



AUDIT REPORT

2020

BRIDGE RECONSTRUCTIONS, REPAIRS AND MAINTENANCE
ON 2ND AND 3RD CLASS ROADS

Supreme Audit Office of the Slovak Republic
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ABBREVIATIONS USED

ABBREVIATION	DEFINITION
BA	Bratislava Region
BB	Banska Bystrica Region
KE	Kosice Region
ISSAI	International standards of supreme audit institutions
MDV SR	Ministry of Transport and Construction of the Slovak Republic
MF SR	Ministry of Finance of the Slovak Republic
NKU SR	Supreme Audit Office of the Slovak Republic
NR SR	National Council of the Slovak Republic
NR	Nitra Region
PO	Presov Region
TN	Trencin Region
TT	Trnava Region
ZA	Zilina Region

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FINDINGS AND RECOMMENDATIONS

The road infrastructure in Slovakia is hierarchically formed by motorways, expressways, 1st, 2nd and 3rd class roads and local roads. This infrastructure was originally wholly owned by the state. As part of the decentralization of public administration, the state transferred competence in transport to self-governments. Ownership of local roads in the built-in areas of the municipality, including the performance of the administration, was transferred to the respective municipalities as the first step.

The 2nd and 3rd class roads, including bridges on these roads, were transferred in 2004 from the state to the ownership of the self-governing region. The State retained ownership of the motorways and expressways, which are managed by the National Motorway Company, and the 1st class roads, managed by the Slovak Road Administration.

Until 2015, the main source of income of self-governing regions for the management of road infrastructure was the revenue from the motor vehicle tax, from which the regions received millions of euros a year. Since 2015, after a change in legislation, the state has taken over the collection of this tax from the regions and is compensating the financial loss to the self-governing regions by increasing the income from shared taxes. The total amount of funds spent by the self-governing regions on road management owned by them in 2019 and 2020 exceeded EUR 190 million each year.

Analytical studies of the SAO SR already in 2018 confirmed the deteriorating condition of bridges on 2nd and 3rd class roads in the years 2013 - 2016. The study was followed by an audit of the SAO SR with the aim of verifying the setting and method of determining the structural and technical condition of bridges, as well as the effectiveness of the system of repairs and maintenance of bridges on roads owned by self-governing regions in 2017 - 2019.

All eight self-governing regions have set up or established Regional Road Administrations for road management within their competence. Bridges are also part of the road network they manage. In all regions, the administration of bridges was set according to the system of bridge management in accordance with the technical regulations of the Ministry of Transport of the Slovak Republic. Bridge management is defined as a group of related activities of bridge owners / managers, the aim of which is to provide the necessary information about bridges and their evaluation for the selection and compilation of the order of repairs, reconstruction and rebuilding of selected bridges to ensure their operability and safety. The condition of the bridges, of which there were a total of 5,395, was ascertained through inspections and diagnostics. According to the results of these activities, the bridges were classified into one of the seven degrees of their structural and technical condition, from faultless to emergency condition.

A key position in determining the construction and technical condition of bridges are the inspectors - certified employees with appropriate training, who can carry out routine and major bridge inspections. Due to their low number and difficult substitutability, any interruption of the activity of such a professional for a longer period - in the order of weeks - represents a failure in the number of performed inspections on more than 200 bridges in the region. **Problems with non-performance of planned mandatory inspections of bridges and inconsistent registration of their results in the information system were recorded by SAO SR auditors to varying degrees in all regions. As a result, the information on the condition of the bridges was not always complete and correct,** which subsequently affected other follow-up activities, especially the planning and execution of maintenance, repairs but also the reconstruction of the bridges. **SAO SR sees room for elimination of these shortcomings by increasing the capacity of inspectors or by more effective use of existing resources by centralizing their activities. Such centralization is possible on the basis of contractual cooperation of individual administrators or by making adjustments to technical regulations in the field of bridge inspections.**

According to the Audit results, the condition of the bridges on the 2nd and 3rd class roads has been deteriorating for a long time. Number of bridges on the 2nd and 3rd class roads in the best condition dropped by almost half in 16 years from 3,498 to 1,763. The number of bridges in the three worst degrees of construction and technical condition increased more than twice, from 486 to 1,154. Road managers in self-governing regions perform only the necessary maintenance and repairs of bridges. The action of road managers is focused on eliminating the worst situations within the available financial resources, not on real needs. **While maintaining the existing approach of self-governing regions to the management of bridges on 2nd and 3rd class roads,** the number of bridge closures, as well as unpredictable collapses, will increase.

Ownership relationship of self-governing regions to the 2nd and 3rd class roads and bridges on these roads means a commitment to develop, protect and enhance the property. This entrustment to the administration of another organization means the transfer of competencies and the allocation of funds to ensure this activity. However, even in such a case, the responsibility for the fulfillment of the obligations remains with the owner. **The SAO SR found that the self-governing**

regions, as the owners of the bridges, neglected the control of the professional activity of the administrators. They carried out only audits through chief auditors and focused mainly on budget implementation, accounting and reporting, document requirements and item analysis. **The control activities with the aim of verifying compliance with the bridge management system were not carried out by the self-governing regions as owners, nor by other competent bodies.** They therefore had no information that the managers were neglecting or failing to fulfill part of their duties. The solution is to behave like a good manager and apply in practice the control mechanisms resulting from the system of bridge management or other established quality management systems.

The efficiency of the system of repairs, maintenance, as well as modernization of bridges on roads owned by self-governing regions was evaluated on the basis of the criteria set by the SAO SR. Apart from one, the self-governing regions did not have sufficiently specific and measurable goals, nor criteria and measurable indicators in the area of bridge management. Only in case of the Zilina Region, the system was evaluated as effective, with possible improvements. In the other seven regions, the system was assessed as ineffective.

The reason for such a negative evaluation is the insufficiently and inconsistently performed activities within the framework of the bridge management system and the deteriorating construction and technical condition of bridges in the short and long term. The accumulation of various financial resources in the form of own budgetary funds, loans and Euro-funds within one region is positively reflected in the intensified performance of activities within the system of bridge management and thus in the stabilization of the state of bridges in the short term. In the long run, there is a lack of resources to carry out all activities within the system of bridge management, but especially for the systematic modernization of bridges.

According to the findings of the SAO SR, in order to ensure the cyclical renewal of bridges, it is necessary to renew one percent of all bridges on the 2nd and 3rd class roads every year with an average life of the bridge of 100 years, ie 54 bridges per year. This is 2.5 times more bridges than are being renewed annually today, using all sources of funding. **The SAO SR considers it crucial that all available financial resources must be used for the systematic long-term renewal of bridges.**

With the current approach of self-governing regions with currently available resources, the condition of bridges will continue to deteriorate, including the number of bridges in a state of emergency, which must be closed due to an impending catastrophe.

According to the SAO SR, the correction of the condition found requires the adoption of a systemic solution. Part of the solution should be not only the setting of a sustainable way of financing from all available sources, but also the adjustment of processes, using experience from abroad. One of the possible modifications is the creation of an organization similar to the State Fund for Transport Infrastructure in the Czech Republic.

The basis for setting up a system for managing regional bridges is the financially and organizationally guaranteed annual reconstruction of one percent of the total number of 5,395 bridges, which is derived from the average life of the bridge of 100 years. This must be repeated cyclically, as the construction and technical condition of bridges deteriorates for a long time by postponing their repairs. **The systemic solution must ensure continuous, unchanging and permanently earmarked revenues for the annual renewal of 54 bridges.** Such a setting of new rules requires the active participation of the state in legislative changes to the financing system.

THE AUDIT

1 AUDIT OBJECTIVE

The SAO SR included in its audits plan for 2020 the audit: "Reconstruction, Repairs and Maintenance of bridges on 2nd and 3rd class roads. The audit was carried out using the results of a preliminary study focused on the efficiency of spending public funds on the construction, repair and maintenance of bridge structures on 2nd and 3rd class roads from 2017.

The audit objective was to verify the setting and method of determining the construction and technical condition of bridges, as well as the effectiveness of the system of repairs and maintenance of bridges on roads owned by self-governing regions.

The subject of the audit was the accuracy and completeness of information on the construction and technical condition of bridges and the efficiency of maintenance and repair of bridges.

The audit is smoothly followed by the audit "Reconstruction, repairs and maintenance of bridges on the first class roads". After combining the results of both audits, the SAO SR will provide a comprehensive view of bridges on the 1st, 2nd and 3rd class roads.

2 AUDIT FRAMEWORK

2.1. BASIC CHARACTERISTICS

The audit inspected all eight self-governing regions, as well as all eight road administrators, which the individual regions established or set up for the management of road infrastructure in the form of a budgetary or contributory organization, or as a joint-stock company with a 100% ownership interest of the self-governing region as of 31 December 2020.

The audit focused mainly on non-financial aspects - selected processes and procedures associated with the maintenance and repair of bridges on the 2nd and 3rd class roads, as well as short- and long-term results. The audited period was the period 2017 - 2019, to achieve the audit objective, and have objective evaluation of the audited facts, also data from the previous and the following period, especially for the year 2020.

2.2. AUDIT PERFORMANCE

During the design of the audit, the risks of correctness and completeness of data on the condition of bridges and the lack of effectiveness of the system of repairs and maintenance of bridges due to the long-term deteriorating condition of bridges were identified. These risks were developed into the subject of the audit, and were also confirmed by the audit results.

The audit was performed in accordance with the Act on SAO SR and with standards that are based on the basic principles of international standards of the supreme audit institutions (ISSAI).

2.3. SPECIFIC AREAS

Efficacy was not evaluated for each audited entity individually but jointly for the self-governing region and the relevant administrator as a whole. This specific approach was used due to the internal division of competencies between the self-governing region as the owner and the administrator of the road management owned by the self-governing region. The division was specific in each region not only for the different legal personality of the road manager and the resulting differences, but also for the degree of independence and decision-making independence of the manager from the owner. Such an approach enabled a basic comparison between individual regions.

Processes were examined where the operational and supporting records were not adequate, or activities were not formalized. This was confirmed by the audit itself, when the 'professional activity' of managers was not the subject of any external audit and the administrators themselves stated that the SAO SR is the first institution to verify such facts during the existence of the road manager.

3 AUDIT RESULTS

3.1. BRIDGE CONDITION HAS BEEN DETERIORATING LONG-TERM, ALTHOUGH THE BRIDGE MANAGEMENT SYSTEM IS SET UP IN ACCORDANCE WITH THE APPLICABLE REGULATIONS

The bridge management in all self-governing regions was set up according to the system of bridge management in accordance with the technical regulations of the Ministry of Transport of SR. Bridge management is defined as a group of related activities of bridge owners / managers, the aim of which is to provide the necessary information about bridges and their evaluation for the selection and compilation of the order of repairs, reconstruction and rebuilding of selected bridges to ensure their operational suitability and safety.

Each self-governing region set up or established a special organization to manage the road infrastructure, and at the end of 2020, these organizations had the legal form of a budgetary organization, a contributory organization or a business company. The legal form of the road manager directly influenced the method of financing, as well as the property records of bridges, because budgetary and contributory organizations also provide for property and accounting records of roads and bridges. Self-governing regions record roads and bridges in their property in cases where they have entrusted road management to commercial companies. According to the audit findings, the legal form of the administrator did not have a direct impact on changes in the condition of bridges in individual regions.

The SAO SR found that the **financial value of land under road infrastructure is almost Euro 54 million**, and accounts for 18.6 % of the total value of land owned by self-governing regions. **The financial value of roads and bridges is over Euro 613 million** and accounts for 43.6 % of the total value of structures owned by the self-governing regions. **The financial value of bridges is worth more than Euro 86 million**, and accounts for approximately 14% of the value of road infrastructure.

Road infrastructure thus significantly contributes to the value of the property of self-governing regions in the items land and buildings. **Therefore, SAO SR points to the necessity of setting clear rules of communication between the self-governing region and the property manager.** At the same time, it is necessary to emphasize the special position of the road infrastructure manager in comparison with other organizations in the founding authority of the self-governing region. **The poor state of property managed by other organizations has an impact mainly on their activities, but the poor state of road infrastructure, especially bridges, has an impact on the wider territory and a significantly larger number of inhabitants and neighboring regions.**

The distribution of the total number of 5,395 bridges between individual self-governing regions is very uneven. Most bridges, over a thousand of them, are in the Presov Region and the Banská Bystrica Region. On the contrary, in the Bratislava region there are less than 130.

Individual regions are also burdened with different traffic intensity and have different road infrastructure of a higher category. Several districts in different regions, such as Pezinok, Myjava, Gelnica or Medzilaborce, do not have a 1st class road on their territory, ie transport is carried out on 2nd and 3rd class roads.

The quality of bridges in terms of the extent of failures in Slovakia is expressed by one of the seven degrees of construction and technical condition in accordance with technical standards, into which bridges are classified on the basis of the condition found by their inspection.

Table 1: Characteristics of bridges according to their structural and technical condition

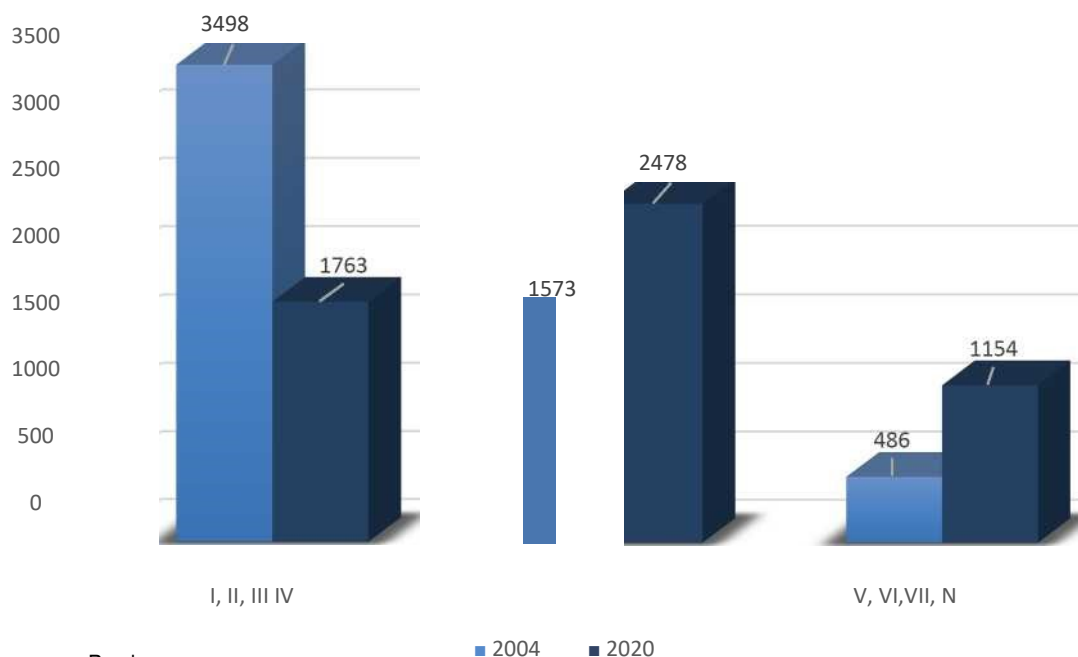
Degree		Characteristics
I	Flawless	Without any latent or obvious defects
II	Very good	Occurrence of only visual defects that do not affect load capacity
III	Good	Occurrence of major defects, but not affecting load capacity
IV	Satisfactory	Occurrence of defects that do not have an immediate impact on load capacity, but may affect it in the future
V	Bad	Occurrence of defects that have an adverse effect on the load capacity of the bridge, but are still removable without the replacement of fault components
VI	Very bad	Occurrence of defects that affect load capacity and cannot be eliminated without replacing faulty parts or supplementing missing parts
VII	Emergency	Occurrence of defects that affect load capacity to such an extent that they require immediate remediation to avert the impending catastrophe
N	unspecified	There is not enough information to be included in the degree of construction and technical condition

Source: TP 077 Technical conditions, System of bridge management

The elimination of faults on bridges for the first four degrees of the construction-technical condition is associated only with normal maintenance and relatively simple repairs, which ensure keeping of the operational condition. From degree V, extensive repair or reconstruction based on the design documentation through investment activity is required to eliminate defects.

The division of bridges into three groups according to the degree of their construction and technical condition at the time of the transfer of ownership of bridges by the region in 2004 and the current condition was processed according to the data of the road database into the following chart:

Chart 1: Number of bridges on 2nd and 3rd class roads according to the degree of their structural and technical condition in 2004 and 2020



Source: Road Databank and records of owners or managers

In 2004, almost 63% of all bridges were in the top three degrees of construction and technical condition, in 2020 it was only less than 33%. The exact opposite trend was recorded in the worst three degrees of construction and technical condition, the number of which included a small number of bridges in an unspecified condition. The number of bridges in these groups increased to more than 21% in 2020 from almost 9% in 2004. The increase in the share from more than 23% to almost 46% was recorded in degree IV. The exception was the Zilina region, where the condition of the bridges is relatively unchanged. A detailed overview of the number of bridges by region is provided in Appendix 1 to this report.

In the Nitra Region, for example, there were 146 bridges in the fourth degree in 2013; in seven years, the number of bridges in this group increased by 147, ie by 100%. In the fifth degree, there were 31 bridges, in seven years there were 61. In the sixth degree there were four bridges in 2013, in 2020 already ten bridges.

Based on audit findings, the SAO SR states that the number of bridges on the 2nd and 3rd class roads in the best condition has dropped by almost half in 16 years and the number of bridges in the worst stages of construction and technical condition has increased more than twice. The condition of the bridges was not significantly affected by the fact that all self-governing regions apply the rule of "the worst goes first" to large repairs and reconstructions of bridges, ie. j. that the performances on the worst bridges will be realized sooner. An exception to this rule was the Banská Bystrica self-governing region, where simultaneously with the continuous repair of a longer section of the road, they preventively repaired all bridges on the given section, regardless of their degree of construction and technical condition.

According to the audit findings, **the priority of self-governing regions in the area of road infrastructure is not the repair of bridges, but precisely the continuous repair of roads, which are more visible to the public.** However, if bridge repairs are postponed, their subsequent emergency closures cause strategic traffic problems in the wider region and the need for more significant detours. Currently, this is confirmed by the exclusion of vehicles over 12 tons on the bridge over the Vah river in Hlohovec, the closure of the bridge over the diversion canal in Ilava, or near Podvazi in the district of Povazska Bystrica or the bridge over Hornad river between Kysak and Lodina.

During the last approximately five years, there have been repeated cases when the bridge was not included in any of the worst degrees of construction and technical condition and nevertheless there was a sudden collapse with the result of immediate closure or significant restriction of traffic flow. The most media-known cases include the bridge over the Ruzin in the Gelnica district with the fifth degree of construction and technical condition at the time of the event, or the fall of a ledge on the bridge in Krivost'any in the Michalovce district, which was in degree IV. Such unforeseen situations represent a long-term complication of the daily life of the inhabitants of the affected area in the form of detours, which prolong the commuting to work or schools, and complicate the deliveries of goods. At the same time, they are putting pressure on the self-governing region and the relevant road manager to seek a solution without delay.

Part of the care for the technical condition of bridges is their quality diagnostics, subsequent maintenance and repairs, as well as systematic retrofitting. However, according to the findings of the SAO SR, these self-governing regions do not apply these principles in the care of bridges on the 2nd and 3rd class roads sufficiently. There have been repeated cases where they captured the state of the bridge and when it was in a state of disrepair. In such a case, the bridge was closed for the possible impending disaster. According to the SAO SR, the owners should set up a system of inspections and subsequent repairs so that the bridges are repaired even when they are in better stages of construction and technical condition, thus minimizing the cases of closing the bridges due to the impending catastrophe.

3.2. RESOURCES AVAILABLE FOR BRIDGE MANAGEMENT ARE INSUFFICIENT

Lack of Human Resources

In self-governing regions, the issue of bridges as part of the road infrastructure fell within the competence of the organizational unit, which usually had up to 10 employees. The subject of the activities of such a unit included competencies of the self-governing region in the field of transport, i.e. suburban bus transport and tasks arising from the road law, including the provision of road management of 2nd and 3rd class roads and bridges on these roads.

In individual regional road administrations, employees whose job description was mostly related to bridges accounted for less than 2% of the total number of employees. These were job positions with activities cumulated with winter maintenance. Approximately half of this number of employees had bridges as their dedicated job description, especially in cases where bridge unit was established at the road manager.

In order to determine the construction and technical condition of the bridges, the inspectors, ie the certified workers, are authorized to perform regular and major inspections of the bridges.

These must be carried out at regular intervals, at a specified time and on all bridges. The routine inspection must be performed every year, and special ones once every four years. In addition to these inspections, extraordinary inspections are carried out resulting from unforeseeable events such as floods, the consequences of accidents, falls or sudden collapses of bridges of a specific construction. The inspectors were responsible for conducting inspections within the defined region. Low numbers of inspectors caused problems with substitutability. **The long-term incapacity to work of one inspector resulted in the failure to perform more than 200 bridge inspections in the region.**

Problems with non-performance of planned mandatory inspections of bridges were recorded by SAO SR auditors to varying degrees in all regions. In addition, they identified cases where records of inspections were not entered in the information system at all or with a significant and multi-year delay.

As part of the audit, the SAO SR investigated among inspectors the possibility of improving the system of bridge inspections in the form of questionnaires. The answers received show that the inspections make it possible to visually ascertain the condition of the bridges to a sufficient extent in combination with the appropriate use of diagnostic methods. At the same time, according to these professionals, it is possible to improve the performance of bridge inspections within the existing system of bridge management, especially through additional technical equipment, or increase in the number of inspectors. All routine and major inspections could thus be carried out at the specified time. Proposals to change the bridge management system were mainly related to the need to extend the period for inspections, or to improve the information system by increasing user friendliness, introducing the obligation of the owner to confirm the result of the inspection, or introducing the obligation to perform diagnostics under pre-established conditions.

The conclusions of the experts from practice were almost identical with the opinions of academic experts from the Department of Building Structures and Bridges, Faculty of Civil Engineering, University of Zilina. According to them, the key role in checking the reliability and ascertaining the construction and technical condition of bridges is played by supervision, especially inspections. Setting up a bridge care system through technical standards and guidelines is assessed by experts as well, for example, the frequency of inspections could change.

A properly set up bridge care system must have sufficient staff, equipment and finances for all activities, including

inspections, routine repairs, maintenance and modernization. According to the SAO SR, the benefit would be an increase in the number of inspectors or the creation of a nationwide system, within which regional administrators could cooperate and use inspectors from the national database according to regional needs.

Insufficient financial resources for long-term reconstruction of bridges

Self-governing Regions set aside approximately 10% of their total budget for transport infrastructure managers. Of this volume intended for road management, including bridges, only about 1.5% is used directly on bridges. These are hundreds of thousands of euros, which are **not enough and this is confirmed by the condition of bridges, which is deteriorating. More than 67% of bridges on the 2nd and 3rd class roads is more than 50 years old, with 27.7% m and more than 70 years old, ie. were built before 1950.** Reconstruction and renovation of bridges are essential to ensure their operational condition. The high age of bridges and the increasing traffic intensity require the continuous spending of funds on their repairs and maintenance. Their limited volume and the related insufficient maintenance and repairs are reflected in the long-term deterioration of the construction and technical condition of the bridges and the subsequent need for their reconstruction, resp. renovation.

According to the audit results, road managers in self-governing Regions neglect early prevention and perform only necessary repairs to bridges. The performance of inspections and subsequent repairs is adapted to the amount of available funds, not to real needs.

Only three road managers have demonstrably informed about the need to increase funding for the maintenance and repair of bridges. Moreover, the managers do not systematically plan and evaluate these performances, which in connection with the inconsistent registration of removed faults in the Road Databank reduces the topicality and explanatory power of data on bridges and the possibility of their proper use in follow-up activities.

According to the obtained data for all self-governing regions for the period 2017 - 2020, the degree of construction and technical condition improved with a total of 87 bridges, i.e. about 22 bridges a year. The decision on the reconstruction was always in the competence of the owner on the basis of documentation from the road manager. Every year, the requirements exceeded the available resources, so the decisions on the selection of specific bridges for reconstruction were up to the Council deputies of the relevant self-governing Region. However, a systematic approach to the submission of current requirements for reconstruction, including evaluation, including the analysis of causes and impacts, was absent.

To improve the degree of construction and technical condition of bridges, self-governing regions use various sources of funding. In addition to own budgetary funds, also investment loans from commercial banks, resp. European Investment Bank, a repayable financial assistance from the Ministry of Finance of the Slovak Republic or the Euro-funds. In fact, the resources of self-governing Regions make up the smallest part of the resources.

According to the findings of the SAO SR, in order to ensure the cyclical renewal of bridges, with an average life of the bridge of 100 years, it is necessary to renew 1% of all bridges on the 2nd and 3rd class roads, ie 54 bridges per year. Only to maintain the current construction and technical condition of bridges, it is necessary to renew approximately 2.5 times more bridges every year than is currently the case with the use of all available resources.

Based on the audit results, the SAO SR states that self-governing regions must create financial conditions for the cyclical renewal of bridges, within which they should modernize 54 bridges every year.

3.3. INFORMATION ON THE CONDITION OF BRIDGES IS NOT ALWAYS CORRECT AND COMPLETE, AFFECTING THE FOLLOW-UP PROCESSES

In addition to property records, bridges are also registered in the information system of the Road Database. By checking the records of bridges and data in the Road Database, the SAO SR found deficiencies affecting the accuracy and completeness of data on bridges. In the Banská Bystrica region, **data on the number of bridges in the property records of the owner (979) and the administrator (1,034) were significantly different.** The owner and the administrator in the Bratislava region stated various numerical and written designations of the same bridges in the individual records.

The results of routine or major inspections of bridges in four regions, including a proposal for the execution of work to eliminate detected faults, as well as the results of performed diagnostics or information on work performed on bridge repairs, were entered into the Road Database system late or after several years or not at all. The consequence of this fact was incomplete information about the condition of the bridges, which distorted the summary data. As the inspection report also included information on recommended maintenance and repair operations to eliminate detected faults, missing data in the system distorted the planning of repairs and maintenance of bridges, as well as the order of urgency of repairs that the information system generates based on their status data.

During the audited period, the owner in two regions, after the collapse of the bridge or part of it, obliged the administrator to

carry out extraordinary inspections of several bridges. According to the results of extraordinary inspections of bridges with concrete girders of the "vlossak" type in the Kosice Region, the degree of construction and technical condition of 41 bridges (80% of the inspected number) was worsened. Bridges of this type require intensive continuous maintenance. The non-inclusion of the five bridges in the worst grade VII with the consequence of immediate closure was possible only on the basis of special measures, such as the monthly frequency of inspections, support for damaged girders, or a change in the organization of traffic. The Regional Road Manager in the Kosice Region has estimated the need for financial resources to eliminate defects on these bridges in an amount corresponding to the value of the three-year own budget.

The classification of bridges into the degrees of construction and technical condition is also affected by the results of the diagnostics, which was used if the visual inspection was not sufficient. Especially in cases where it was necessary to examine in detail the condition of the bridge for the elaboration of design documentation before its extensive reconstruction, resp. modernization. The exception was the Zilina Region, which performed 29 diagnostics out of a total of 59 diagnostics in all regions. Based on the results of this diagnostics, the Zilina Region adjusted the degree of construction and technical condition of five bridges and reduced the load capacity for 14 bridges. Although the diagnostics is financially demanding, its contribution to the objective determination of the construction and technical condition of bridges has been proven. Regions perform diagnostics only by contractor, because they do not have the technical equipment or personnel to perform it.

When performing diagnostics, there is also a risk that if a worse condition of the bridge is found, its repair will not eventually take place, because the decision is not on the administrator but the owner. These decisions were limited not only by the total amount of the self-governing region's budget, but often also by the need to obtain the consensus of the majority of Council deputies. The length of the decision-making and approval processes, as well as the setting of public procurement, in some cases caused the condition of the bridge before the start of work to be worse than at the time when its condition was determined by diagnostics.

As a result of these findings, **the SAO SR states that some information in the road database system was not correct, complete or up-to-date. The consequence of this is distorted planning of maintenance, repairs and reconstruction of bridges.**

3.4. CONTROL OF ADMINISTRATORS 'ACTIVITIES IS FORMAL AND IS NOT FOCUSED ON PROFESSIONAL ACTIVITIES

Ownership relationship of self-governing Regions to 2nd and 3rd class roads and bridge means the obligation to develop, protect and enhance the said property. Entrusting these assets to the administration of another organization means the transfer of competencies and the allocation of funds to ensure this activity. However, even in such a case, the responsibility for fulfilling the above obligations still rests with the owner and was proved by the right to decide which specific bridge will be reconstructed, or by determining the administrator's obligation to submit in advance to the self-governing Region for approval request for funds for external contractors in case of higher amounts, for example over EUR 20,000.

In the law, but also in the internal regulations of self-governing Regions, control mechanisms are set up to control the activities of the road manager not only through the relevant professional units or the chief controller of the self-governing Region, but also by third parties. **The SAO SR found that only inspections by the Chief Controller were performed.** These audits focused mainly on budget implementation, accounting and reporting, document requirements and analysis of invoiced items.

According to the findings of the SAO SR, self-governing Regions and other competent bodies did not carry out any audits focused on the system of bridge management. The fulfillment of obligations in this area was therefore the sole responsibility of individual road managers.

It is the duty of road managers, for example, to regularly prepare summary reports on the performed inspections of bridges and to send them to the Ministry of Transport of SR and the administrator of the Road Database. With the exception of two regions, the managers did not fulfill this obligation in the monitored period and the addressees of these reports did not object to the non-fulfillment of this obligation, nor did they require its fulfillment.

Based on audit findings, the SAO SR further states that in the monitored period the owners did not even perform any inspection at the road manager focused on the performance of professional activities. The owners justified this by insufficient professional capacities among their own employees, or argued that this activity should be performed by the internal audit of the manager or the operator of the Road Database. Nor have third-party independent controls been carried out.

3.5. MAINTENANCE, REPAIRS OR MODERNIZATION OF BRIDGES ARE INEFFECTIVE

As part of the audit, the SAO SR also ascertained whether the system of maintenance, repairs but also modernization of bridges in individual regions is effective. According to the audit findings, the self-governing Regions did not, with one exception, set sufficiently specific and measurable goals, criteria and measurable indicators in the area of bridge management. Therefore, it was not possible to uniformly assess the effectiveness according to these criteria.

The absence of relevant objectives and indicators set by the self-governing regions was the reason for the decision of the SAO SR to set its own objectives and criteria. In terms of efficiency, the SAO SR defined four goals and ten criteria, each criterion had specified conditions for obtaining 0 - 2 points, while the total score was 20. The criteria were evaluated jointly for the self-governing region and its road manager according to the score.

The system of bridge management in only one region was evaluated as effective with a possible improvement. For the remaining seven regions, the overall evaluation of this system was ineffective.

Table 2: Evaluation of effectiveness according to criteria set by the SAO SR

Objective	Criterion	BA	BB	KE	NR	PO	TN	TT	ZA
Safe and smooth traffic	Occurrence of bridge collapse or significant traffic restriction	2	0	0	0	0	0	2	2
	Change in the number of bridges in degree VI or VII of the constr. and technical condition	1	1	1	1	1	1	1	1
Correct and complete information and bridge	Number of bridge diagnostics	0	2	2	2	1	2	1	2
	Performing major bridge inspections	1	1	2	0	0	0	1	1
Effectiveness processes	Planning bridge maintenance and repairs and planning reconstructions	2	2	2	1	2	1	2	2
	Setting relevant goals and measurable indicators	1	2	1	1	2	2	0	2
	Improving the degree of construction and technical condition of bridges	2	2	2	2	2	2	2	2
Effectiveness - results	Short-term change in the share of bridges in grade V-VII in the number of bridges	1	0	0	0	0	0	2	2
	Long-term change in the share of bridges in grade IV in the number of bridges	0	0	2	0	0	0	0	2
	Long-term change in the share of bridges in grade I-III in the number of bridges	0	0	0	0	0	0	0	2
Total		10	10	12	7	8	8	11	18

Source: SAO SR

The Žilina region is the only region that has a system of bridge care set up effectively. At the same time, it also had the best set goal, which also had a good measurable indicator.

An example of good practice is the decision of this Region to create a project pipeline of investment projects for the reconstruction of 2nd and 3rd class roads and their bridge structures. It was updated online with the mutual cooperation of the owner and the bridge manager for the bridges in the worst degree of construction and technical condition, or also bridges in better condition with high traffic intensity or high strategic importance in road infrastructure. The project pipeline was a binding basis and starting point for the preparation and implementation of capital investments according to the available budget resources of the Zilina Self-Governing Region, including credit resources and the possibility of drawing Euro-funds. The project pipeline was created in such a way that those structures, where a longer time of preparation of the reconstruction was expected, were listed in the previous year in the design documentation preparation plan, and the implementation was planned for the following year. An overview of the plans for a specific year was available online on the website of the Zilina Self-Governing Region in the form of a clear map.

In this Region, but also in other regions, the risk of prolonging the time of reconstruction preparation by 1 to 3 years was identified, but also the risk of overpricing the reconstruction of bridges due to the necessary relocation of utility networks. According to applicable legislation, their relocation must be financed by the owner of the bridge, although he could not 'influence' their location. Problems with the property settlement of land prevented the reconstruction of the bridge in at least one case (Nitra Self-Governing Region). According to the self-governing regions, the problem with the settlement of property rights is a much greater obstacle in case of roads than bridges.

Such a situation was already in 2004, when the road infrastructure was taken over from the state and the self-governing regions are not able to remove this situation on their own.

Based on the obtained data, the SAO SR states that **the condition of bridges in seven of the eight regions has been deteriorating for a long time and a system of reconstruction, repairs and maintenance of bridges on the 2nd and 3rd class roads as set up, is ineffective in these regions.**

The main cause of this situation is, in particular, the long-term underfunding of bridge management, while **the processes of planning and implementation of activities are adapted to the amount of available funds, and not to the real needs,** which is many times higher.

The possibilities of self-governing regions and their managers to improve the condition of road infrastructure within their own budget are limited, apart from the rules of budgetary management, mainly by the fact that self-governing regions can only slightly influence the 'revenue part' of their budget. In this situation, **an increase in the amount of funds earmarked for road infrastructure is possible by searching for internal reserves.**

4 RESPONSE OF AUDITED ENTITIES

The audited entities did not raise any objections to the veracity and provability of the audit findings.

In the Minutes from the discussion of the protocol, the audited entities undertook to take measures to eliminate the identified deficiencies and to inform the SAO SR about them within the set deadlines. SAO SR will subsequently monitor the fulfillment of these measures.

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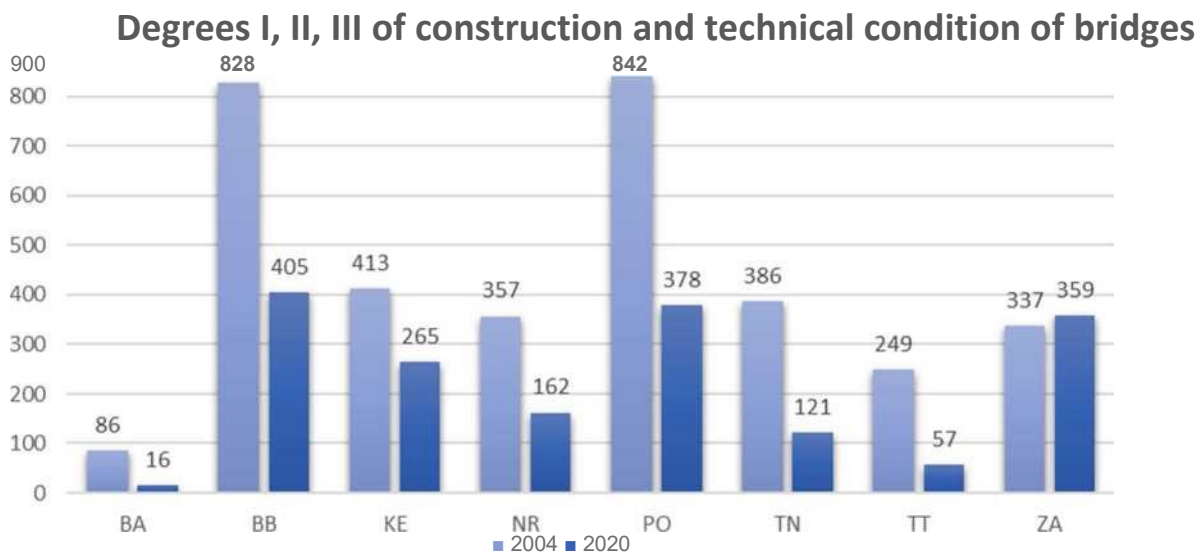
6 ANNEXES

ANNEX 1 - OVERVIEW ON THE NUMBER OF BRIDGES AND THEIR STRUCTURAL and TECHNICAL CONDITION BY SELF-GOVERNING REGIONS

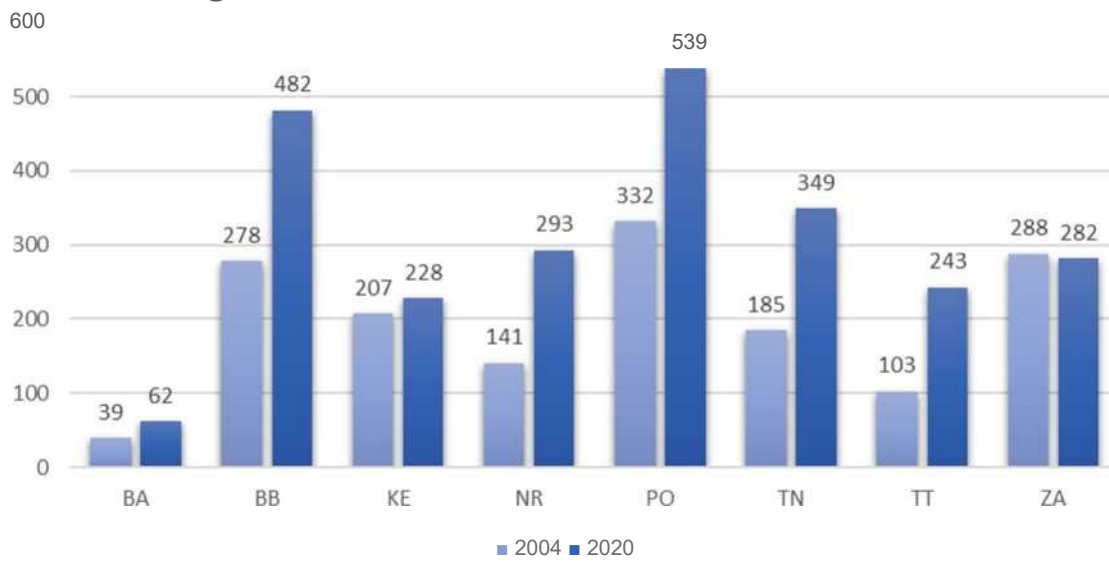
Overview of the number of bridges in all self-governing regions

	Total	BA	BB	KE	NR	PO	TN	TT	ZA
Number of bridges in 2004	5 557	129	1 179	660	531	1 245	640	384	789
Number of bridges 2020	5 395	128	1 030	659	526	1 236	639	383	794

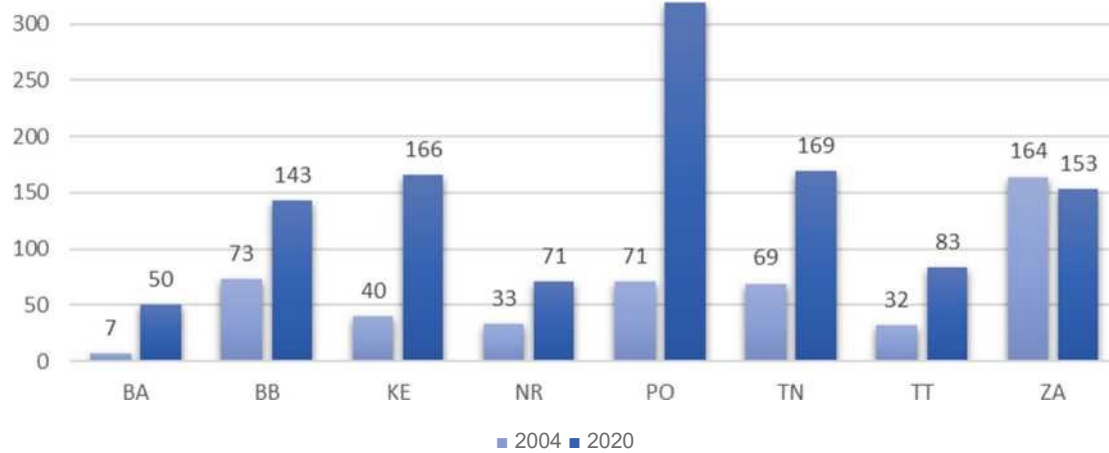
Distribution of the number of bridges by self-governing regions and according to the degree of their construction and technical condition



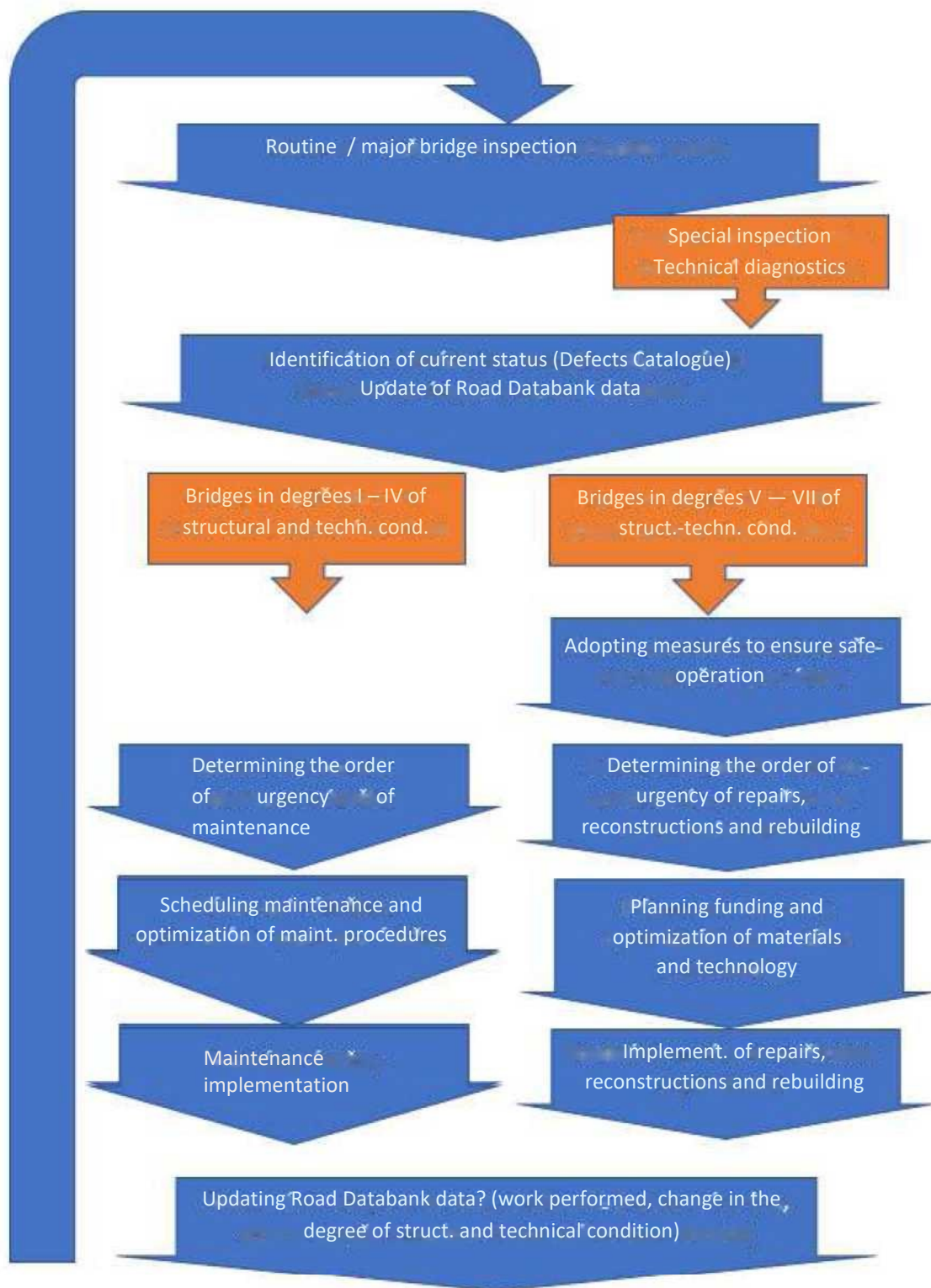
Degree IV of the construction and technical condition



Degrees V, VI, VII, N of construction and technical condition



ANNEX 2 - PROCESSES IN THE BRIDGE MANAGEMENT SYSTEM



Source: Prepared according to TP077 Bridge Management System