



ANNUAL REPORT 2024

Norwegian Safety Investigation Authority

Rail Department

Lillestrøm, 30 September 2025

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1. Norwegian Safety Investigation Authority

1.1 NSIA activities and key figures

The Norwegian Safety Investigation Authority (NSIA) is an administrative agency under the Ministry of Transport. The NSIA is an independent expert body.

The NSIA investigates accidents and serious incidents in the transport sector, involving aviation, rail traffic, road traffic and marine transport. Furthermore, the NSIA investigates accidents and serious incidents in the defence sector and accidents involving amusement devices and ropeways, as well as accidents and incidents relating to space activities. The purpose of the investigations is to elucidate matters deemed to be important to the prevention of accidents in the transport and defence sectors, accidents involving amusement devices and ropeways and accidents relating to space activities. The NSIA does not apportion blame or liability

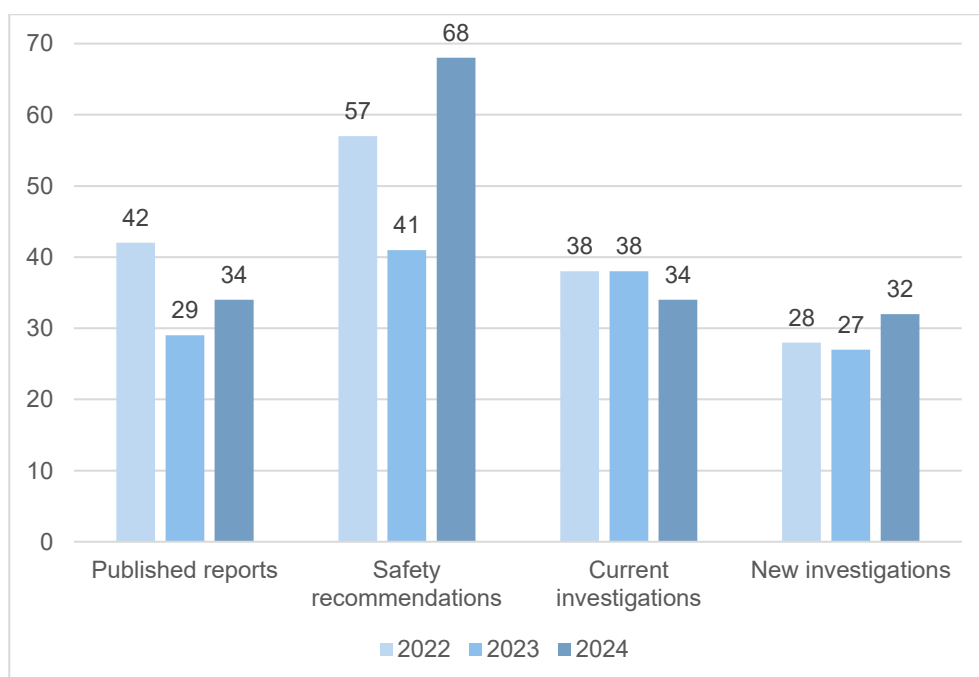


The NSIA is located in Lillestrøm. Photo: NSIA

under criminal or civil law. The NSIA decides the scale of the investigations to be conducted, which includes assessing the investigation's expected safety benefits in relation to necessary resources.

The disciplines road, aviation and rail transport, and amusement devices and ropeways fall under the Ministry of Transport's area of responsibility. The disciplines marine transport and space activities fall under the Ministry of Trade, Industry and Fisheries' area of responsibility, while the defence discipline falls under the Ministry of Defence's area of responsibility.

The diagram below shows the NSIA's total production of reports and safety recommendations, the number of ongoing investigations at the turn of the year and investigations initiated per year for the past three years. In the next chapter, the details of the rail department are provided.

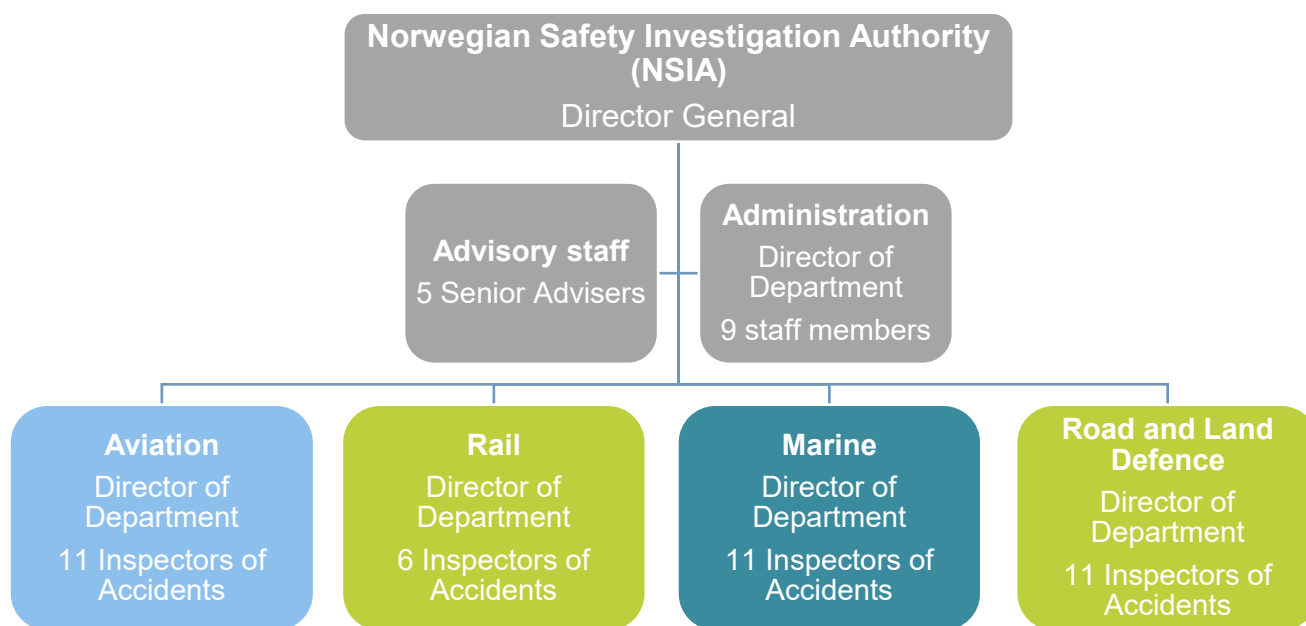


In 2024, 36 investigations were concluded, resulting in 34 reports and 2 safety notes. In addition to the many safety findings contained in the reports, the NSIA issued a total of 68 safety recommendations. That is seven more concluded investigations than in 2023. At the end of 2024, the NSIA had 34 ongoing investigations.

The number of safety recommendations will vary from year to year. In 2024, the reports following the 'Viking Sky' accident and sub-report 2 on the collapse of Tretten Bridge contributed 14 and 6 recommendations respectively.

Over time, the number of ongoing investigations has been reduced. At the beginning of 2020, the NSIA had 57 ongoing investigations, while there were 34 ongoing investigations at the beginning of 2025. This increases the likelihood of achieving the goal of submitting a report no later than 12 months after the accident or serious incident took place. However, it should be stressed that in cases where an investigation extends beyond 12 months, there are good reasons for this. In order to establish the sequence of events as accurately as possible, it is crucial that all information is collected, reviewed and collated. This process can take time given that many parties are involved. It can be difficult to analyse and write a report about a complex sequence of events with several possible causes. During an investigation, it is important to get the safety message across to those who will go on to work on the safety challenges after the report has been published.

1.2 Organisation as of 31 December 2024



The NSIA consists of four technical departments, one administrative department and an advisory staff unit. The head of the Aviation Department coordinates the follow-up of the Defence Accident Investigation Act and the pertaining Regulations.

As of 31 December 2024, the Norwegian Safety Investigation Authority had 58 permanent employees, two of whom were on unpaid leave, as well as an IT operations apprentice employed in the administration department.

1.3 Selected key figures from the annual accounts

Key figures from the annual accounts	2024	2023	2022
Number of employees*	54	55	53
Number of contracted FTEs*	53	53	51
Number of FTEs worked**	51.5	50.3	48.4
Total allocation items 01–71	103,748,000	97,158,000	94,919,000
Utilisation ratio items 01-71	97.8%	102.9%	95.7%
Operating expenses	101,504,198	98,448,567	90,817,869
Payroll expenses as a percentage of operating expenses	68.8%	69%	68.3%
Payroll expenses per FTE	1,355,808	1,350,876	1,282,025
Administrative expense percentage	21.7%	21.7%	21.5%
Administrative expenses per full-time equivalent	426,899	424,642	403,424

* Source: Statistics Norway table '12623 Government employees, by unit'. Data collected through the A-ordningen service. The number of employees is the average for the year.

** One full-time equivalent is defined as one person working full time for one year. Other periodic work measurements (monthly, quarterly, four-monthly) are defined as full-time work throughout the period in question. The Ministry of Local Government and Modernisation has defined the concept of 'full-time equivalents worked', cf. personnel notification of change to the Personnel Handbook for State Employees: PM-2019-13: *Definisjon av utførte årsverk* (Definition of FTEs worked).

The NSIA's operating expenses in 2024 amounted to NOK 101,504,198, giving a utilisation ratio of 97.84%. Expenditure is NOK 2.5 million higher than in 2023. The underspend is mainly due to the delay of the wage settlement for 2024 and that payment will be disbursed in 2025, in addition to lower costs in connection with the helicopter accident off Bergen due to an insurance settlement. Operating expenses are affected by pay and price growth, investigation activities and the number of full-time equivalents, while the fixed operating expenses remain largely unchanged from year to year.

Payroll expenses increased in 2024 as a result of appointments to newly created positions in amusement devices and ropeways, as well as in space activities. The wage settlement for 2024 will be disbursed in 2025, so there will be a backlog of payroll expenses.

Administrative expenses increased slightly in 2024. Rental expenses increased roughly in line with the reduction in electricity costs compared with 2023. Recruitment costs were higher during the year, on top of increased costs in connection with management development and the preparation of a communication strategy.

1.4 The NSIA's main objective

The overarching transport policy objective is 'An efficient, environmentally friendly and safe transport system by 2025'.

The NSIA's main objective for 2024 was as follows:

'The Norwegian Safety Investigation Authority shall contribute to improving safety through independent investigations of accidents and serious incidents in the aviation, rail, road and defence sectors, and of marine accidents and work accidents on board ships. Furthermore, the Norwegian

Safety Investigation Authority is the investigative authority for accidents and incidents involving space activities, as well as for accidents and serious incidents involving amusement parks and ropeways.

A subsidiary objective was that:

‘Investigation reports, including any safety recommendations, shall be submitted within 12 months of the accident or serious incident occurring. If the time limit cannot be met, an interim report shall be made at least every 12 months.’

1.5 About this report

According to the Regulations of 31 March 2006 No 378 on Public Investigations of Railway Accidents and Serious Railway Incidents etc. (the Railway Investigation Regulations), the NSIA shall, by 30 September each year, shall publish an annual report accounting for the investigations carried out by the rail department in the preceding year, the safety recommendations that were issued and actions taken in accordance with recommendations issued previously. This report is sent to European Railway Agency and is an extraction from the official annual report for NSIA, which can be found on <https://www.nsia.no/About-us/Annual-report>. In addition, an annex providing status for the safety recommendations has been added.



2. Rail department's activities and goal achievement

2.1 Notification of accidents and incidents

The Rail Department was notified of 384 railway accidents and serious railway incidents in 2024, compared with 420 in 2023. This is down compared with the previous year and may, to some extent, be due to a change in notification practices for near misses involving people and vehicles.

About 43% of rail-related notifications were received outside normal working hours, and about 18% were received at weekends or on movable public holidays. After the area of responsibility was expanded to include ropeways and amusement devices, 35% of the notifications were received during weekends. The department is often notified of the same incident by multiple sources, which means that the number of calls received by the duty officer is higher than the number of incidents recorded. At the end of the year, the notifications broke down as shown in the table below:

	Number of notifications
Railway accident (without fatalities)	13
Railway accident (fatal accident)*	27
Serious railway incident	255
Railway incident (not subject to duty of notification)	89
Total	384

* 23 are assumed to be wilful acts

The number of notifications per month varied from 68 in July to 19 in December.

Notifications are received via the 24/7 duty phone. Dealing with such notifications requires considerable effort by the department, as notifications received at an early stage are often based on limited knowledge about the severity of the accident or incident. A decision on whether to initiate an investigation must be made quickly, so that rolling stock/vehicles and infrastructure can be released and traffic resumed.

The most common accident and incident types in 2024, as before, were signals passed at danger, persons on the track and level-crossing incidents. Of the 27 fatal accidents, 23 are assumed to be wilful acts. The NSIA does not investigate these incidents further, but relies on the police's work.

All serious railway incidents and accidents must be reported within 72 hours. The NSIA reviews and assesses all the notifications it receives. The number of notifications the NSIA has received over the past five years is shown in the table below:

Reports	2024	2023	2022	2021	2020
Serious railway incidents and accidents	1,172	1,196	1,056	929	930

The figures have not been adjusted for double reporting, nor for any subsequent reclassification. Every report is reviewed and assessed in terms of what lessons can be expected to be drawn from an investigation with a view to improving safety.



The figures presented herein represent those we are aware of and do not represent Norway's official accident and incident statistics, as the preparation of such statistics does not fall under the NSIA's remit.

2.2 Investigations

The department published five investigation reports in 2024. No preliminary reports or notifications of safety-critical findings were issued.

A number of preliminary investigations are also carried out to obtain further information in order to decide whether or not to investigate a reported incident. Relevant information from all preliminary reports is filed to allow for subsequent use of data in similar cases. The amount of time spent on investigations of this type varies from a few hours to several days. One of the preliminary investigations led to a safety note in which relevant safety learning points were highlighted, without initiating a full safety investigation.

The Rail Department visited accident sites on nine occasions in the course of 2024, compared with seven in 2023.

2.2.1 CURRENT INVESTIGATIONS

At the beginning of 2025, the department had four ongoing investigations.

An overview of the Rail Department's ongoing investigations can be found on the NSIA's website. The information is updated regularly.

The Rail Department's investigation portfolio as of 31 December 2024:

Date	Title	Type of transportation	Category of occurrence
29 Oct. 2024	Investigation of tram derailment at the intersection between Nygata and Storgata in Oslo	Tram	Derailment
24 Oct. 2024	Investigation of a railway accident by Finneidfjord north of Bjerka station on the Nordlandsbanen line	Passenger train	Collision
22 March 2024	Investigation of a railway accident at Arna station, on the Bergen Line	Freight train	SPAD (signal passed at danger)
12 Feb. 2024	Investigation of a serious railway incident on the Ekeberg line, Oslo	Tram	Runaway train / Collision

Two of the investigations are given special mention below.

Investigation of railway accident at Arna station, the Bergen Line

On Friday 22 March 2024 at approx. 19:12, a freight train from OnRail AS passed the inner main signal at Arna station at danger, and was thus diverted onto a end buffer stop and derailed. The incident caused major damage to the freight train and the station's infrastructure.

The locomotive overturned in the entrance to the tunnel between Arna station and Trengereid, and the driver sustained minor injuries. A passenger train travelling in the opposite direction came to a



halt inside the tunnel, before the main approach signal, about 1 km from the freight train. An emergency call was made prior to the incident, and the investigation will clarify the circumstances surrounding this and why the train did not stop as expected.



Outside the tunnel. Photo: NSIA

Investigation of a collision with a rockslide at Finneidfjord north of Bjerka station on the Nordland Line

On Thursday 24 October 2024 at approx. 14:15, passenger train 471 drove into a rockslide between Bjerka and Mo i Rana. The driver was killed in the accident and five passengers sustained minor injuries.

The train derailed to the left at approximately km 472 after hitting the rockslide. The train continued towards the E6 road and the locomotive overturned in the derailment. The train consisted of a DI4 locomotive and five B5 passenger cars.

In 2016, the NSIA investigated a similar railway accident in the same area.



Rockfall at Finneidfjord. Photo: NSIA

2.3 Published reports

Five investigations were completed in 2024. They resulted in the following reports:

- 2024/05 Report on serious railway incident during track works between Bolna and Dunderland stations on the Nordlandsbanen Line on 11 September 2023
- 2024/04 Report on derailment at Åneby station on 16 October 2023
- 2024/03 Report on a collision between a tram and the buffer stop at Fyllingsdalen terminus on 28 March 2023
- 2024/02 Report on derailment at Narvik station at the Ofoten line 12 March 2023
- 2024/01 Report on derailment at Heskestad, Sørlandsbanen, on 4 November 2022

The reports have summaries and safety recommendations in English.

The safety note that was written after a preliminary investigation was shorter and focused on increasing learning from previous investigations on similar issues relating to level crossings. The safety note was published in the Nynorsk form of Norwegian.

2024/SN1 Safety note about a collision between passenger train and tractor at Disen Nordre level crossing on 12 May 2024

A more detailed discussion of two of these reports is given below.



2024/01 Report on derailment at Heskestad, Sørlandsbanen, on 4 November 2022

On 4 September 2022, freight train 5805 from CargoNet AS ran into a water-triggered landslide at Heskestad on the Sørlandsbanen line, and derailed. The accident caused major damage to the train and track and resulted in closure of the section for more than five days. The driver was uninjured. Bane NOR SF had decided to initiate yellow-level weather response procedures, but these had not been implemented. There were no automatic warning systems in place and the landslide was not detected before the train was authorised to enter the track. The masses contained a large rock, which is believed to have been the direct cause of the derailment.

There had been a lot of rainfall prior to the derailment, with intense localised showers. Large distances between weather stations combined with heavy local showers give uncertain estimates of actual precipitation and make the overall rainfall situation difficult to monitor. Bane NOR SF had mapped the area with regard to landslides, without the area having been considered prone to landslides. The method Bane NOR SF uses for routine landslide mapping does not identify all hazard zones for minor and shallow surface slides. Nor has infrastructure been established for automatic notification of these landslides.

The NSIA has investigated how Bane NOR SF works on mapping and notification of landslide hazards on the Sørlandsbanen line. In addition, the NSIA has looked at the organisation and training of personnel who play a central role in the exercise of Bane NOR SF's weather response procedures.

The NSIA has identified a gap between weather response procedures and the prerequisites for applying them in practice. This creates a weakness in response efforts, especially in an escalating weather situation.

The NSIA submitted two safety recommendations on the basis of this investigation. One was aimed at Bane NOR SF's organisation of weather response efforts. The other pointed to the need to strengthen the way in which Bane NOR SF maps and monitors areas at risk of landslides, in a time of increasing precipitation intensity.



The landslide area. Photo: Multiconsult AS

2024/05 Report on serious railway incident during track works between Bolna and Dunderland stations on the Nordlandsbanen line on 11 September 2023

On Monday 11 September 2023, three people and a road-rail excavator were close to being hit by the 5782 freight train between Bolna and Dunderland on the Nordlandsbanen line. The section of line was reported to be clear while the work team was still on the track. The incident did not result in a fatal accident, as the work team got off the track by chance barely a minute before the freight train passed. There are no technical barriers on this section that could have helped to detect that the work team was still on the track. The investigation also identified challenges involved in working on tracks related to planning, coordination, requirements and conditions. The NSIA believes that partially conflicting interests among the parties involved contribute to unpredictability, which also constitutes a safety risk for personnel working on and around tracks.

The principal site safety supervisor, who was responsible for maintaining an overview of all the work teams on the line, forgot the last work team when the work was concluded. Several factors contributed to this, including a lack of coordination beforehand, no joint start-up meeting, unforeseen obstacles during the work and a perceived lack of time. The procedure for handing over the track to the local traffic controllers was carried out without using the log form. The 5782 train was then granted clearance to proceed on the route. The NSIA's investigation points out that sections of line with automatic train control lack technical barriers aimed at addressing this issue.

The investigation also showed that the rules and conditions for track work are governed by different decisionmakers in Bane NOR SF, partly independently of each other, and without designated overall responsibility for the process as a whole. The NSIA believes that this contributes to an unpredictable framework for the personnel involved. It can also put disproportionate pressure on the principal site safety supervisor, who has a safety-critical role.



2.4 Safety recommendations

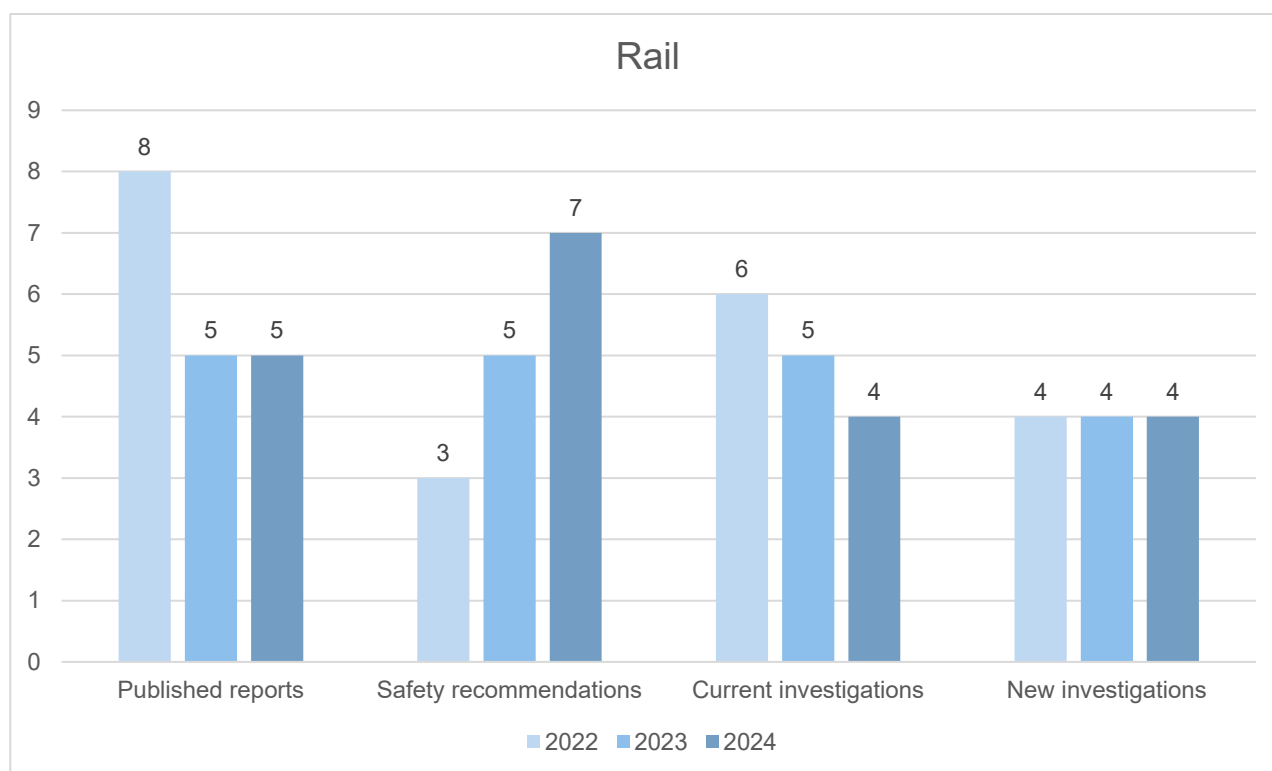
The Rail Department issued seven safety recommendations in 2024.

Reference is made to Annex A, which contains an overview of all safety recommendations in the rail area.

Twice a year, the NSIA receives a letter from the Department for Rail, Planning and Environment at the Ministry of Transport about the status of the safety recommendations that are being followed up by the Norwegian Railway Authority. The latest status report from the Ministry of Transport is delayed. If safety recommendations have been submitted that are to be followed up by the Road Supervisory Authority, the Ministry of Transport, Department of Public Roads, Urban Mobility and Traffic Safety, shall provide updates on their status. The status of safety recommendations issued directly to the Ministry of Transport, or via other ministries or government agencies, is followed up by the Ministry itself.

2.5 Developments over the past three years

The diagram shows the trends in submitted reports, safety recommendations, ongoing investigations at the turn of the year and initiated investigations per year for the past three years.



As the figure shows, the number of safety recommendations issued varies from one year to the next. The reasons for this are complex, and the number varies with the number of completed reports and the complexity of and number of parties involved in a case, among other things. If the NSIA has recently submitted a safety recommendation on the same topic, it will be natural to wait until the measures have had time to take effect before considering repeating the message in another safety recommendation. The NSIA also expects the content of its reports to be used in the work to improve safety, not just the individual safety recommendations.



2.6 Other activities

In 2024, the Rail Department attended three network meetings for European rail accident investigation bodies held by the European Union Agency for Railways (ERA). One was held in Lisbon, one as a digital meeting, while the last meeting took place near ERA's headquarters in Valenciennes.

According to the Regulations of 31 March 2006 No 378 on Public Investigations of Railway Accidents and Serious Railway Incidents etc. (the Railway Investigation Regulations), the NSIA shall, by 30 September each year, prepare and publish a report describing the investigations carried out in the course of the preceding year, the safety recommendations issued and their status. The report for 2023 was prepared and published within the deadline. It is available on the NSIA's website under Rail.

Norway participated in this year's Nordic meeting, which was held in Stockholm in May 2024. Representatives of the accident investigation bodies of Denmark, Finland, Sweden, Norway, UK, Ireland, Estonia and a representative from ERA attended the event.

Two contact meetings with the Norwegian Railway Authority are held each year. In connection with investigations, meetings are also held with relevant parties at different levels of the organisation.

Since 2013, the department has given lectures as part of the Norwegian Railway Academy's training of new train drivers. This helps to raise knowledge about the NSIA among all new train drivers. Seven lectures were held in 2024.

The rail department is also responsible for investigations of accidents with ropeways and amusement devices, and finalized two investigations of ropeway accidents in 2024.

2.7 Goal achievement

The Rail Department completed five investigations in 2024 and issued a safety note from a preliminary investigation where it was appropriate to highlight safety learning without initiating a full safety investigation.

Seven safety recommendations were issued in 2024, and no reports were issued without safety recommendations. The NSIA assumes that the entire report will be used for safety learning purposes, not just the safety recommendations.

One of the investigations was conducted within 12 months of the accident/incident, while the other three were concluded within 12 to 14 months. To ensure the best possible safety learning in a new area of investigation, work on the ropeway accident investigations was accelerated and prioritised in order to be ready for the start of the industry's winter season in December. Unfortunately, this meant that work on a few other investigations took a little longer than planned.

At the turn of the year, none of the investigations had been in progress for more than 12 months.

Through its investigations, the NSIA makes important contributions to safety in the sector. The undertakings concerned make direct use of the safety recommendations and reports in their safety work. In addition, the Norwegian Railway Authority uses the reports as a basis for its audit programme.



Feedback received by the NSIA indicates that the reports and safety recommendations maintain good quality and are included in the curriculum used for training new train drivers and for in-house training by the railway undertakings. The NSIA translates the summaries, conclusions and safety recommendations from all its published reports into English, which helps to make the results of our investigations available to an international audience.

Annexes

Annex A Safety recommendations 2024

This is a list over safety recommendations published in 2024. By the end of the year 2024, all recommendations had status “open”.

Safety Recommendation Rail no 2024/01T

On 4 November 2022, a freight train ran into a landslide at Heskestad on the Sørlandsbanen Line and derailed. The landslide was triggered by heavy rainfall in the area, but Bane NOR SF had not introduced any emergency measures. Bane NOR SF's weather guard is responsible for assessing if weather conditions require emergency measures. The role of weather guard is combined with other key functions, and during worsening weather conditions, the weather guard therefore has a number of simultaneous tasks to attend to.

The Norwegian Safety Investigation Authority recommends that the Norwegian Railway Authority request Bane NOR SF to evaluate and, if necessary, improve the organisation for weather preparedness.

Safety Recommendation Rail no 2024/02T

On 4 November 2022, a freight train ran into a landslide at Heskestad on the Sørlandsbanen Line and derailed. The landslide was triggered by locally heavy rainfall, but Bane NOR SF had not introduced any emergency measures. An increase in precipitation amounts is expected in the years to come, and railway infrastructure will therefore be at increased risk of being affected by landslides and flooding events.

The Norwegian Safety Investigation Authority recommends that the Norwegian Railway Authority request Bane NOR SF to evaluate and, if necessary, improve the method for mapping and monitoring areas with a risk of water-triggered landslides, at a time of steadily increasing precipitation intensity.

Safety Recommendation Rail no 2024/03T

On Sunday 12 March 2023 LKAB Malmtrafik AB derailed with an ore train in track 4 at Narvik station at the Ofoten line. The railway is of great importance for the region's mining industry, for passenger and freight traffic between Norway and Sweden, and is very important from a societal safety and emergency preparedness perspective. In the derailment area, for a long time there had been demanding ground conditions that could be linked to known track faults, that increased the risk of derailment. A major reconstruction project at the station in 2023–2025 was expected to repair the track faults permanently, but the project was halted indefinitely by Bane NOR SF in February 2024.

The Norwegian Safety Investigation Authority recommends that the Norwegian Railway Authority ask Bane NOR SF to assess the safety consequences of stopping work and promoting any compensatory measures.

Safety Recommendation Rail no 2024/04T

On 28 March 2023, an accident with injuries occurred on Bergen light rail's line 2, when light rail vehicle 228 hit the buffer stop at Fyllingsdalen terminal. The investigation has not demonstrated a clear causal link between the lack of training in the use of the Variobahn light rail vehicles and the specific accident. However, a systemic safety problem has been uncovered in the organization in terms of a mismatch between the scope of the training curriculum and the time available for students learning. This may have contributed to misunderstandings about the vehicles functionality while driving in conditions with low adhesion.

The Norwegian Safety Investigation Authority recommends the Norwegian Railway Authority to ask Tide Buss og Bane AS to evaluate the training system, and if necessary, make changes, to ensure that future students reach the set learning goals.

Safety Recommendation Rail no 2024/05T

On 16 October 2023 at 20:57, Vy Gjøvikbanen AS's train 251 derailed at Åneby station on the Gjøvik Line. Prior to the derailment, a switch had been replaced, but the works were not completed. Temporary rail joints had been fitted on the tracks, and regular traffic had resumed. The accident occurred when two of the temporary rail joints, which were holding the tracks together, gave way. Incorrect installation and inadequate follow-up of the temporary rail joints contributed to the derailment.

The Norwegian Safety Investigation Authority recommends the Norwegian Railway Authority to ask Bane NOR SF to establish processes that clarify responsibilities, and ensure control and follow-up of temporary rail joints on operational railways.

Safety Recommendation Rail no 2024/06T

On 11 September 2023, three people in a work team and an excavator were close to being hit by a freight train on the Nordland Line. A principal site safety supervisor (PSSS) was responsible for a total of three work teams on the day in question. The PSSS notified the local traffic controller that the section was clear for trains, but had forgotten that a work team still remained on the track. There are no technical support systems that a PSSS can use to prevent such situations.

The Norwegian Safety Investigation Authority recommends that the Norwegian Railway Authority ask Bane NOR SF to look into possible technical barriers that can strengthen safety in connection with track work, to avoid an oversight leading to a section being declared clear for trains when personnel, equipment or rolling stock remain on the track.

Safety Recommendation Rail no 2024/07T

On 11 September 2023, three people in a work team and an excavator were close to being hit by a freight train on the Nordland Line. A principal site safety supervisor (PSSS) was responsible for a total of three work teams on the day in question. The PSSS notified the local traffic controller that the section was clear for trains, but had forgotten that a work team still remained on the track. The conditions for track work are influenced by a number of parties and interests, but no one has overall responsibility for safety. The unpredictability of track work and the inadequacy of systems to coordinate the various parties involved entail a poor starting point for planning and performing the work in a safe manner.

The Norwegian Safety Investigation Authority recommends that the Norwegian Railway Authority ask Bane NOR SF to establish overall process responsibility for work on and around tracks.