridge inspection
OPT	Operational Programme *Transport* (for the programming period of 2014–2020)
RMD	Road and Motorway Directorate of the Czech Republic
SFTI	State Fund for Transport Infrastructure
RMS	road management system
Road Act	Act No 13/1997 Coll., on Roads
RAA	Road Administration Authority
RMM of the SM Region	Road Management and Maintenance of the South Moravian Region
RMM of the Pardubice Region	Road Management and Maintenance of the Pardubice Region
RMM of the Pilsen Region	Road Management and Maintenance of the Pilsen Region, public-benefit corporation
OPC	Office for the Protection of Competition

Annex 1

Condition of bridges according to ČSN 73 6221 Inspections of road bridges

I.	Perfect condition	The bridge is completely free of defects.
II.	Very good condition	Only minor defects that do not affect the load capacity of the bridge.
III.	Good condition	More serious defects that do not affect the load capacity of the bridge.
IV.	Satisfactory condition	Defects and faults that may affect the load capacity of the bridge in the future.
V.	Poor condition	Defects and faults affecting the load capacity of the bridge that can be eliminated by timely maintenance or repair.
VI.	Very poor condition	Defects and faults affecting the load capacity of the bridge that can only be removed by a timely major repair involving key parts of the bridge structure.
VII.	Emergency condition	A condition of the bridge which fundamentally affects its load capacity and requires immediate measures to avert an impending catastrophe.

Annex 2

Examples of shortcomings identified in the area of inspections of bridges under the administration of the RMD

a) In the case of the bridge over the Morava River on the border of the Czech Republic with Slovakia at kilometre 60.471 of the D2 motorway, the condition of the bridge was classified as level II – very good in January 2005. After the MBI performed on 29 September 2010, the condition of the bridge was reclassified to level IV – satisfactory. Based on the results of the EBI performed on 4 October 2010 (i.e. only five days later), the condition of the bridge was reclassified back to level II. This condition classification was then also mentioned in the reports on the RBI performed in the period from October 2010 to July 2013. The report on the RBI carried out in March 2014 stated the condition of the bridge at level IV, but the report on the RBI carried out in December 2015 again stated level II and the report on the RBI carried out in November 2016 did not state the classification of the bridge condition at all. Based on the MBI performed in October 2017, the classification of the bridge was again lowered to level V – poor (substructure) and IV – satisfactory (load-bearing structure).

The report on the aforesaid MBI dated September 2010 gave a brief description of the bridge parts and indicated four defects related to cracks in the columns, damage to the bridge expansion joints, damaged road and corrosion of the railings. Measures were proposed for all of them with a deadline of one year. In contrast, the report on the EBI carried out on 4 October 2010 contains only a description of a single defect, namely deep cracks in the bridge pillars. Although it is not clear from that report that the EBI dealt with any other parts or elements of the bridge, the classification status of the bridge was improved by two levels on the basis of that report. This change was not explained or justified in the report in any way and does not correspond to the seriousness of the defects that the bridge clearly showed at the time of the inspection. The RMD did not explain the above changes in the bridge condition classification.

In addition, for that bridge, all the reports on the RBI carried out from March 2006 to June 2012 did not describe the condition of the inspected parts of the bridge but only enumerated the same list of 10 defects, without proposing measures to eliminate them. All 14 of those reports are textually identical, including errors and typos in the defect descriptions. In all those reports, the introductory note stated that the condition of the bridge had not changed. An irresponsible approach to filling in the data in the reports is evidenced, for example, by the fact that, according to the reports on the RBI conducted in June 2012 or July 2013, the air temperature was 0.0°C at the time of these inspections.

b) In the case of the bridge at kilometre 113.327 of the D1 motorway, reports from its inspections carried out in the period from May 2005 to April 2018 described the same defects consisting in damaged insulation, water leakage into the bridge structure, corrosion of reinforcement, concrete degradation and related deterioration of the bridge condition. In the report on the EBI carried out in June 2010, it was proposed, among other things, to carry out a complete reconstruction of the bridge with a deadline of five years. The report on the EBI carried out in March 2012 stated that the condition of the bridge was deteriorating, with a proposal to carry out a complete reconstruction of the bridge, but with a deadline of 10 years.

No measure was proposed in the report on the MBI carried out in December 2014 although the condition of the bridge had not improved.

The report on the MBI carried out in December 2014 is very brief in the description of the condition of the bridge and the defects, and contains a single photograph in which there is only a sign with the registration number of the bridge. It does not list some of the defects that were pointed out in the reports on the bridge inspections carried out before and after it. For example, the report on the EBI carried out in March 2012 contains a description of ledge defects: *"The concrete is deeply degraded, in some places it is already crumbling on the right side at O2. Traces of massive leakage are visible on the lower face of the ledge. The prefabricated parts above the bridge opening are lowered and extended. The ledges are overgrown with moss."* The report on the MBI conducted in December 2014 states only very briefly: *"The ledges are overgrown with moss on the surface – a persistent state."* The report on the EBI conducted in September 2015 again provides a very comprehensive detailed description of ledge defects.

The above-mentioned report on the MBI carried out in December 2014 stated, among other things, the absence of railings on the ledges of the bridge, but without any proposal for measures. On the basis of that MBI, the registered condition of the usability of the bridge was also improved without explanation from level III – usable with reservation to level II – conditionally usable. In the case of similar bridges at kilometre 22.842 of the D1 motorway, at kilometre 116.359 of the D1 motorway, at kilometre 117.029 of the D1 motorway and at kilometre 119.879 of the D1 motorway, the same absence of railings was the reason for changing their usability to level V – not usable, with a proposal for an immediate removal of that defect.

c) In the case of the bridge at kilometre 119.879 of the D1 motorway, similar shortcomings were described in the reports on its inspections as in the case of structurally identical bridges at kilometre 116.359 of the D1 motorway and at kilometre 117.029 of the D1 motorway. Nevertheless, the condition of each of these bridges was classified at a different level, without the reason being clear in the reports. The classification of the bridge at kilometre 119.879 of the D1 motorway was deteriorated from level II to level V in March 2012 and then improved again to level III in October 2014, without explaining the reason in the relevant report on the MBI. It is clear from the description and photo documentation that the actual condition of the bridge has not changed.

Annex 3

Examples of shortcomings identified in the area of registering the condition of bridges under the administration of the RMD

a) In the case of the bridge over the Vltava River near Žďákov at kilometre 62.113 of the class I road No 19, the BMS contains a single record of the MBI, namely the first MBI performed in September 2017 after the reconstruction of the bridge. With regard to the condition of the bridge, however, in the period from April 2008, the RMD was to arrange the implementation of the MBI at intervals not exceeding 2 years. Nevertheless, it only arranged the implementation of the EBI, which, however, according to the information provided in the reports, focused on the problematic condition of the bridge expansion joints and did not cover all parts of the bridge. The RMD was also to ensure the implementation of the RBI for this bridge at least twice a year. However, after the RBI performed in April 2008, another RBI was performed only in August 2011 and no RBI was performed in 2018.

b) In the case of the bridge at kilometre 113.327 of the D1 motorway, the MBI carried out in May 2005 was not completed until February 2009 and was not approved by the RMD until December 2014. The RBI performed in May 2010 was completed in June 2016 and approved another two years later. In contrast, the RBI performed on 18 November 2011 was completed and at the same time approved on 22 November 2011, i.e. within four days. Thus, according to the data in the BMS, that RBI was completed more than 5 years earlier than the RBI that preceded it.

c) In the case of the bridge at kilometre 18.666 of class I road No 7, the RMD, according to the data in the BMS, did not approve any of the 25 MBI, EBI and RBI which were carried out in the period from July 2002 to November 2019 by the time of the SAO audit. Similarly, in the case of the bridge at kilometre 49.850 of class I road No 2 in Kutná Hora, the RMD approved a single RBI conducted in May 2003 but did not approve another 23 MBI, EBI and RBI by the time of the audit.

Annex 4

Examples of shortcomings identified in the area of care for bridges under the administration of the RMD

a) In the case of a pair of parallel bridges at kilometre 22.860 of class I road No 8 in Teplice, the RMD, at the request of the SAO for information concerning to what extent, when and at what costs their maintenance was carried out, submitted a mere overview of summary invoicing for non-structural maintenance of bridges in the Ústí Region. Information on the performed maintenance of individual bridges could not be ascertained from those documents. The RMD did not find any documents which dealt with the effectiveness and efficiency of repairs to the bridges it intended to reconstruct. In the case of another five bridges on the D1 motorway, the RMD did not submit any documents on their maintenance on the grounds that the documents could not be found.

The report on the MBI conducted in September 2013 stated that the load capacities of the bridge indicated in the bridge register were unrealistic and, therefore, their values had been reduced. In the report on the MBI carried out in February 2016, i.e. two and a half years later, in addition to the requirement to speed up the reconstruction of the bridge, the immediate installation of traffic signs limiting the load capacity on the bridge was required. A similar situation was in the case of the bridge at kilometre 18.666 of class I road No 7 near the municipality of Netovice, the load capacity of which was reduced in November 2016, but the implementation of the relevant change of traffic signs was not arranged by the RMD even in November 2019, i.e. three years later.

b) In the case of the bridge over the Knovíz Stream at kilometre 16.823 of the D7 motorway, descriptions of defects with measures to supplement drainage, clean drains, repair damaged parts of barriers and damaged bridge expansion joints with the deadline of "immediately" appear in practically all reports on bridge inspections from 2002 to 2011, without it being clear whether those defects have been remedied. Other reports show that the RMD did not carry out proper maintenance of the bridge even after its reconstruction completed in 2014, during which a complete replacement of the superstructure and rehabilitation of the lower structure of the bridge were carried out. After that reconstruction, the condition of the bridge was reclassified to level I – perfect. The report on the EBI carried out in September 2016 drew attention, among other things, to shortcomings in the implementation of protective anti-corrosion coatings and proposed the following measure: *"Develop a bridge maintenance plan and follow the plan, the bridge is not maintained, bearings covered with cobwebs, bridge expansion joints clogged."* Based on the EBI carried out in May 2019, the condition of the substructure of the bridge was lowered to level IV – satisfactory. The report on that inspection carried out as a basis for the complaint procedure mentioned extensive failures of rehabilitation and also cracks in the prestressed beams of the bridge load-bearing structure. Among other things, clogged drainage and torn parts of the gutters were mentioned again, which testifies to the continuing insufficient maintenance of the bridge.

c) In the case of the bridge over the Vltava River near Žďákov at kilometre 62.113 of class I road No 19, a repair addressing the damage to its structure by running water was to be carried out as early as 2004. The report on the EBI carried out in April 2008 contained extensive photo

documentation describing a number of defects in parts of the bridge, indicating long-term unresolved leakage into the bridge structure and its insufficient maintenance. The report proposed a comprehensive measure: *"Due to the condition of the bridge structure, it is necessary to start the intended repair as soon as possible. Leaving the structure in its current condition can lead to an increase in the extent of failures to such an extent that the repair will be significantly more technically and financially demanding…"* with a deadline of 1 year. After repeated delays, the RMD repaired the bridge only in 2015–2017 at a cost of CZK 170.6 million. The report on the inspection after the reconstruction of the bridge carried out in September 2017 listed defects and unfinished work, noting that the unfinished work did not have a significant effect on the use of the bridge. The report on the RBI carried out in April 2019 indicated, among other things, clogged bridge expansion joints, drainage and construction joints in the sidewalk on the bridge and vegetation in the joint between the road and the curb, i.e. defects indicating insufficient maintenance even after the reconstruction of the bridge.

d) In the case of the bridge over the Morava River on the border of the Czech Republic with Slovakia at kilometre 60.471 of the D2 motorway, the report on the RBI carried out in March 2006 mentioned, among other things, exposed corroding reinforcement of the ledge and leakage into the bridge structure. An identical description of the condition of the bridge parts and their defects is also contained in the reports on the other eight RBI performed in the period from August 2006 to May 2010. After March 2009, the description of defects in the bridge expansion joints was supplemented with information on their destruction, which then appears in further reports on the RBI until June 2012. The report on the MBI carried out in September 2010 shows that the bridge was unsuccessfully rehabilitated and its structure is still damaged by running water.

The report on the MBI conducted in October 2017, after which the condition of the bridge was classified at level V – poor, included, among other things, a description of the damage to the pillars and an inappropriate procedure for the rehabilitation of the bridge, indicating an inexpedient spending of funds:
"*Pillars with columns with two bearings under the extreme crosspieces of adjacent expansion units of the load-bearing structure with a construction joint above the pillar show the occurrence of vertical cracks and fissures on the surface of their columns ... The cause of this defect and the failure of the rehabilitation is or was a strong flow of water from the construction joints above the columns before the replacement of the bridge expansion joints in 2011–12, which probably took place on the Czech side only after the rehabilitation of the columns. If this was the case, that procedure was very unprofessional because the rehabilitation of the columns under the leaking bridge expansion joints was doomed to failure from the very beginning ... It must have been a long-term process because vertical cracks and corrosion of transverse and longitudinal reinforcement occur on the entire height of the columns of these pillars ... The client did not provide the diagnostic findings to the entity performing the inspection; however, even a visual inspection shows strong layered corrosion of the reinforcement ... the fact that this is at least a poor structural condition of the substructure is quite clear. ...*". A diagnostic survey was proposed and, based on its results, a new rehabilitation of the pillars with a deadline of 2 years.

Regarding the course of repairs to the bridge expansion joints and the rehabilitation of the bridge, the RMD stated that the rehabilitation of the bridge had taken place in the 1990s and

that the RMD had not found any related documents. It further stated that the bridge expansion joints on the left bridge had been replaced in 2007. On the right bridge, the repair was postponed due to the suspension of the preparation of public contracts in 2010. On the Czech side of the bridge, the bridge expansion joints were replaced in 2011–2012. Furthermore, the RMD stated that the BMS lacked the entry regarding one inspection of the bridge, which had most likely been carried out in 2012 or 2013 after the reconstruction of the bridge expansion joints, but the RMD was unable to ascertain who had carried out that inspection and why it was not entered in the BMS.

e) The concrete backfilled bridge (the structure of the bridge is covered with embankment material, on which the road is located) at kilometre 70.590 of the D1 motorway is located on a section that was being modernised between May 2013 and October 2014. According to the data in the BMS, the condition of the bridge was classified as level III – good in 2003. Based on the results of the MBI conducted in May 2007, its condition deteriorated to level IV – satisfactory. The reason was leakage into the bridge, cracks in the supports and corrosion of the reinforcement. It was proposed to rehabilitate the bridge within five years.

The report on the EBI carried out in April 2010 identified similar defects, indicating that the condition of the bridge was further deteriorating, and with the following warning: *"If the massive leakage into the structure is not prevented, the structural condition of the bridge will deteriorate significantly."* The same warning was then given in the reports on the RBI conducted in the following years. The report on the RBI carried out in November 2014 mentioned the corrosive weakening of the load-bearing reinforcement under the fallen cover layer by corrosion by up to 50 % in some places, with the requirement for a rehabilitation proposal, including possible reinforcement of the bridge load-bearing structure. The report stated, inter alia: *"The planned MBI was not implemented. The structural condition has deteriorated since the last MBI in 2014…"*, with a proposal of the following measure: *"I request diagnostics of the bridge structure, determination of the current load capacity and a subsequent repair proposal. The MBI in 2010 required a bridge repair as part of the D1 modernisation. As part of the D1 modernisation, neither the bridge nor the highway drainage was repaired. Request an explanation."*

The report on the RBI carried out in November 2015 indirectly shows that the RMD carried out a partial repair of the bridge: *"I. MBI after a major repair of the ceiling of the reinforced concrete slab of the load-bearing structure was not performed."* At the same time, however, the report mentioned other defects indicating at least the non-improving condition of the bridge, with a proposal to remove them within 1 year as part of the completion of the bridge repair. However, a failure to remove the defects and the continuing decay of the bridge are evident from the description of defects in reports on several other RBI. The reports on the RBI conducted in April 2018 and May 2019 contained a similar description of defects as well as information on the incomplete repair of the bridge.

At the request of the SAO to explain why the identified defects of the bridge, especially leakage into its load-bearing structure causing corrosion of the reinforcement, were not being addressed in the long term, and why the poor condition of the bridge was not resolved as part of the modernisation of the motorway, the RMD stated that the bridge had been rehabilitated, the defects would be claimed and the repairs would not limit the motorway traffic. At the

same time, it stated that backfilled bridges could not be exposed and re-insulated in order to preserve traffic and the height of the embankment, but that measures taken from the face could not replace the insulation and effectively prevent leakage. The RMD did not provide more detailed information on resolving the condition of the bridge and did not submit documents on its maintenance on the grounds that it could not find them.

f) As part of the modernisation of the motorway, the condition of another similar concrete backfilled bridge near Hrusice at kilometre 22.842 of the D1 motorway remained unresolved. The report on the RBI carried out in December 2019 highlighted a number of defects and, in the assessment of the bridge care, it was stated: "*Maintenance is performed within the scope of the administrator's capabilities. The bridge structure is in such a condition that the performance of routine maintenance cannot extend its service life or increase the load capacity. The bridge must be fundamentally reconstructed without any delay."* A note was added: *"The bridge structure is not planned for a complete reconstruction within the modernisation of the D102 section."* The RMD justified the non-implementation of bridge repairs as part of the modernisation of the motorway by the unavailability of land for temporary occupation and stated without further specification that it would perform the reconstruction of the bridge only subsequently.

g) In the case of the bridge at kilometre 12.497 of the D7 motorway near the municipality of Brandýsek, the report on the RBI carried out in May 2010 included the following information in the description of defects: *"Above both supports there are loose panels covering the mirror between the bridges, there is a risk of falling under the bridge*." An identical description was given in the report on the RBI conducted in October 2011. This defect was not mentioned in the report on the MBI carried out in June 2012. However, it reappeared in the report on the RBI conducted in August 2013: *"Above support 1, the end cover panel is dropped and wedged in the mirror, the other is shifted, there is a risk of their collapse."* The RMD stated that this was probably an error in the report on the MBI because the panels had been removed as part of the bridge maintenance in 2013. The RMD therefore eliminated a very dangerous defect only three years after the inspection of the bridge which had first drawn attention to it.

h) In the case of a pair of bridges over the Šmejkalka Valley at kilometre 23.868 of the D1 motorway, the report on the MBI carried out in November 2007 drew attention to the need to repair the bridge and the risk of pieces of concrete falling into the valley below. In the report on the RBI carried out in October 2019, i.e. twelve years later, it was stated that the bridge had to be fundamentally reconstructed without any delay. The measures included, inter alia: "*Regularly monitor and remove frictional concrete from the vertical surface of the outer ledges, the concrete falls under the bridge – risk of injury.*" The RMD stated that the dropping of pieces of concrete under the bridge would be prevented after the construction of temporary gangplanks along the ledges as part of the bridge reconstruction project. In January 2020, however, these works were still in the process of being commissioned.

i) In the case of the bridge at kilometre 29.161 of the D1 motorway over the Drhlovský Stream, reports on its inspections carried out in the period from September 2006 to November 2015 show that leakage into the bridge structure was a long-term unresolved problem and the condition of the bridge gradually deteriorated. Already in the report on the MBI carried out in September 2006, the possibility of weakening the prestressing reinforcement in the

beams was pointed out and the following measure was proposed, inter alia: *"Carry out routine maintenance until the bridge is repaired – in particular, clean the bridge superstructure and seal all joints and cracks with new sealants."* At the same time, a diagnostic survey was proposed with a deadline of one year, and based on its results the method and scope of the bridge repairs were to be proposed.

The RMD did not carry out a diagnostic survey of the bridge until 2009. The result was, among other things, a recommendation to perform additional diagnostics of critical parts of the bridge which had not yet been inspected, and at the same time a proposal for two variants of resolving the bridge condition – its reconstruction or complete demolition and construction of a new bridge. In 2010, the RMD provided project documentation for the reconstruction of the bridge and, in January 2012, obtained a land-use planning permit for it. However, the work did not begin and the RMD stated that it would perform it only as part of the modernisation of the relevant section of the D1 motorway.

The actual condition of the bridge, i.e. the condition of the prestressing reinforcement of its beams, was found out by the RMD through a diagnostic survey carried out in 2014, i.e. only eight years after the inspection of the bridge which had warned of the danger of damage to the prestressing reinforcement. With regard to the severity of the detected defects, the bridge was reclassified to level VII – emergency condition, with a proposal to take immediate measures consisting in the implementation of traffic restrictions, emergency support of the bridge and acceleration of preparations for its reconstruction. The construction of a new bridge was arranged by the RMD in 2015.

Similar shortcomings consisting in a long-term failure to address the flow of water into the bridge structure containing elements with prestressed reinforcement were found by the SAO in the case of two other bridges.

- **SB Region**

Reconstruction of the Švehla Bridge Reg. No. 137-014 in Tábor
Total costs of CZK 30.9 million excluding VAT, CZK 37.4 million including VAT; completion in 2017.
Unit price of the project CZK 17,718/m^2 excluding VAT, unit price of the bridge deck CZK 1,155/m^2 excluding VAT, unit price of the bridge superstructure CZK 883/m^2 excluding VAT.

Reconstruction of the bridge Reg. No. 160-007 near Větřní
Total costs of CZK 3.2 million excluding VAT, CZK 3.8 million including VAT; completion in 2018.
Unit price of the project CZK 34,561/m^2 excluding VAT, unit price of the bridge deck CZK 7,535/m^2 excluding VAT, unit price of the bridge superstructure CZK 2,801/m^2 excluding VAT.

- **RMM of the Pilsen Region**

Reconstruction of the bridge Reg. No. 2341-1 in Holoubkov
Total costs of CZK 9.1 million excluding VAT, CZK 11.0 million including VAT; completion in 2016.
Unit price of the project CZK 17,256/m^2 excluding VAT, unit price of the bridge deck CZK 2,894/m^2 excluding VAT, unit price of the bridge superstructure CZK 1,321/m^2 excluding VAT.

Reconstruction of the bridge Reg. No. 18019-3 in Pilsen
Total costs of CZK 24.7 million excluding VAT, CZK 29.9 million including VAT; completion in 2016.
Unit price of the project CZK 12,557/m^2 excluding VAT, unit price of the bridge deck CZK 2,462/m^2 excluding VAT, unit price of the bridge superstructure CZK 1,689/m^2 excluding VAT.

Reconstruction of the bridge Reg. No. 180-010 near the municipality of Dolany
Total costs of CZK 37.9 million excluding VAT; completion in 2019.
Unit price of the project CZK 31,540/m^2 excluding VAT, unit price of the bridge deck CZK 6,508/m^2 excluding VAT, unit price of the bridge superstructure CZK 1,471/m^2 excluding VAT.

- **RMM of the SM Region**

Reconstruction of 5 bridges in the section of road No II/422 Podivín–Lednice
Total costs of CZK 15.4 million excluding VAT; completion in 2016.

Bridge Reg. No.	Total costs (in CZK millions)	Unit price of the project (in CZK/m^2)	Unit price of the bridge deck (in CZK/m^2)	Unit price of the bridge superstructure (in CZK/m^2)
422-040	1.3	12,040	- *	2,093
422-041	1.1	10,179	- *	2,062
422-042	1.5	6,339	- *	696
422-043	5.2	3,812	- *	411
422-044	6.3	8,819	2,688	1,142

Note: * The price could not be calculated.

Reconstruction of bridges Reg. No. 4203-3 and Reg. No. 4203-4 in Šakvice
Total costs of CZK 15.4 million excluding VAT; completion in 2017.

Bridge Reg. No.	Total costs (in CZK millions)	Unit price of the project (in CZK/m^2)	Unit price of the bridge deck (in CZK/m^2)	Unit price of the bridge superstructure (in CZK/m^2)
4203-3	44.2	122,062	54,252	3,738
4203-4	20.1	133,493	29,684	5,418

Reconstruction of the bridge Reg. No. 15278-4 in Brno
Total costs of CZK 10.2 million excluding VAT; completion in 2018.
Unit price of the project CZK 9,255/m^2 excluding VAT, unit price of the bridge deck CZK 314/m^2 excluding VAT, unit price of the bridge superstructure CZK 620/m^2 excluding VAT.

Reconstruction of the bridge Reg. No. 3629-2 in Křtěnov
Total costs of CZK 10.4 million excluding VAT; completion in 2018.
Unit price of the project CZK 83,959/m^2 excluding VAT, unit price of the bridge deck CZK 31,531/m^2 excluding VAT, unit price of the bridge superstructure CZK 4,522/m^2 excluding VAT.

- **RRMM of the CB Region**

Reconstruction of the bridge Reg. No. 150-012 in Brzotice
Total costs of CZK 86.6 million excluding VAT, CZK 104.8 million including VAT; completion in 2017.
Unit price of the project CZK 21,026/m^2 excluding VAT.

Reconstruction of the bridge Reg. No. 101-074b in Zápy
Total costs of CZK 48.0 million excluding VAT, CZK 58.1 million including VAT; completion in 2018.
Unit price of the project CZK 37,655/m^2 excluding VAT.

- **RMM of the Pardubice Region**

Reconstruction of the bridge Reg. No. 31216-1 in Nekoř
Total costs of CZK 18.5 million excluding VAT, CZK 22.4 million including VAT; completion in 2018.
Unit price of the project CZK 48,385/m^2 excluding VAT.

Reconstruction of the bridge Reg. No. 3716-5 in Plechtinec
Total costs of CZK 16.7 million excluding VAT, CZK 20.2 million including VAT; completion in 2018.
Unit price of the project CZK 161,260/m^2 excluding VAT.

Note: The total costs for individual projects include various ranges of construction work on the bridges and related parts of roads. The difference in unit prices is mainly due to the different scope of work performed on the individual bridges.

Annex 6

Table 1: Condition of bridges on motorways and class I roads

Year	Bridges in total	Condition I–III	Condition IV	Condition V–VII	Not specified
2014	4,734	3,201	875	518 (10.9%)	140
2015	4,734	3,255	893	463 (9.8%)	123
2016	4,750	3,326	895	452 (9.5%)	77
2017	4,778	3,416	863	454 (9.5%)	45
2018	4,891	3,463	854	465 (9.5%)	109
2019	4,937	3,472	932	498 (10.1%)	35

Table 2: Condition of bridges on class II and class III roads

Year	Bridges in total	Condition I–III	Condition IV	Condition V–VII	Not specified
2014	12,577	5,074	4,314	3,107 (24.7%)	82
2015	12,580	5,190	4,271	3,052 (24.3%)	67
2016	12,577	5,286	4,250	2,987 (23.7%)	54
2017	12,582	5,446	4,188	2,909 (23.1%)	39
2018	12,594	5,497	4,127	2,931 (23.3%)	39
2019	12,596	5,683	3,944	2,929 (23.3%)	40

Source: (Tables 1 and 2): RMD, reports from RMNIS.

Note: The time series of data on bridge conditions are summarised in Table 1 for bridges on motorways and class I roads due to the comparability of data with regard to the transfer of most roads for motor vehicles from the category of class I roads to the category of motorways as of 1 January 2016. The data do not include bridges managed by the Technical Road Administration of the City of Prague (Technická správa komunikací hl. m. Prahy, a.s.). The condition of the bridges in 2019 is given as of 1 July 2019.

Annex 7

Table 3: Condition of bridges on class II and class III roads by region

Region	Bridges in total		Condition I–III		Condition IV		Condition V–VII		Not specified	
	2014	2019	2014	2019	2014	2019	2014	2019	2014	2019
Central Bohemian	1,833	1,852	528	617	725	616	574 (31.3%)	612 (33.0%)	6	7
South Bohemian	1,055	1,063	524	609	323	321	203 (19.2%)	133 (12.5%)	5	-
Pilsen	965	963	337	379	465	413	161 (16.7%)	169 (17.5%)	2	2
Karlovy Vary	455	472	218	273	190	170	46 (10.1%)	29 (6.1%)	1	-
Ústí	885	897	327	362	273	313	281 (31.8%)	214 (23.9%)	4	8
Liberec	664	651	272	306	170	153	218 (32.8%)	191 (29.3%)	4	1
Hradec Králové	883	872	412	396	354	348	112 (12.7%)	123 (14.1%)	5	5
Pardubice	814	818	483	448	225	221	106 (13.0%)	149 (18.2%)	-	-
Vysočina	872	874	349	388	341	310	181 (20.8%)	174 (19.9%)	1	2
South Moravian	1,173	1,148	400	466	314	287	456 (38.9%)	392 (34.1%)	3	3
Olomouc	1,114	1,103	418	475	351	298	325 (29.2%)	328 (29.7%)	20	2
Zlín	721	727	301	360	269	178	145 (20.1%)	184 (25.3%)	6	5
Moravian-Silesian	1,143	1,155	505	604	314	316	299 (26.2%)	231 (20.0%)	25	4
Total	**12,577**	**12,596**	**5,074**	**5,683**	**4,314**	**3,944**	**3,107 (24.7%)**	**2,929 (23.3%)**	**82**	**40**

Source: reports from RMNIS, status as of 1 January 2014 and 1 July 2019.

Annex 8

Table 4: Funds provided from the SFTI budget to the beneficiary RMD for repairs and maintenance of class I roads – including bridges (in CZK thousands)

Year	Approved budget	Adjusted budget	Released from the budget	Drawn from the budget
2014	6,500,000	6,500,000	6,322,312	5,981,819
2015	6,900,000	8,004,980	7,941,163	7,669,425
2016	6,000,000	9,146,500	9,146,500	9,146,500
2017	7,100,000	8,100,000	8,060,000	7,970,835
2018	7,500,000	9,800,000	9,800,000	9,799,468
2019	8,000,000	11,351,886	11,351,886	11,351,879
Total	**42,000,000**	**52,903,366**	**52,621,861**	**51,919,926**

Source: SFTI budgets, agreements on the provision of funds from the SFTI budget (beneficiary RMD), data provided by the SFTI.

Table 5: Funds provided from the SFTI budget to the beneficiary RMD for repairs and maintenance of motorways – including bridges (in CZK thousands)

Year	Approved budget	Adjusted budget	Released from the budget	Drawn from the budget
2014	2,500,000	2,800,000	2,762,875	2,562,777
2015	2,700,000	3,700,000	3,700,000	3,673,310
2016	2,800,000	3,495,000	3,495,000	3,444,617
2017	2,900,000	2,250,000	2,250,000	2,249,872
2018	3,000,000	4,710,000	4,710,000	4,710,000
2019	3,000,000	5,049,880	5,025,880	5,017,482
Total	**16,900,000**	**22,004,880**	**21,943,755**	**21,658,058**

Source: SFTI budgets, agreements on the provision of funds from the SFTI budget (beneficiary RMD), data provided by the SFTI.

Table 6: Funds provided from the SFTI budget for the financing of class II and class III roads – including bridges (in CZK thousands)

Year	Approved budget	Adjusted budget	Released from the budget	Drawn from the budget
2015	0	4,418,900	4,390,886	4,390,859
2016	0	3,022,396	3,022,394	3,010,323
2017	0	3,360,066	3,103,357	3,002,737
2018	0	4,183,410	4,013,169	3,894,921
2019	0	2,140,032	2,001,676	2,001,676
Total	**0**	**17,124,804**	**16,531,482**	**16,300,516**

Source: SFTI budgets, data provided by SFTI.

Annex 9

Table 7: Condition of bridges on motorways in the Slovak Republic

Year	Bridges in total	Condition I–III	Condition IV	Condition V–VII	Not specified
2014	621	366	79	14	162
2015	645	366	79	14	186
2016	652	369	79	14	190
2017	710	369	79	14	248
2018	703	369	79	14	241

Table 8: Condition of bridges on class I roads in the Slovak Republic

Year	Bridges in total	Condition I–III	Condition IV	Condition V–VII	Not specified
2014	1,729	978	507	229 (13.2%)	15
2015	1,745	933	542	261 (15.0%)	9
2016	1,763	883	543	318 (18.0%)	19
2017	1,760	835	566	341 (19.4%)	18
2018	1,769	775	579	401 (22.7%)	14

Table 9: Condition of bridges on class II and class III roads in the Slovak Republic

Year	Bridges in total	Condition I–III	Condition IV	Condition V–VII	Not specified
2014	5,398	3,114	1,743	520 (9.6%)	21
2015	5,402	2,883	1,943	554 (10.3%)	22
2016	5,395	2,727	2,076	573 (10.6%)	19
2017	5,405	2,641	2,102	633 (11.7%)	29
2018	5,393	2,494	2,158	726 (13.5%)	15

Source: (Tables 7–9)**:** *Road objects – Status of the road network as of 1 January 2019*; Bratislava 2019; Slovak Road Administration, Road Databank Department.

Note: Table 7 includes bridges managed by the National Motorway Company (Národná diaľničná spoločnosť, a.s.). Table 8 includes bridges managed by the Slovak Road Administration. Table 9 includes bridges under the administration of regional administrators.