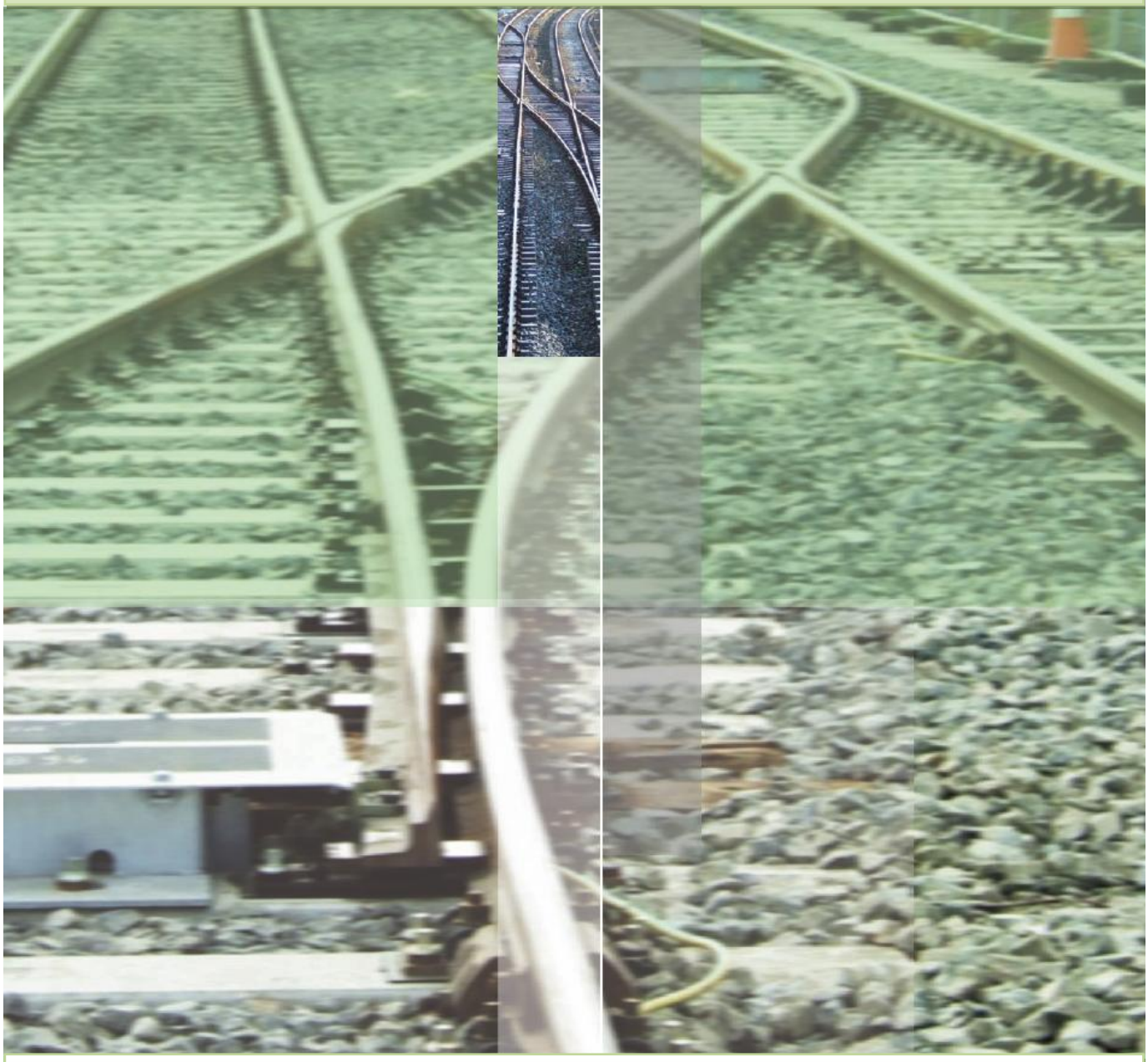
RSC

Railway Safety Commission

ANNUAL REPORT TO ERA FOR YEAR 2009



The Railway Safety Commission is the National Safety Authority for Railways in Ireland

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A. SCOPE AND SUMMARY

A.1.1. Scope of the report

The Railway Safety Directive (EC) 49/2004, Art.18, requires the National Safety Authority to publish an annual report each year concerning its activities in the preceding year and to send it to the European Railway Agency by 30 September at the latest.

The report shall contain information on:

- the development of railway safety, including an aggregation at Member State level of the common safety indicators (CSIs) laid down in Annex I;
- important changes in legislation and regulation concerning railway safety;
- the development of safety certification and safety authorisation;
- results of and experience relating to the supervision of infrastructure managers and railway undertakings.

The scope of this report is the 1600mm gauge national railway system in the Republic of Ireland.

A.1.2. Summary in English

This annual report for the year 2009 is the fourth annual report to the ERA, of the Railway Safety Commission which is the designated National Safety Authority (NSA) for Ireland. The report specifically covers the process of safety regulation of the interoperable Irish national railway network.

The national network is connected via the Dublin-Belfast line to the railway system of Northern Ireland, which falls under the jurisdiction of the United Kingdom. The national network is low density and is relatively lightly used. It has a track gauge of 1600mm and has an extent of 2141 track-km. The extent of network in service increased in 2009 with the extension of suburban rail services.

Annual train activity declined in 2009, by 10%. Even so, safety compares well with that of European railways, with a lower than average level of significant incidents per train-km. There is good progress in addressing key risks. The total number of strikes of railway bridges by heavy goods vehicles is stable after a significant decline, as is the number of unauthorised passing of railway signals at danger and the number of broken rails on passenger lines. One person died on the railway line from misadventure.

Formal investment in safety is continuing, with emphasis on safety management systems and human performance development. Improvement of level crossing safety remains a priority.

There was considerable activity in the approval of infrastructure and rolling stock, with 33 infrastructure projects and six rolling stock projects at various stages of approval.

The European Communities (Working Conditions of Mobile Workers engaged in Interoperable Cross-border Services in the Railway Sector) Regulations 2009 were implemented in September 2009. These regulations complement the Organisation of Working Time (Inclusion of Transport Activities) Regulations 2004.

B. INTRODUCTORY SECTION

B.1.1. Introduction to the report

The Railway Safety Commission (RSC) is the National Safety Authority (NSA) for railway safety in Ireland. This is the fourth annual report from the RSC to the European Railway Agency (ERA). Previous annual reports to the ERA and the Statement of Strategy for 2009 to 2011 can be found on the RSC website at www.rsc.ie

The report is produced for the benefit of the ERA and other NSA's who are interested in safety performance and making comparisons on regulatory issues. An annual report is also produced by the RSC for the Department of Transport, domestic railway industry stakeholders and the general public.

This report specifically covers the process of safety regulation of the interoperable Irish railway network. This network has a track gauge of 1600mm. It is interoperable with the railway system in Northern Ireland, which falls under the jurisdiction of the United Kingdom.

B.1.2. Railway Structure Information

B.1.2.1. Network map

The national network is low density and relatively lightly used. The network extent is 2141 track-km, 27% of which is double track. The extent of network in service has increased since 2008, with the reopening of a single track 10km suburban railway between Cork and Midleton and four-tracking of 11km of the Dublin-Cork main line from Cherry Orchard to Hazelhatch to accommodate suburban services.

A copy of the national railway network map is shown in Annex A.1.

B.1.2.2. List of Railway Undertakings and Infrastructure Managers

Details of the Infrastructure Manager and the principal Railway Undertaking are shown in Annex A.2. Iarnród Éireann is the infrastructure manager of the interoperable railway network in Ireland. Iarnród Éireann is also the principal operator on the railway network, and it jointly operates a regular passenger service between Dublin and Belfast in Northern Ireland, in partnership with NIR-Translink.

B.1.3. Summary – General Trend Analysis

B.1.3.1. Development of Railway Safety

Serious incidents have remained at a relatively low level throughout 2009. Three trespassers died as a result being struck by trains, with one verdict of misadventure, one of suicide and one open verdict. There was one serious injury to a passenger on board a train. There were serious costs resulting from the collapse of a viaduct at Malahide, and significant delays resulting from a derailment at a landslip near Wicklow and from damage to overhead traction power lines at Merrion level crossing.

B.1.3.2. Safety Certification

Safety certification of operators and safety authorization of infrastructure managers is dependent on a demonstration of their safety management system through a safety case. This process of determining the adequacy of the safety management systems in place in Ireland is undergoing transition to conform to the European model. The existing railway undertaking and infrastructure manager has previously undergone a safety acceptance process that involved scrutiny of their safety management system. At the next renewal point, the safety management system will be reviewed using the appropriate Common Safety Methods.

C. ORGANISATION

C.1.1. Introduction to the organisation

The RSC mission statement, as presented in our initial Statement of Strategy 2006-2008, is that:
"The Commission will assure, through education, guidance and balanced regulation, the safety of railway services and affected persons."

The RSC was established in January 2006, and comprises a National Safety Authority (NSA) with a functionally separate Railway Accident Investigation Unit (RAIU).

The National Safety Authority unit had seven technical staff (including the Commissioner) and two administrative staff in 2009. The Commissioner retired at the end of the year 2009.

The Railway Accident Investigation Unit is the National Investigating Body (NIB) has four dedicated staff to carry out independent causal investigations of railway accidents.

The RSC is a small, professional organisation with a flat reporting structure. This structure encourages and facilitates free-flow of information and ideas, which promotes consultation and creative thinking. This complements our purpose of promoting excellence in railway safety. It also provides us the flexibility we need to respond effectively to immediate and unpredictable work demands, and to accomplish the structured tasks within our business plan.

In 2009, the RSC received a Grant-in-Aid of €1.9 million from the Department of Transport, which included funding for the RAIU. This amounted to 57½ % of RSC funding: the remaining funding was by levy on the railway companies.

The organizational chart for the RSC (2009) is shown in Annex B.1.

C.1.2. Organisational flow – relationship between the NSAs and other national bodies

A diagram showing the flow and relationships between the NSA and other national bodies may be seen in Annex B.2 of this report.

D. THE DEVELOPMENT OF RAILWAY SAFETY

D.1.1. Initiatives to maintain/improve safety performances

The most significant safety measures decided in the Member State during the reporting year are reported here. If these measures have had as a trigger accidents or precursors to these, they are reported as in Table D.1.1.1.

The railway safety investment programme stems from the need to address the significant deficiencies in the Iarnród Éireann railway system first identified in an independent review conducted in 1998.

The proposed Railway Safety Programme 2009 – 2013 is the third and final phase of a fifteen-year programme. It builds on the achievements that resulted from the Railway Safety Programmes 1999 – 2003 and 2004 – 2008, and makes a case for further investment and improvement in the railway network.

The 1999-2003 Programme concentrated on the replacement of the most critical and immediate degraded assets, the improvement of safety related work practices and the continuing development of a corporate Safety Management System (SMS). The 2004-2008 Programme allowed Iarnród Éireann to complete the relaying of CWR track on the Sligo, Mayo, and Galway lines and commence the renewal of seriously degraded track on the lightly used lines, renew point ends on the Mayo, Sligo, Galway, Rosslare and Tralee lines in conjunction with the re-signalling programme, replace and/or renew over 100 bridges including three viaducts, erect over 350 miles of new fencing and close over 235 high risk level crossings.

The proposed scope of work for the third five-year Programme 2009-2013 focuses on completing renewal work on high risk degraded assets such as track and level crossings while prioritising most critical work elements from other categories such as structures, fencing and buildings.

In safety risk terms, railways are particularly vulnerable where they interface with roadways. On the Iarnród Éireann active network there are 271 public road level crossings, 798 occupation and pedestrian crossings and about twelve hundred bridges over or under public roads. Iarnród Éireann's stated aim of the investment is to upgrade level crossings to ensure that they meet the required standards for signage and sighting distances, and the installation of protective 'bash-beams' and other measures to reduce the severity and frequency of bridge strike incidents.

The interdepartmental road-rail safety working group (RRSWG) is chaired by the RSC and involves railway undertakings, the road authorities, An Garda Siochána, the Irish Road Haulage Association and the Department of Transport. It advises on safety at road rail interfaces, seeking to establish strategies and identify specific actions to manage the risk. The group met three times in 2009. In addition it organised three meetings around the country, bringing together management from the local authorities and the railways to heighten awareness and discuss concerns. In 2008, the Commission also completed research into techniques available to combat bridge strikes. The ensuing recommendations are being monitored by the RRSWG.

A risk ranking system for Signals Passed at Danger was implemented in 2008 by Iarnród Éireann. This is based on the UK model and is designed to highlight key areas of risk.

In 2009, the RAIU issued five accident investigation reports. A total of 13 recommendations were made, as indicated in table D.1.1.1.

Initiatives not triggered by RAIU reports are described in table D.1.1.2.

Table D.1.1.1 - Safety measures triggered by accidents/precursors to these

Accidents/precursors which triggered the measure			**Safety measure decided**
Date	Place	Description of the event	
02/03/2009	Between Ballina & Manulla Jct	Collision between a train and a road vehicle at a level crossing	The RSC should carry out a review of the suitability of this type of level crossing on public roads. This review should include, but not be limited to factors such as continual misuse, signage, user mobility, environmental and human factors.
02/03/2009	Between Ballina & Manulla Jct	Collision between a train and a road vehicle at a level crossing	IÉ should, taking into account the close proximity of the three level crossings, close or upgrade some or all of these crossings
02/03/2009	Between Ballina & Manulla Jct	Collision between a train and a road vehicle at a level crossing	IÉ must identify crossings that are regularly misused and take proactive action to manage the increased risk created by the misuse.
02/03/2009	Between Ballina & Manulla Jct	Collision between a train and a road vehicle at a level crossing	IÉ are to put in place procedures that will capture and manage near miss reports.
06/04/2009	Skerries, Co. Dublin	Derailment of a freight train	IÉ should put in place a risk based process to ensure ongoing review of the suitability of the temperature settings of the HABDs
06/04/2009	Skerries, Co. Dublin	Derailment of a freight train	IÉ are to identify the necessary maintenance requirements for all Class D bearings, including producing detailed maintenance procedures taking into account their operational conditions and allowing for traceability of safety critical components, with assistance being sought from the Original Equipment Manufacturer where appropriate.
11/5/2009	Between Manulla Junction & Athlone	Near miss at Ballymurray level crossing XM075	IÉ should ensure all safety critical staff have undertaken safety critical communications training and that their ongoing competency management systems specifically monitors the quality of safety critical communications.
11/5/2009	Between Manulla	Near miss at Ballymurray level crossing XM075	IÉ should put in place safe work methods for the maintenance of

	Junction & Athlone		AHBs, these methods should include risk assessments for any hazards identified in the maintenance of AHBs.
29/7/2009	Between Birdhill & Nenagh	Collision between a train and a road vehicle at a level crossing	IÉ should assess the risks relating to road users' behaviour in identifying a safe stopping position at User Worked Level Crossings and based on the outcome of this risk assessment, Iarnród Éireann should introduce measures to allow safe use of this type of level crossing;
29/7/2009	Between Birdhill & Nenagh	Collision between a train and a road vehicle at a level crossing	IÉ should carry out risk assessments on level crossings that fail to meet the viewing distances specified in the Railway Safety Commission guidance and implement appropriate measures in order to meet this guidance as a minimum.
1/12/2009	Between Waterford & Rosslare Strand	Collision of a train with the gates of a level crossing	IÉ should review the training and competency management of gatekeepers and signalling maintenance personnel
1/12/2009	Between Waterford & Rosslare Strand	Collision of a train with the gates of a level crossing	IÉ should review the design of signal indicators to ensure their design encourages correct interpretation
1/12/2009	Between Waterford & Rosslare Strand	Collision of a train with the gates of a level crossing	The RSC should audit IÉ's training and competency management system to verify its effectiveness

Table D.1.1.2 - Safety measures (or voluntary measures) with other triggers than accidents/precursors

Description of the area of concern	**Description of the trigger**	**Safety measure decided**
The road/rail interface	Strikes of railway bridges by large road vehicles. Risk issues at level crossings	A number of briefings have taken place, however, the awareness campaign continues.
The road/rail interface	Strikes of railway bridges by large road vehicles.	The RSC are continuing to work closely with stakeholders to fully implement recommendations of our 2008 research report

D.1.2. Detailed data analysis

D.1.2.1. Trend Analysis

This paragraph contains the analysis of trends related to all categories of CSIs. Moreover, the possible reasons of these trends is reported.

The scope of the statistics, the definitions applied and the data on CSIs are to be reported in Annex C.

With low levels of data, it is not possible to ascertain meaningful trends over a short time scale of four years.

Three deaths occurred as a result of persons being struck by rolling stock in motion, one of which carried a Coroner's Verdict of misadventure. It remains difficult to distinguish between accidents resulting from trespass and incidents of suspected suicide.

Total passenger journeys in 2009 showed a reduction of 13% on the previous year, which is symptomatic of the severe economic downturn. Freight traffic faced reductions of 8.5% in train-km and 12% in tonnage carried. Passenger train service frequency declined by 10.3%.

There are very few significant accidents on the Irish network, both in terms of the numbers of accidents and the rate of accidents per train-km. Accident rates are similar to rates in Great Britain, and significantly lower than prevalent rates on the European network.

In 2008, 97 bridges under the railway were struck, an increase of 13%; and 17 bridges over the railway were struck, a drop of by 35 % when compared to the previous year.

Iarnród Éireann has sought to contain the number of main running signals passed at danger. The number rose from 12 in 2008 to 17 in 2009 (including one unauthorised movement past the limit of authority). None of these events was classified as serious. An additional 5 SPADs occurred at non-running signals. Performance is illustrated in the following table D.1.2.1:

Table D.1.2.1: Running and shunt signals passed at danger

	2007	2008	2009
Critical	10	8	0
Serious	13	5	4
Moderate	4	7	11
Minor	5	2	5
Uncategorised	0	0	1
Total	32	22	21

D.1.2.2. Number of accidents;

In 2009, four significant accidents were reported, and two suspected suicides occurred.

The most serious event by far in 2009 was the partial collapse of the viaduct at Malahide on 21 August 2009, after a bridge pier standing on a weir was undermined by scour. Although a train passed over the structure as it started to collapse, there was no train accident and no casualties. This accident was investigated by the RAIU, which is the NIB. A compliance audit was performed by the RSC after the accident to ascertain how company bridge inspection standards were being applied in practice.

An empty passenger train collided with a landslip near Wicklow and then derailed. Again, there were no injuries. A post-accident inspection report was prepared by the RSC and the RAIU is investigating this accident.

Significant delays resulted on New Year's Eve, when the overhead traction power lines were struck by a truck with a raised jib. Repair of the overhead line and restoration of services was hampered by extreme weather conditions.

One passenger fell on board a train and suffered a significant injury.

D.1.2.3. Number of fatalities;

A trespasser lying on the tracks was struck by a train and killed by a train.

Two people were struck by trains and died in circumstances indicating possible suicide. In addition, there was a workplace fatality due to an industrial accident on a site of engineering construction that did not involve rolling stock.

D.1.2.4. Number of injuries;

A passenger travelling aboard a train fell and suffered a significant injury. Two persons were struck by trains in circumstances indicating attempt at suicide.

D.1.2.5. Number of precursors to accidents

Precursors for 2009 are reported in Annex C.

D.1.2.6. Cost of all accidents

Data are only available for the cost of significant accidents.

D.1.2.7. Technical safety of infrastructure and its implementation, management of safety

Data for 2009 are reported in Annex C.

D.1.3. Results of safety recommendations

The RSC continues to track duty-holder implementation of recommendations deriving from investigation reports and from the ongoing process of industry safety review that commenced in 1998.

The benefits of implementation of these recommendations are assessed by an industry-owned predictive model. The model was established in the year 2003, and reflects a steady reduction in network safety risk since then.

E. IMPORTANT CHANGES IN LEGISLATION AND REGULATION

E.1.1. The Safety Directive -

In the Safety Directive it is stated that important changes in legislation and regulation concerning railway safety should be reported, e.g.,

- implementation of EU requirements in national legislation;
- important changes of the national railway legislation and regulation.

In Annex D of this report, a list of possible legislation and regulation is described which should be reported if these are changed essentially.

The Railway Safety Directive is implemented through the Railway Safety Act, 2005, as amended by the European Communities (Railway Safety) Regulations 2008.

The European Communities (Working Conditions of Mobile Workers engaged in Interoperable Cross-border Services in the Railway Sector) Regulations 2009 were implemented in September 2009. These regulations complement the Organisation of Working Time (Inclusion of Transport Activities) Regulations 2004.

F. THE DEVELOPMENT OF SAFETY CERTIFICATION AND AUTHORISATION

F.1.1. National legislation – starting dates – availability

Starting date for issuing Safety Certificates (Article 10 of Directive 2004/49/EC)

The principal Railway Undertaking (Iarnród Éireann) has a safety management system, which is explained and formalised through their safety case. This was submitted to the RSC for approval on 31 October 2006 and safety certification was awarded at the end of January 2007. At the next renewal date, the harmonised criteria shall be followed to enable a full Safety Authorisation Parts A and B in line with European requirements including the CSM for risk evaluation and conformity assessment.

Starting date for issuing Safety Authorisations (Article 11 of Directive 2004/49/EC)

The railway Infrastructure Manager (Iarnród Éireann) already has an established safety management system, which is explained and formalised through the common RU/IM railway safety case. At the next renewal date, the harmonised criteria shall be followed to enable a full Safety Authorisation Parts A and B in line with European requirements.

Availability of national safety rules and legislation to Railway Undertakings and Infrastructure Managers

National Safety Rules binding on more than one railway undertaking were notified in 2009 and are available on the RA database. The safety rules are primarily derived from national legislation. The legislation dating from 1922 onwards is published by the Government Publications Office and may be downloaded from the website http://www.irishstatutebook.ie. Older legislation is not currently in publication, but copies of Public Acts may be obtained from the Department of Transport on request.

F.1.2. Numerical data (Annex E)

Progress of the safety certification and safety authorisation process is indicated in Annex E.

F.1.3. Procedural aspects

Safety Certificates Part A

F.1.3.1. Reasons for updating/amending Part A Certificates (e.g. variation in type of service, extent of traffic, size of company)

Under the Railway Safety Act 2005, safety acceptance was issued in early 2007 for the combined Railway Undertaking and Infrastructure Manager.

No Part A certificates were issued in 2009.

F.1.3.2. Main reasons if the mean issuing time for Part A Certificates (restricted to these mentioned in Annex E and after having received all necessary information), was more than 4 months

No safety certificate was issued in the year 2009. Subject to receipt of sufficient information and clarification as outlined in s.46 of the Railway Safety Act, the RSC must process each application within 3 months.

F.1.3.3. Requests for information from other National Safety Authorities for information on a Railway Undertaking certified in your country and applying to them for a Part B certificate

No requests of this nature were received in the year 2009.

F.1.3.4. Summary of problems with the mutual acceptance of the Community wide valid Part A Certificate.

As their safety acceptance under the Railway Safety Act 2005 is still valid, no Part A or Part B safety certificates have been issued to Iarnród Éireann. However, it is understood that the Northern Ireland operator, Translink, obtained a Part A safety certificate in 2008. Mutual acceptance for cross border operations is currently covered by a mutual agreement contained in the safety management systems of the two companies, Iarnród Éireann and Translink.

F.1.3.5. NSA Charging fee for issuing a Part A Certificate (Yes/No – Cost).

No charges were made for safety certification in 2009.

F.1.3.6. Summary of the problems with using the harmonised formats for Part A Certificates, specifically in relation to the categories for type and extent of service

No Part A certificates in accordance with the harmonised format have been issued to date.

F.1.3.7. Summary of the common problems/difficulties for the NSA in application procedures for Part A Certificates.

None.

F.1.3.8. Summary of the problems mentioned by Railway Undertakings when applying for a Part A Certificate

None.

F.1.3.9. Feedback procedure (e.g. questionnaire) that allows Railway Undertakings to express their opinion on issuing procedures/practices or to file complaints

Railway Undertakings are facilitated through published guidance on safety cases, and through direct meetings with the RSC. The practice of the RSC is to facilitate applications as much as possible. A Railway Undertaking may appeal first to the RSC and further to the High Court should it be refused safety certification.

Safety Certificates Part B

F.1.3.10. Reasons for updating/amending Part B Certificates (e.g. variation in type of service, extent of traffic, lines to be operated, type of rolling stock, category of staff, etc.)

No Part B certificates have been issued as defined by the Directives and Community Decisions. Mutual acceptance for cross border operations is currently covered by an agreement contained in the safety management systems of the two companies, Iarnród Éireann and Translink.

F.1.3.11. Main reasons if the mean issuing time for Part B Certificates (restricted to these mentioned in Annex E and after having received all necessary information), was more than 4 months

No Part B certificates have been issued as defined by the Directives and Community Decisions.

F.1.3.12. NSA Charging fee for issuing a Part B Certificate (Yes/No – Cost)

No.

F.1.3.13. Summary of the problems with using the harmonised formats for Part B Certificates, specifically in relation to the categories for type and extent of service

None.

F.1.3.14. Summary of the common difficulties for the NSA in application procedures for Part B Certificates.

None.

F.1.3.15. Summary of the problems mentioned by Railway Undertakings when applying for a Part B Certificate

No applications made to date.

F.1.3.16. Feedback procedure (e.g. questionnaire) that allows Railway Undertakings to express their opinion on issuing procedures/practices or to file complaints

Scheduled meetings with Railway Undertakings provide the opportunity to express opinions on issuing practices and procedures. Any complaints are directed to the Commissioner for initial consideration of the adequacy of process and delivery. The Railway Undertaking can then appeal to the Minister.

Safety Authorisations

F.1.3.17. Reasons for updating/amending Safety Authorisations

The Infrastructure Manager and the primary Railway Undertaking are the same entity and thus a separate Authorisation as an Infrastructure Manager is an upcoming task. Safety and risk is currently managed through the existing safety case 'acceptance' arrangements which have many parallels to the European structure. Substantial modernisation and material change of the infrastructure is another driver for updating of the Safety Authorisation although the current acceptance process does capture risks generated from this.

The process of updating the existing letters of acceptance in regard to new works is described in section F.4 below.

F.1.3.18. Main reasons if the mean issuing time for Safety Authorisations (restricted to these mentioned in Annex E and after having received all necessary information), was more than 4 months

A full Authorisation as per the Safety Directive has yet to be undertaken. However, under the current system, the safety management system of the combined Railway Undertaking and Infrastructure Manager was accepted within three months from the mandatory submission date as required by domestic legislation.

An acceptance of substantial new works serves as an amendment to the Safety Case acceptance and will serve as an amendment to the safety authorisation once issued.

F.1.3.19. Summary of the regular difficulties in application procedures for Safety Authorisations

None.

F.1.3.20. Summary of the problems mentioned by Infrastructure Managers when applying for a Safety Authorisation

None.

F.1.3.21. Feedback procedure (e.g. questionnaire) that allows Infrastructure Managers to express their opinion on issuing procedures/practices or to file complaints

The Infrastructure Manager is facilitated through published guidance on safety cases, and through direct meetings with the RSC. The practice of the RSC is to facilitate applications as much as possible. The Infrastructure Manager may appeal first to the RSC and further to the High Court should they be refused safety authorisation.

F.1.3.22. NSA Charging fee for issuing a Safety Authorisation (Yes/No – Cost)

No.

G. SUPERVISION OF RAILWAY UNDERTAKINGS AND INFRASTRUCTURE MANAGERS

G.1.1. Description of the Supervision of Infrastructure Managers and Railway Undertakings

G.1.2. Audits/Inspections/Checklists

G.1.2.1. Use

G.1.2.2. Audits/inspections carried out by the NSA staff/third parties/both

The RSC auditing and monitoring activities derive from four principal sources:
Complaints and representations by, or on behalf of, passengers;
Industry safety concerns, typically arising from accidents and incidents;
The need to ensure that railway undertakings are implementing their approved safety cases;
The need for ongoing assessment of the performance of all industry safety duty holders.

The RSC generally conducts inspections in response to representations or reports of incidents. Unannounced sample asset inspections are also performed.

The RSC also endeavours to perform planned coordinated audits of features of the railway system giving rise to concern or that are perceived to be areas of potential risk. However, due to a heavy workload of infrastructure and rolling stock approvals, the level of audit and inspection has been lower than expected. In 2009, three additional Inspectors were employed, thereby increasing the resources available to undertake this activity.

During the year a number of inspections of Iarnród Éireann were carried out focussing on:

- Stations and station conditions;
- Level crossings;
- Rail over road bridge asset condition.

Where the occasion permitted, inspectors took the opportunity to travel in locomotive cabs to assess operations and the condition of the permanent way. Over 2009, a substantial proportion of the network was seen in this way.

The scenes of a number of railway incidents were inspected, including a train collision involving a member of shunting staff, a significant landslip resulting in a derailment and a site where cattle were struck by a passenger train.

Perhaps, most notably, 2009 will be remembered for the partial collapse of the viaduct at Malahide in north county Dublin. The RSC undertook a number of inspections and completed a compliance audit on the relevant Infrastructure Manager.

G.1.2.3. NSA manpower available (Number, % of NSA staff involved)

The RSC successfully recruited an additional three staff in 2009 which enabled additional workload to be undertaken. With just 6 Inspectors, excluding the Railway Safety Commissioner, we must remain flexible, with all technical staff participating to some degree in safety auditing, monitoring and inspection of the existing Railway Undertaking and Infrastructure Manager activities. However, given our continued involvement in the approvals of new infrastructure and rolling stock, the equivalent of one member of staff was dedicated to audit, monitoring and inspection activity in 2009.

2009 was the first year where a structured annual monitoring plan was implemented. This included commencing formalised supervision meetings with the RUs and IMs, proactive sample asset inspections and riding in the cab's of trains. Two process audits were completed, the first focused on the management of rail defects and the second looking at the management of organisational change.

G.1.2.4. Economical aspects (Costs,…)

The RSC currently bears the cost of its own audits.

G.1.2.5. Vigilance aspects/Sensitive points to follow-up by the NSA

G.1.3. Legal aspects within annual reports of Infrastructure Managers and Railway Undertakings

The European Communities (Railway Safety) Regulations 2008 transposed the requirements of Article 9 of the Safety Directive (EC) 2004/49/EC. This places a legal obligation on the primary RU/IM to submit an annual safety report by 30th June concerning the previous calendar year.

G.1.3.1. Availability of Reports:

This report was due in June but received in September.

G.1.3.2. Safety Targets and Safety Plans – Iarnród Éireann

The European Communities (Railway Safety) Regulations 2008 transposed the requirements of Article 9 of the Safety Directive (EC) 2004/49/EC. This places a legal obligation on the RU and IM to submit an annual safety report by 30th June concerning the previous calendar year.

G.1.3.3. Organisation's Corporate Safety Targets 2009

The organisation's corporate safety targets are met through a number of programmes, particularly phase three of the Railway Safety Programme (2009 – 2013); the implementation of recommendations arising from the "Review of Railway Safety"; the Network Wide Risk Model and the Enterprise Wide Risk Management register.

In summary, there are over 200 safety initiatives in play leading to more than of 500 actions. These are focussed on improving the implementation of the Safety Management System, i.e., improving structures, standards, systems, training, equipment and special initiatives for improving competency and, in particular, reduction of Signals Passed at Danger (SPADs), incidents involving possession management, level crossings and other areas of operational risk.

G.1.3.4. Railway Safety Programme 2009 – 2013

Principal aspects of the programme focus on improvements of the company's Safety Management System and Human Performance Development over a range of 28 projects. Special attention and detailed updating on key or slow moving projects and reporting to the DoT has led to continued progress being made on these programmes, a continuation of the work developed in the second phase of the railway Safety programme.

G.1.4. Safety Indicators – Iarnród Éireann

G.1.4.1. Network Wide Risk Model

The Network Wide Risk Model (NWRM) was used to assist the Department of Transport's evaluation of the third Railway Safety programme by calculating the safety benefits expected to accrue from the implementation of that project.
The new General Level Crossing Risk Model was fully implemented during the year.

G.1.4.2. Enterprise Wide Risk Management Register

The Enterprise Wide Risk Management register (EWRM) was reviewed and updated at the end of 2009. In excess of 80% of actions had been implemented.

G.1.4.3. Safety Case progress report end of 2008

Iarnród Éireann submitted their first safety case to the Railway Safety Commission in October 2006, as required by the 2005 Railway Safety Act, and an acceptance certificate was issued on 30 January, 2007.

G.1.5. Safety Audits – Iarnród Éireann

G.1.5.1. Safety Audit

In 2009 the audit unit had a target to conduct 20 audits. The unit achieved 90% of its target, carrying out a total of 18 audits. These covered the following areas:

- Stations (1)
- Lineside and Platform Safety (4)
- Level Crossings (3)
- Traction Depots (1)
- Local Emergency Planning (1)
- Implementation of Internal Safety Notification (1)
- Personal Track Safety (1)
- Competency Assessment (1)
- Trespasser/Vandalism (1)
- New Works Construction Unit (1)
- Traincrew Booking On/Off (1)
- Track Patrol Gangers (1)
- Road Vehicle Safety Management (1)

The audits resulted in some 77 recommendations and 91 Opportunities for Improvement. These were communicated to the line management responsible for carrying out improvement.

G.1.6. Particular Risks – Iarnród Éireann

No report was received on observations on deficiencies and malfunctions of railway operations and infrastructure management that might be relevant for the safety authority.

G.1.7. Number of inspections of RUs/IMs for 2009

A number of inspections were carried out in 2009 that included a considerable number of user worked level crossings, as the RSC commenced a study into this type of level crossing.

Furthermore as the Railway Undertaking and Infrastructure Manager are a combined entity with a unified safety case, monitoring has not been split between the RU and IM. The following is the number of inspections carried out in 2009:

INSPECTIONS	Safety Certificate Part A	Safety Certificate Part B	Safety Certificate 2001/14	Safety Authorisations	Other Activities (To specify)
planned	0	0	71	0	0
unplanned	0	0	19	0	6
carried out	0	0	90	0	6 (Incident follow up Site Inspections)

G.1.8. Number of audits of RUs/IMs for 2009

Two planned process audits were carried out in 2009, the first focused on the management of rail defects and the second looked at the management of organisational change. In addition a review of Driver Only Operation in the DART area was also undertaken and a report was produced and issued to the applicable Railway Undertaking.

AUDITS		Safety Certificate Part A	Safety Certificate Part B	Safety Certificate 2001/14	Safety Authorisations	Other Activities (To specify)
Number of audits of RUs/IMs for 20xx	planned	0	0	2	0	0
	carried out	0	0	3	0	0

G.1.9. Summary of the corrective safety measures/actions following these audits/inspections

During 2009, the RSC raised and followed up on a number of issues with the Railway Undertaking and Infrastructure Manager following its audits, but none of these were deemed to require formal enforcement action.

The RSC issued one 'Improvement Notice' to a Railway Undertaking in relation to its Drugs and Alcohol compliance testing regime not meeting the requirements of legislation.

G.1.10. Complaints <u>from IM('s)</u> about RU('s) related to their Safety Certificate conditions

No complaints were received by the RSC.

G.1.11. Complaints <u>from RU('s)</u> about IM('s) related to their Safety Authorisation conditions

No complaints were received by the RSC.

H. REPORTING ON THE APPLICATION OF THE CSM ON RISK EVALUATION AND ASSESSMENT

The application of the CSM on risk evaluation and assessment remain voluntary with respect to:

- Significant technical changes affecting vehicles or significant changes concerning structural subsystems where required by Article 15(1) of Directive 2008/57/EC or by a TSI until 19 July 2010.
- Operational or organisational significant changes until 1 July 2012.

The reporting on the application of the CSM in the NSA annual report is voluntary until those dates. (Commission Regulation No 352/2009, Article 10(2))

H.1.1. NSA experiences

This CSM comes into force on 19th May 2009 and is applicable from 19th July 2010. The Railway Undertakings have been advised of this CSM.

H.1.2. Experience on the decisions taken by the proposers on the level of significance of a change (e.g., too lax)

None.

H.1.3. Experience on the applications of the risk management process by the proposers

None.

H.1.4. Experience on the involvement of assessment bodies

None.

H.1.5. Experience on the interface management

None.

H.1.6. Is there a procedure to allow RUs and IMs to express their experiences on the EC regulation on CSM on risk assessment

No.

H.1.7. Revision of NSRs to take account of the EC regulation on CSM on risk assessment

The pre-existing National Rule requires a risk assessment but does not prescribe the method. The Common Safety Method on risk evaluation and assessment will become binding on the national network from 19th July 2010, but it will be a voluntary code of practice for light railways, metros and heritage railways.

I. NSA CONCLUSIONS ON THE REPORTING YEAR – PRIORITIES

I.1.1. Conclusion

This is the fourth year of operation for the Railway Safety Commission as an independent agency within the European railway safety regulatory framework and we have made further progress towards conformance with the requirements of the Railway Safety Directive 2004/49/EC. In terms of European safety comparators, our rail industry continues to perform well.

However, we are working with the Railway Undertakings, Infrastructure Manager and other stakeholders to address areas where actions are needed have been identified. Additional resources and expertise have been acquired to strengthen our ability to identify and manage risk.

I.1.2. Priorities

To build further on our good industry safety record, our immediate organisational priorities remain as follows:

- Increase the monitoring regime using our newly recruited staff;
- Build on our established working relationships with industry stakeholders to ensure the most effective implementation of the safety regulatory framework;
- Work to ensure full implementation of EU railway safety legislation and associated legislation.

J. SOURCES OF INFORMATION

Annual Report of the Railway Safety Commission – RSC – February 2010

Railway Safety Statistical Report 2009 – RSC – June 2010

Statistical Report to the Central Statistics Office (Annex H statistics) – Iarnród Éireann – May 2010

Annual report to the Railway Safety Commission – Iarnród Éireann – September 2010

Structure for the Content of the NSA Annual Report (NSA AR Template EN 2009 v14_9) – ERA – August 2009

Guideline for the Use of the Template (NSA AR Guideline EN 2009) – ERA – August 2009

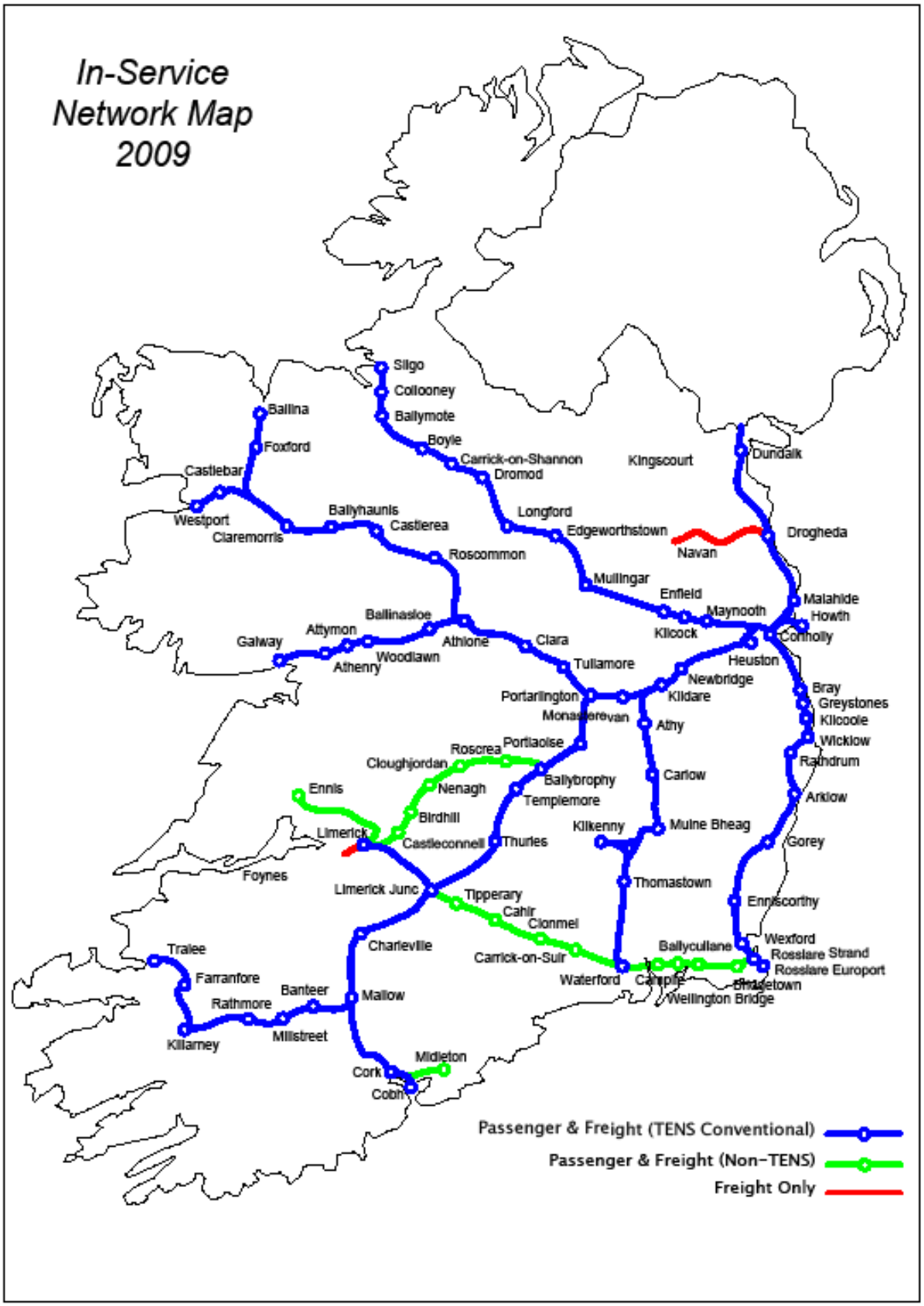
Railway Safety Programme (Final Report) – Iarnród Éireann – June 2009

ANNEXES

ANNEX A: Railway Structure Information
ANNEX B: Organisation chart(s) of the National Safety Authority
ANNEX C: Common Safety Indicator (CSI) data; Definitions used; Abbreviations
ANNEX D: Important changes in legislation and regulation
ANNEX E: The development of safety certification and authorisation – Numerical Data

ANNEX A: Railway Structure Information

A.1. Network map



A.2. List of Railway Undertakings and Infrastructure Managers

A.2.1. Infrastructure Manager(s)

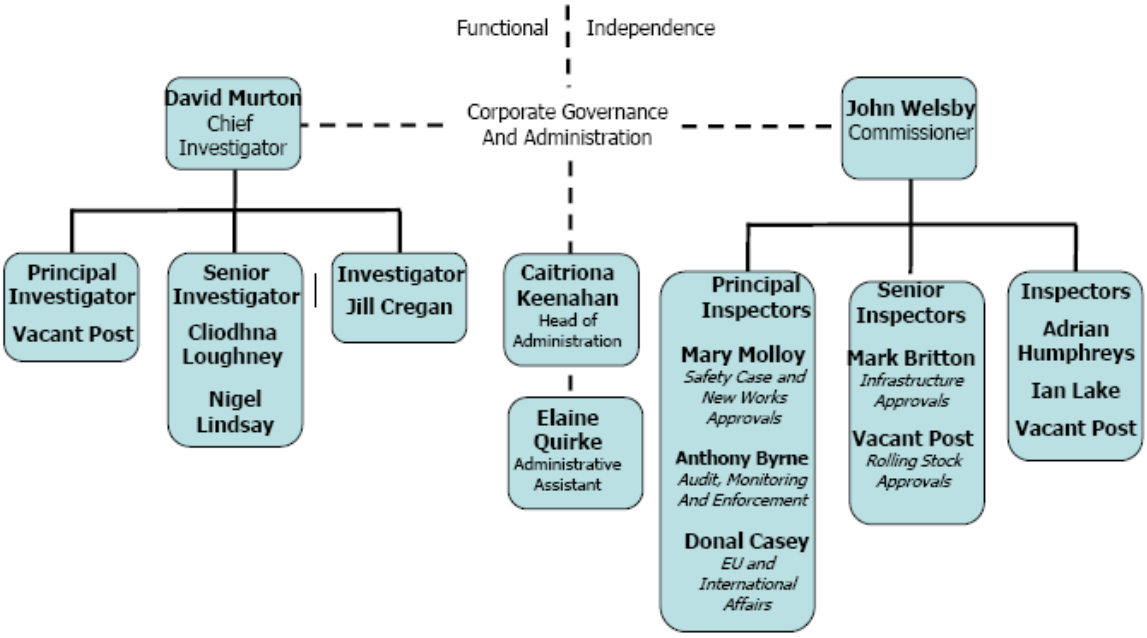
Name	Address	Website/Network Statement Link	Safety Authorisation (Number/ Date)	Start date commercial activity	Total Track Length/Gauge	Electrified Track Length/Voltages	Total Double/Simple Track Length	Total Track Length HSL	ATP equipment used	Number of LC	Number of Signals
Iarnród Eireann	Connolly Station Amiens Street Dublin 1	www.irishrail.ie	31/01/2007		2141 km (lines in traffic) gauge 1600mm	99 km 1500V(DC)	464 km/ 1212 km (lines in traffic)	none	CAWS, ATP	1069	2352

A.2.2. Railway Undertaking(s)

Name	Address	Website	Safety Certificate 2001/14/EC	Safety Certificate A-B 2004/49/EC (Number/Date)	Start date commercial	Traffic Type (Freight,…)	Number of Locomotives	Number of Railcars/Multiple Unit-sets	Number of Coaches/Wagons	Number of train drivers/safety crew	Volume of passenger transport	Tonnes of freight transport
Iarnród Eireann	Connolly Station Amiens Street Dublin1	www.irishrail.ie		31/01/2007		Passenger & Freight	59 (excluding OTMs)	357 DMU vehicles 154 EMU vehicles	81 coaches 308 wagons (including maintenance wagons)	523 train drivers	38.8 MLN passengers	0.632 MLN tonnes

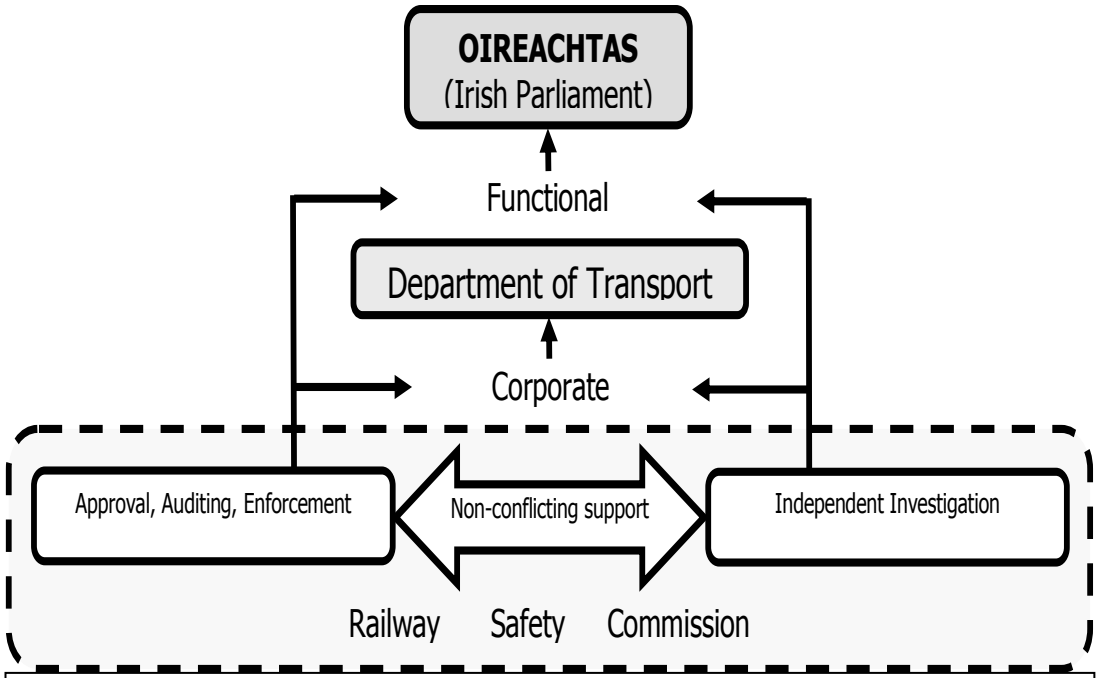
ANNEX B: Organisation chart(s) of the National Safety Authority

B.1. Chart: Internal organisation



Organisational Chart for the Railway Safety Commission for year 2009

B.2. Chart: Relationship with other National Bodies



Flow & relationships between the Railway Safety Commission and other national bodies

ANNEX C: CSI data and Definitions applied

C.1.1. CSI data and charts

European Railway Agency
Agence Ferroviaire Européenne

Reporting country: Ireland **reporting year:** 2009

Safety Directive 2004/49/EC - Annex 1 CSIs

1. Indicators relating to accidents

1.1a. Total number of accidents and a break-down into the following types of accidents

1.1b. Relative to train kilometres number of accidents and a break-down into the following types of accidents

	Total number of all accident	Collisions of trains, including collisions with obstacles within the clearance gauge	Derailments of trains	Level-crossing accidents, including accidents involving pedestrians at level-crossings	Accidents to persons caused by rolling stock in motion, with the exception of suicides	Fires in rolling stock	Others
code of variable	N00	N01	N02	N03	N04	N05	N06
1.1a. Number of accidents	5	1	0	1	2	0	1

code of variable	N10	N11	N12	N13	N14	N15	N16
1.1b. "Relative" Number of accidents	2.75E-01	5.50E-02	0.00E+00	5.50E-02	1.10E-01	0.00E+00	5.50E-02

	Suicides
code of variable	N07
1.1a. Total number of suicides	2

code of variable	N17
1.1b. Relative to "billion" train kilometres number of suicides	1.10E-01

1.2a. Total number of persons seriously injured by type of accident divided into the following categories

1.2b. Relative to train kilometres total number of persons seriously injured by type of accident divided into the following categories

1.2c. Relative to passenger kilometres total number of persons seriously injured by type of accident divided into the following categories (for passengers only)

	Total number in all accident	In collisions of trains, including collisions with obstacles within the clearance gauge	In derailments of trains	In level-crossing accidents, including accidents involving pedestrians at level-crossings	In accidents to persons caused by rolling stock in motion, with the exception of suicides	In fires in rolling stock	In others
code of variable	TS00	TS01	TS02	TS03	TS04	TS05	TS06
1.2a. Total seriously injured	1	0	0	0	1	0	0

	Total number in all accident	In collisions of trains, including collisions with obstacles within the clearance gauge	In derailments of trains	In level-crossing accidents, including accidents involving pedestrians at level-crossings	In accidents to persons caused by rolling stock in motion, with the exception of suicides	In fires in rolling stock	In others
code of variable	TS10	TS11	TS12	TS13	TS14	TS15	TS16
1.2b. "Relative" Total seriously injured	5.50E-02	0.00E+00	0.00E+00	0.00E+00	5.50E-02	0.00E+00	0.00E+00

	Total number in all accident	In collisions of trains, including collisions with obstacles within the clearance gauge	In derailments of trains	In level-crossing accidents, including accidents involving pedestrians at level-crossings	In accidents to persons caused by rolling stock in motion, with the exception of suicides	In fires in rolling stock	In others
code of variable	PS00	PS01	PS02	PS03	PS04	PS05	PS06
1.2a. Passengers	1	0	0	0	1	0	0

code of variable	PS10	PS11	PS12	PS13	PS14	PS15	PS16
1.2b. "Relative" Passengers	5.50E-02	0.00E+00	0.00E+00	0.00E+00	5.50E-02	0.00E+00	0.00E+00

code of variable	PS20	PS21	PS22	PS23	PS24	PS25	PS26
1.2c. "Relative" Passengers	5.95E-04	0.00E+00	0.00E+00	0.00E+00	5.95E-04	0.00E+00	0.00E+00

code of variable	SS00	SS01	SS02	SS03	SS04	SS05	SS06
1.2a. Employees including the staff of contractors	0	0	0	0	0	0	0

code of variable	SS10	SS11	SS12	SS13	SS14	SS15	SS16
1.2b. "Relative" Employees including the staff of contractors	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

code of variable	LS00	LS01	LS02	LS03	LS04	LS05	LS06
1.2a. Level-crossing users	0	0	0	0	0	0	0

code of variable	LS10	LS11	LS12	LS13	LS14	LS15	LS16
1.2b. "Relative" Level-crossing users	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

code of variable	US00	US01	US02	US03	US04	US05	US06
1.2a. Unauthorised persons on railway premises	0	0	0	0	0	0	0

code of variable	US10	US11	US12	US13	US14	US15	US16
1.2b. "Relative" Unauthorised persons on railway premises	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

code of variable	OS00	OS01	OS02	OS03	OS04	OS05	OS06
1.2a. Others	0	0	0	0	0	0	0

code of variable	OS10	OS11	OS12	OS13	OS14	OS15	OS16
1.2a. "Relative" Others	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

1.3a. Total number of persons killed by type of accident divided into the following categories

1.3b. Relative to train kilometres total number of persons killed by type of accident divided into the following categories

1.3c. Relative to passenger kilometres total number of persons killed by type of accident divided into the following categories (for passengers only)

	Total number in all accident	In collisions of trains, including collisions with obstacles within the clearance gauge	In derailments of trains	In level-crossing accidents, including accidents involving pedestrians at level-crossings	In accidents to persons caused by rolling stock in motion, with the exception of suicides	In fires in rolling stock	In others
code of variable	TK00	TK01	TK02	TK03	TK04	TK05	TK06
1.2a. Total killed	1	0	0	0	1	0	0

	Total number in all accident	In collisions of trains, including collisions with obstacles within the clearance gauge	In derailments of trains	In level-crossing accidents, including accidents involving TKedestrians at level-crossings	In accidents to TKersons caused by rolling stock in motion, with the exceTKtion of suicides	In fires in rolling stock	In others
code of variable	TK10	TK11	TK12	TK13	TK14	TK15	TK16
1.2b. "Relative" Total killed	5.50E-02	0.00E+00	0.00E+00	0.00E+00	5.50E-02	0.00E+00	0.00E+00

	Total number in all accident	In collisions of trains, including collisions with obstacles within the clearance gauge	In derailments of trains	In level-crossing accidents, including accidents involving pedestrians at level-crossings	In accidents to persons caused by rolling stock in motion, with the exception of suicides	In fires in rolling stock	In others
code of variable	PK00	PK01	PK02	PK03	PK04	PK05	PK06
1.3a. Passengers	0	0	0	0	0	0	0
code of variable	PK10	PK11	PK12	PK13	PK14	PK15	PK16
1.3b. "Relative" Passengers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
code of variable	PK20	PK21	PK22	PK23	PK24	PK25	PK26
1.3c. "Relative" Passengers	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
code of variable	SK00	SK01	SK02	SK03	SK04	SK05	SK06
1.3a. Employees including the staff of contractors	0	0	0	0	0	0	0
code of variable	SK10	SK11	SK12	SK13	SK14	SK15	SK16
1.3b. "Relative" Employees including the staff of contractors	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
code of variable	LK00	LK01	LK02	LK03	LK04	LK05	LK06
1.3a. Level-crossing users	0	0	0	0	0	0	0
code of variable	LK10	LK11	LK12	LK13	LK14	LK15	LK16
1.3b. "Relative" Level-crossing users	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
code of variable	UK00	UK01	UK02	UK03	UK04	UK05	UK06
1.3a. Unauthorised persons on railway premises	1	0	0	0	1	0	0
code of variable	UK10	UK11	UK12	UK13	UK14	UK15	UK16
1.3b. "Relative" Unauthorised persons on railway premises	5.50E-02	0.00E+00	0.00E+00	0.00E+00	5.50E-02	0.00E+00	0.00E+00
code of variable	OK00	OK01	OK02	OK03	OK04	OK05	OK06
1.3a. Others	0	0	0	0	0	0	0
code of variable	OK10	OK11	OK12	OK13	OK14	OK15	OK16
1.3a. "Relative" Others	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2. Indicators relating to incidents and near-misses

2.1a. Total number of incidents and near-misses and a break-down into the following types

2.1b. Relative to train kilometres number of incidents and near-misses and a break-down into the following types of accidents

	Total number of incidents and near-misses	Total number of broken rails	Total number of track buckles	Total number of wrong-side signalling failures	Total number of signals passed at danger	Total number of broken wheels on rolling stock in service	Total number of broken axles on rolling stock in service
code of variable	I00	I01	I02	I03	I04	I05	I06
2.1a. Number of accidents	26	4	3	2	17	0	0
code of variable	I10	I11	I12	I13	I14	I15	I16
2.1b. "Relative" Number of accidents	1.43E+00	2.20E-01	1.65E-01	1.10E-01	9.35E-01	0.00E+00	0.00E+00

3. Indicators relating to consequences of accidents

3.1a. Total costs in euro of all accidents

3.1b. Relative to train kilometres total costs in euro of all accidents

3.2a. Total number of working hours of staff and contractors lost as a consequence of accidents

3.2b. Relative to number of hours worked number of working hours of staff and contractors lost as a consequence of accidents

	Total costs of all accidents	Costs of deaths	Costs of injuries	Costs of replacement or repair of damaged rolling stock and railway installations	Costs of delays, disturbances and re-routing of traffic, including extra costs for staff and loss of future revenue
code of variable	C00	C01	C02	C03	C04
3.1a. Costs (in €)	18799000	-	-	12699000	6100000

code of variable	C10	C11	C12	C13	C14
3.1b. "Relative" Costs (in €)	1.03E+06	-	-	6.98E+05	3.35E+05

	Total number of working hours of staff and contractors lost as a consequence of accidents
code of variable	W00
3.2a. Total number of working hours	-

code of variable	W10
3.2b. "Relative" Total number of working hours	-

4. Indicators relating to technical safety of infrastructure and its implementation

	Percentage of tracks with Automatic Train Protection (ATP) in operation	Percentage of train kilometres using operational ATP systems	Total number of level crossings	Total number of level crossings per line kilometre	Percentage of level crossings with automatic or manual protection
code of variable	T01	T02	T03	T04	T05
4. Number	5.00%	11.70%	1069	4.99E-01	20.60%

5. Indicators relating to the management of safety

Internal audits accomplished by infrastructure managers and railway undertakings as set out in the documentation of the safety management system.

	Total number of accomplished audits	Percentage of audits accomplished /required (and/or planned).
code of variable	A01	A02
5. Number	18	90.00%

---

6. Reference data

	Number of TrainKM	Number of Passkm	Number of line kilometers	Total number of working hours
code of variable	R01	R02	R03	R04
6. Number	18.182	1681.1	2141	8458120

C.1.2. Additional CSI material for year 2009, required by Directive 2009/149/EC, Annex I:

As a result of significant accidents ONLY				
226	C05	Cost of material damages to rolling stock or infrastructure (significant accidents)	Numeric value in €	12699000
227	C09	Minutes of delays of passenger trains (significant accidents)	Numeric value (minutes)	1384
228	C10	Minutes of delays of freight trains (significant accidents)	Numeric value (minutes)	0

Level crossings:

239	T03	Total number of level crossings (active and passive)	Numeric value	1069
240	T06	Total number of active level crossings	Numeric value	221
241	T07	with automatic user-side warning	Numeric value	3
242	T08	with automatic user-side protection	Numeric value	102
243	T09	with automatic user-side protection and warning	Numeric value	12
244	T10	with automatic user-side protection and warning, and rail-side protection	Numeric value	91
245	T11	with manual user-side warning	Numeric value	0
246	T12	with manual user-side protection	Numeric value	13
247	T13	with manual user-side protection and warning	Numeric value	0
248	T14	Total number of passive level crossings	Numeric value	848

8. Reference data traffic and infrastructure				
271	R01	Total number of Train km	Numeric value (in million Train*km)	18.182
272	R02	Number of Passenger km	Numeric value (in million Passenger*km)	1981.1
273	R05	Number of Passenger train km	Numeric value (in million Train*km)	17.236
274	R06	Number of Freight train km	Numeric value (in million Train*km)	0.946
275	R07	Number of Freight tonne km	Numeric value (in million tonne*km)	79.1
276	R08	Number of line kilometres (double track lines are to be counted ONCE)	Numeric value (in km)	1665
277	R03	Number of track kilometres (double track lines are to be counted TWICE)	Numeric value (in km)	2141

C.1.3. Annual comparison of data

Number of significant accidents and Train*Km

	Type of accident							
Year	Collisions	Derailments	Level crossing accidents	Accidents to persons caused by RS in motion	Fires in RS	Others	Total	Train*Km (MLN)
2006	1	0	0	0	0	1	2	18.2
2007	0	0	1	2	0	2	5	16.8
2008	0	1	1	3	0	0	5	16.5
2009	1	0	1	2	0	1	5	18

N° of fatalities, Train*Km and Passenger*Km

	Category of persons							
Year	Passengers	Employees	Level crossing users	Unauthorised persons	Others	Total	Passenger*Km (MLN)	Train*Km (MLN)
2006	0	0	0	0	0	0	1872.07	18.2
2007	0	0	1	1	1	3	2007.07	16.8
2008	0	0	1	2	0	3	1975.79	16.5
2009	0	0	0	1	0	1	1681	18

N° of serious injuries, Train*Km and Passenger*Km

	Category of persons							
Year	Passengers	Employees	Level crossing users	Unauthorised persons	Others	Total	Passenger*Km (MLN)	Train*Km (MLN)
2006	0	1	0	0	0	1	1872.07	18.2
2007	0	0	0	1	1	2	2007.07	16.8
2008	0	0	0	0	1	1	1975.79	16.5
2009	1	0	0	0	0	1	1681	18

Number of precursors and Train*Km

	Type of accident							
Year	Number of broken rails	Number of track buckles	Number of wrong-side signalling failures	Number of signals passed at danger	Number of broken wheels on rolling stock in service	Number of broken axles on rolling stock in service	Total	Train*Km (MLN)
2006	8	5	4	35	0	0	52	18.2
2007	1	1	1	31	0	0	34	16.8
2008	3	0	2	22	0	1	28	16.5
2009	4	3	2	17	0	0	26	18

Cost of all accidents, safety hours

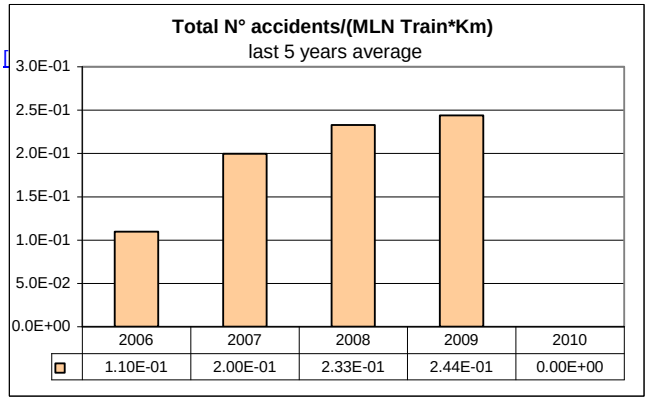
	Type of accident							
Year	Costs of deaths in MLN €	Costs of injuries in MLN €	Costs of replacement or repair of damaged rolling stock and railway installations in MLN €	Costs of delays, disturbances and re-routing of traffic, including extra costs for staff and loss of future revenue in MLN €	Total costs in MLN €	Total number of working hours of staff and contractors lost as a consequence of accidents	Total number of working hours	Train*Km (MLN)
2006	0	0	750000	0	750000	0	0	18.2
2007	0	0	110000	0	110000	0	0	16.8
2008	-	-	800000	-	800000	-	0	16.5
2009	-	-	12699000	6100000	18799000	-	0	18

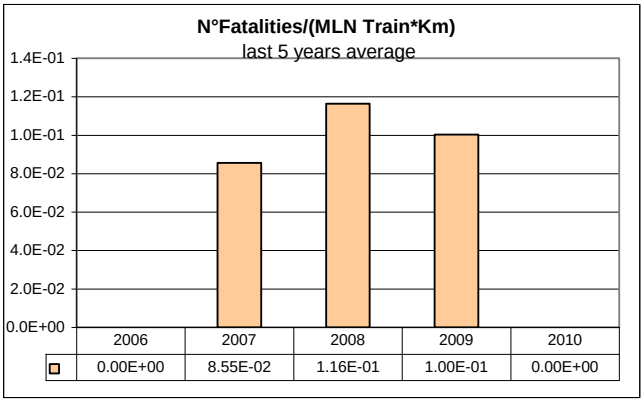
Technical safety of infrastructure and its implementation, management of safety

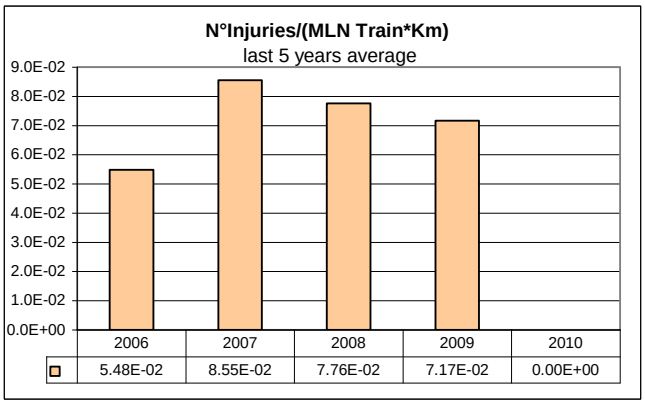
	Type of accident						
Year	Percentage of tracks with Automatic Train Protection (ATP) in operation	Percentage of Train*Km using operational ATP systems	Total number of level crossings	Number of track Km (double track lines are to be counted twice)	Total number of level crossings per track Km	Percentage of level crossings with automatic or manual protection	N°of audits accomplished / N° of audits required (and/or planned)
2006	5.00%	12.00%	1171	2110	5.55E-01	17.00%	105.00%
2007	5.00%	13.70%	1126	2110	5.34E-01	19.27%	100.00%
2008	5.00%	13.30%	1095	2110	5.19E-01	20.00%	105.00%
2009	5.00%	11.70%	1069	2141	4.99E-01	20.60%	90.00%

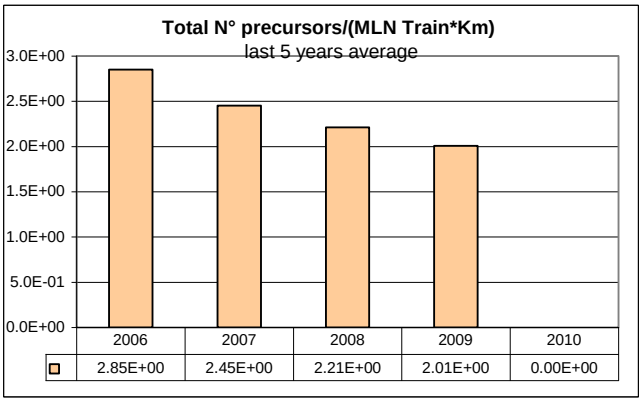
C.1.4. Charts

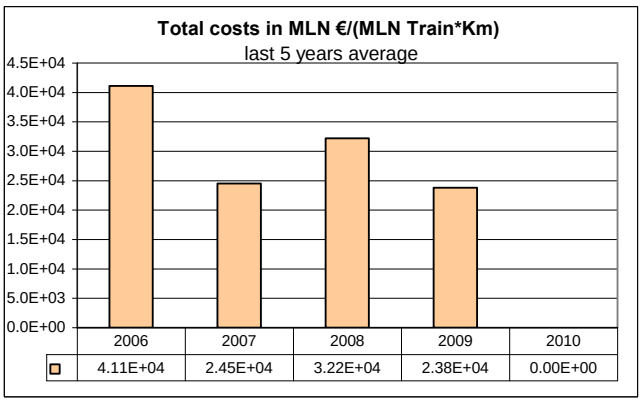
Performances at a glance











2007 report: values related to 2006.
2008 report: values related to the average between 2006 and 2007.
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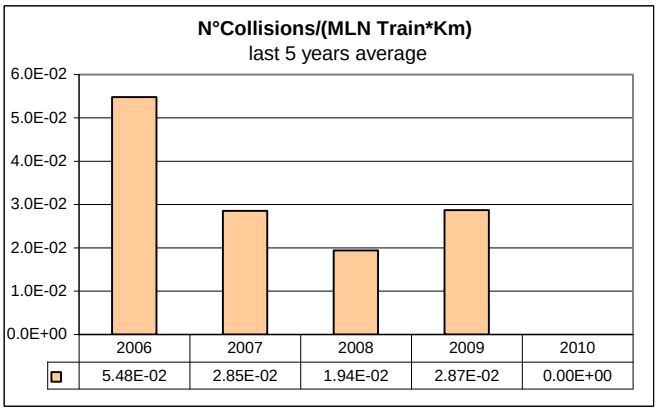
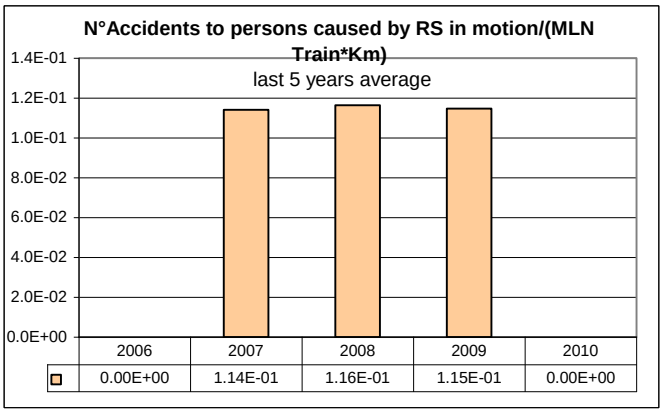
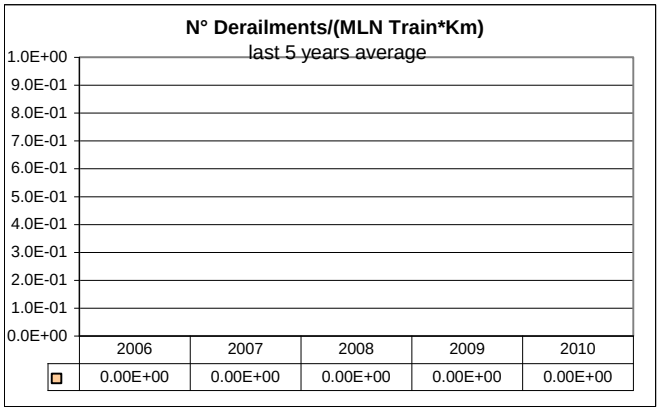
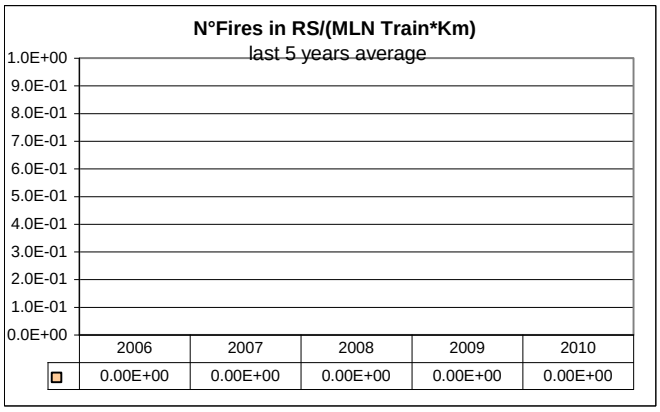
2009 report: values related to the average among 2006, 2007, 2008 and 2009.

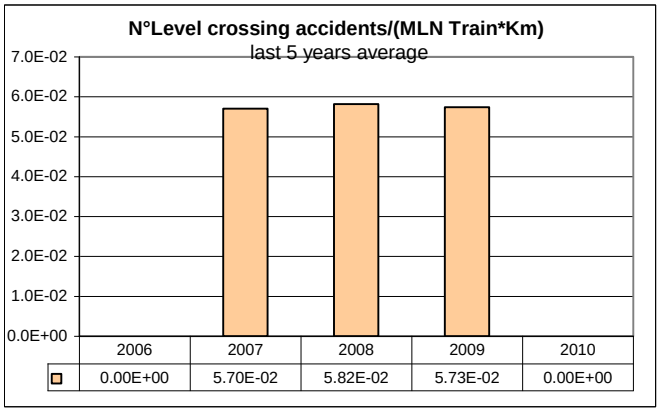
Accidents divided by type

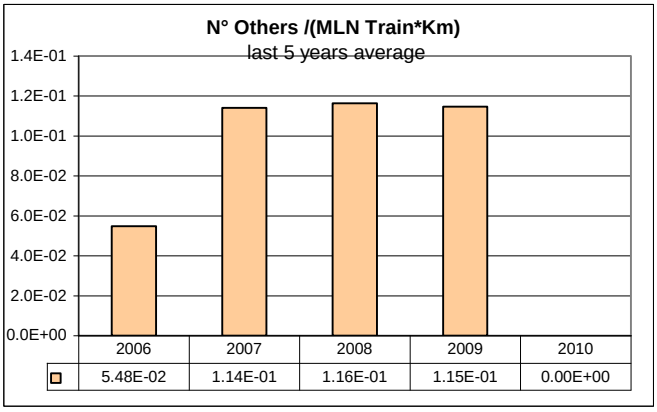






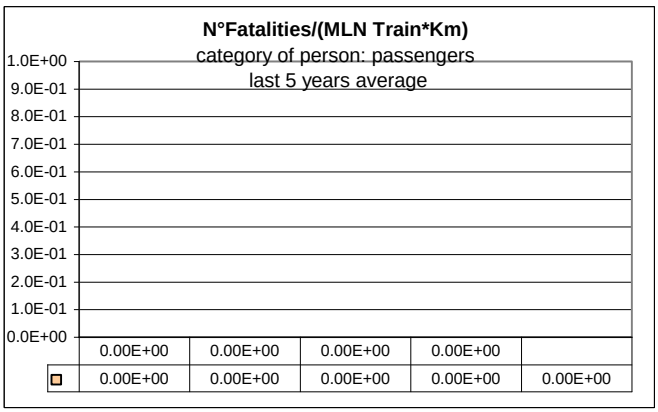


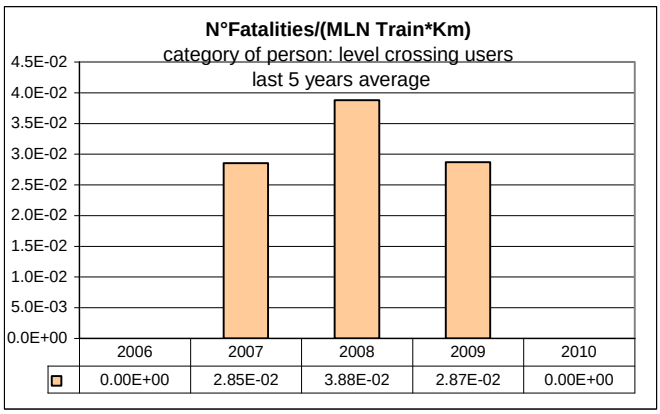


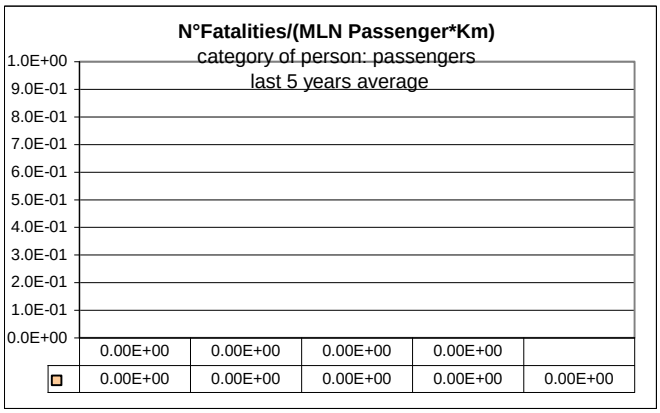


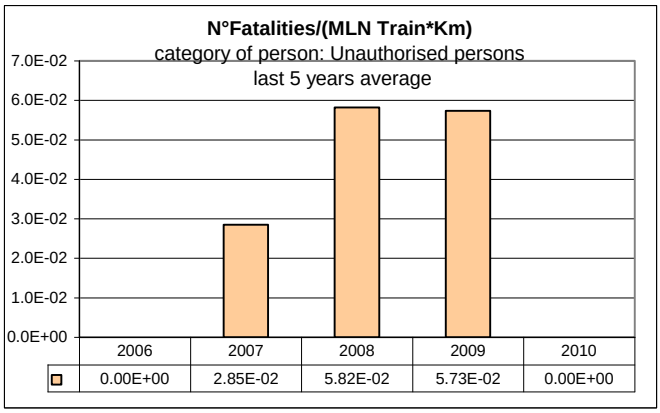
2007 report: values related to 2006.
2008 report: values related to the average between 2006 and 2007.
2008 report: values related to the average among 2006, 2007 and 2008.
2009 report: values related to the average among 2006, 2007, 2008 and 2009.

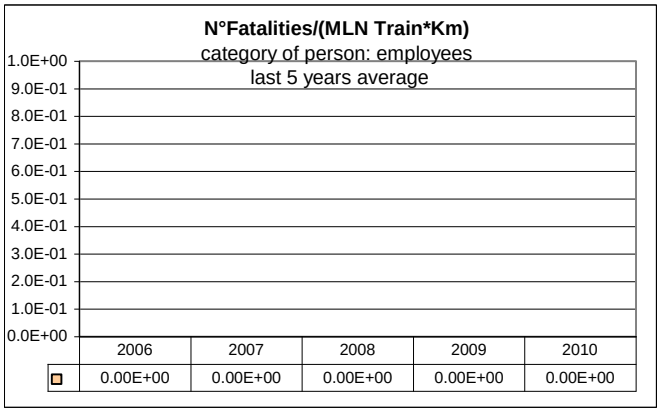
Fatalities divided by category of people involved

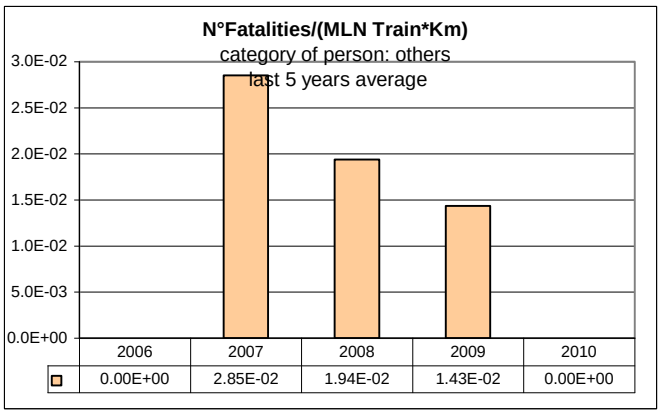












2007 report: values related to 2006.
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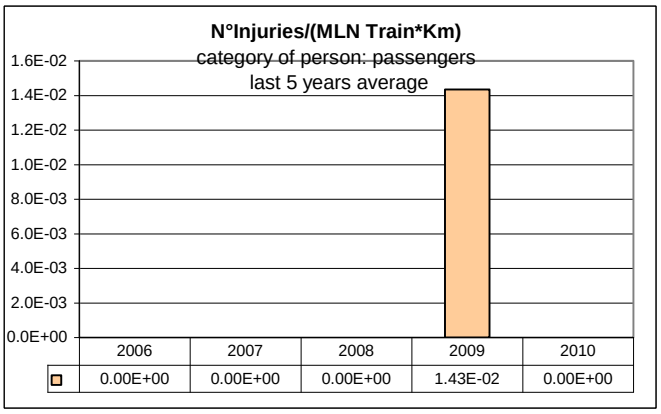
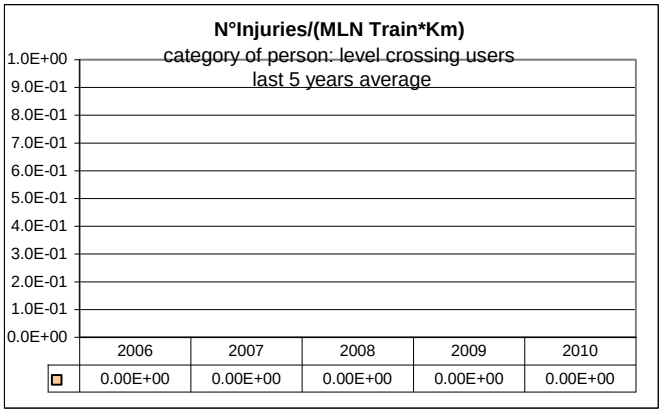
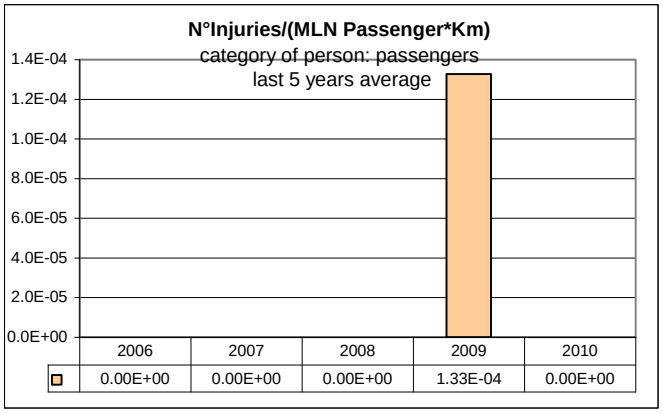
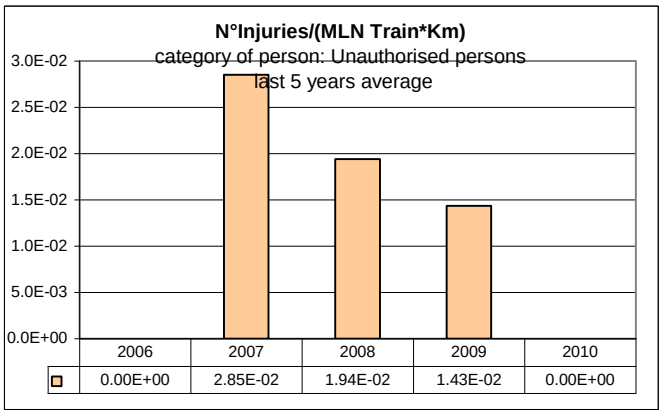
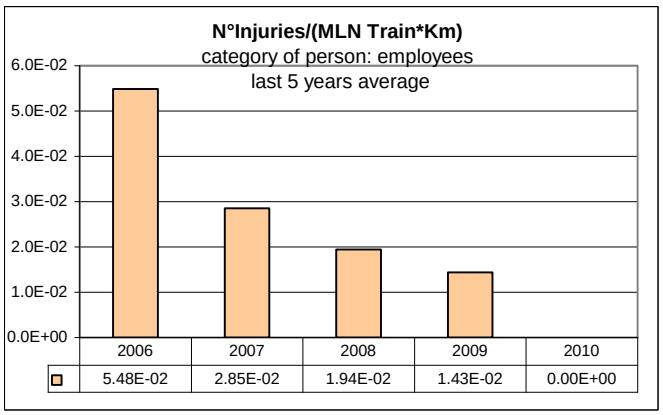
Injuries divided by category of people involved

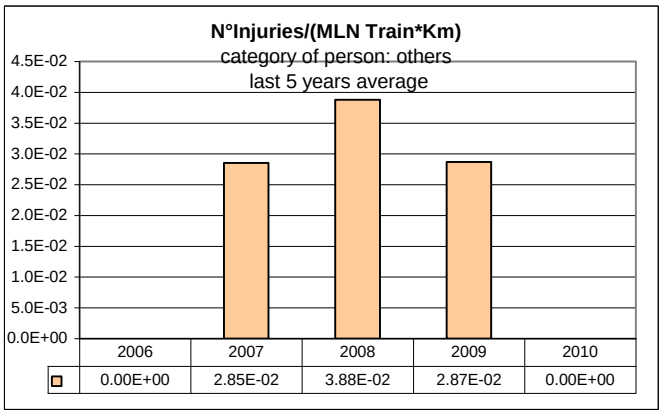












2007 report: values related to 2006.
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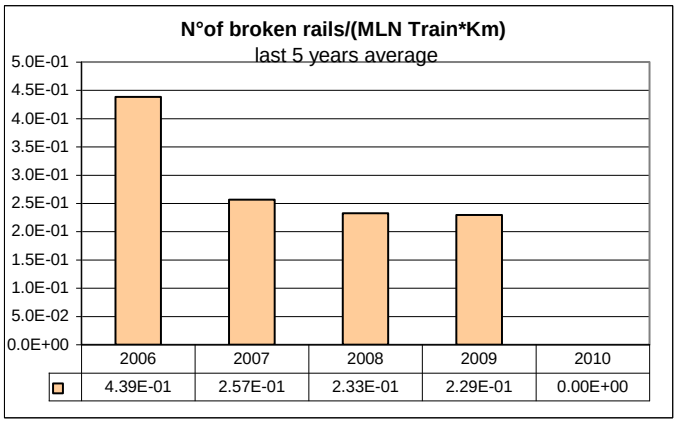
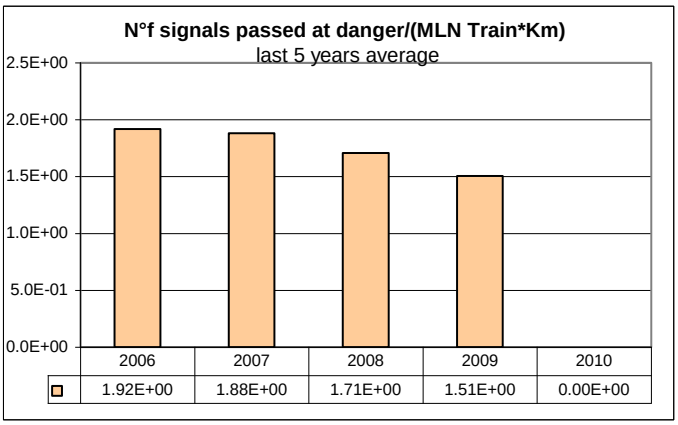
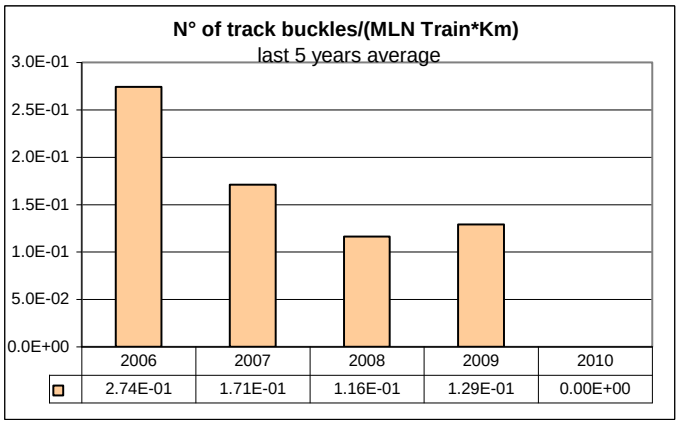
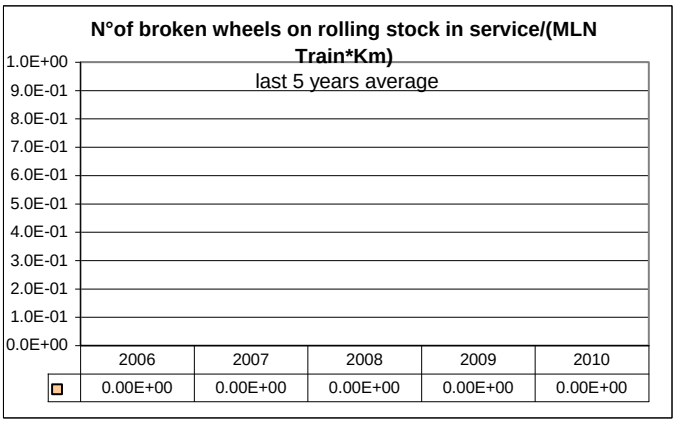
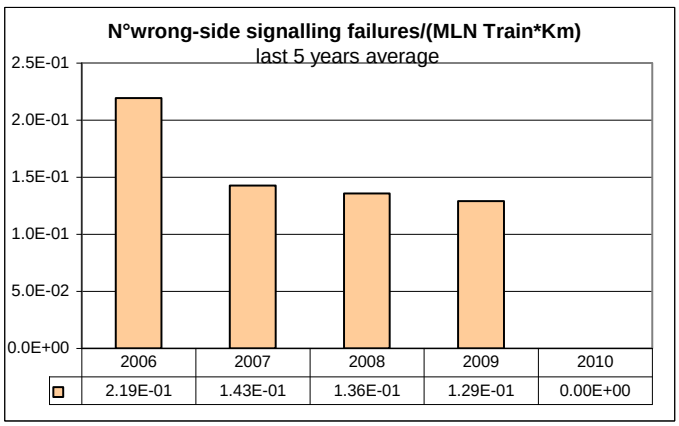
Precursors to accidents

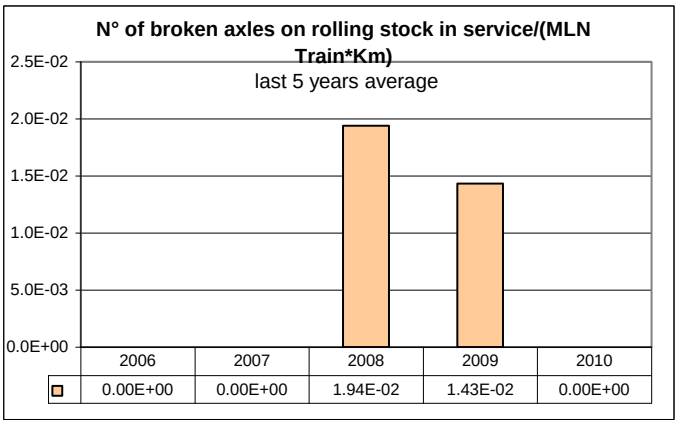












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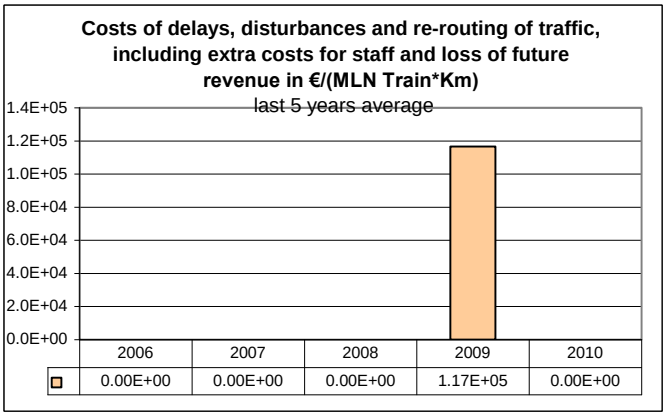
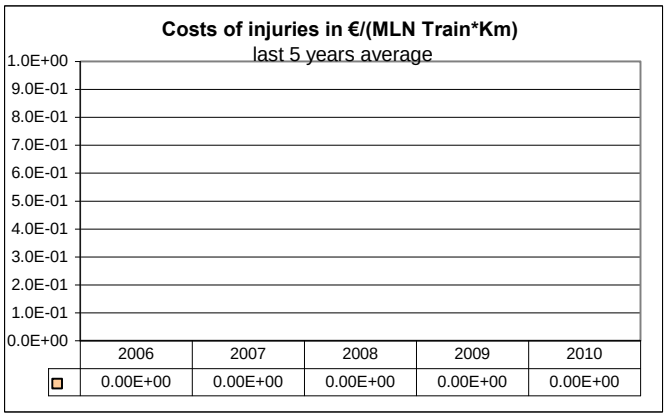
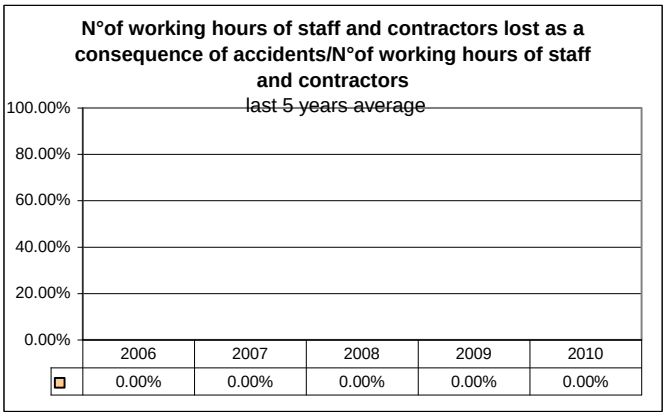
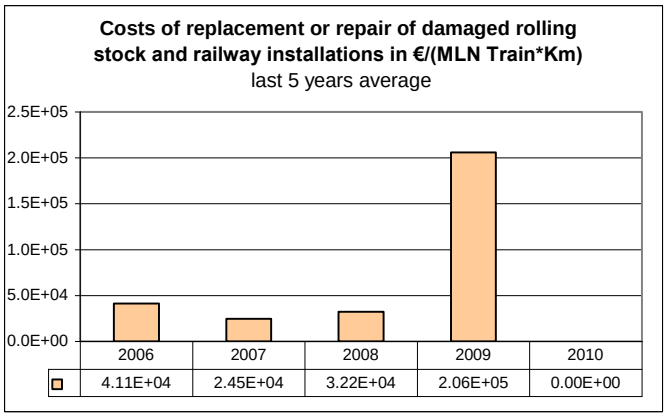
Cost of all accidents, number of working hours of staff and contractors lost as a consequence of accidents









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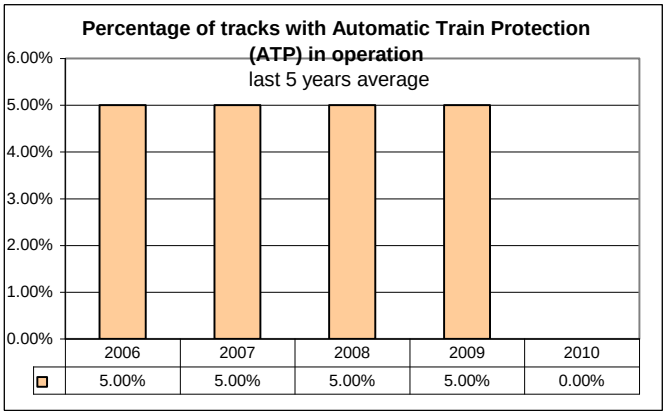

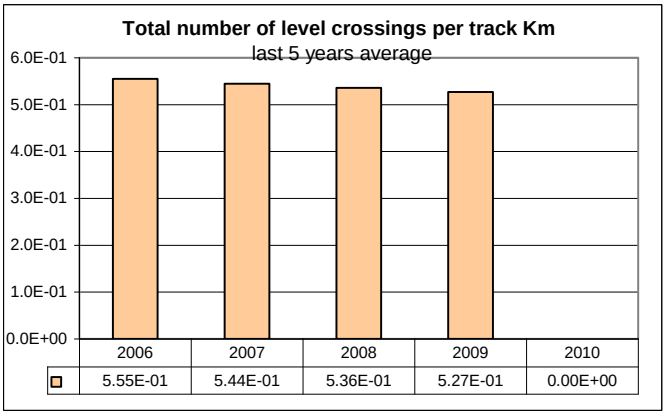

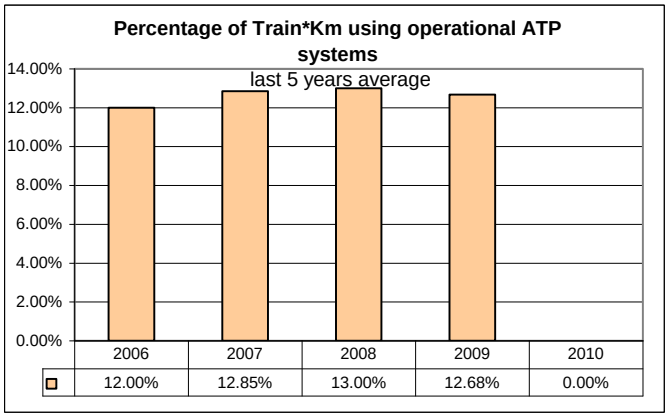

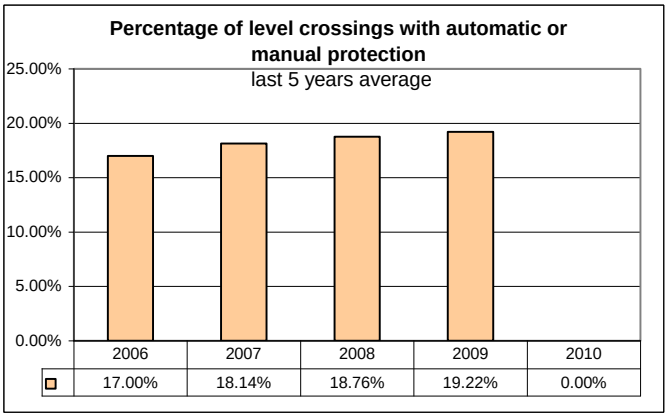

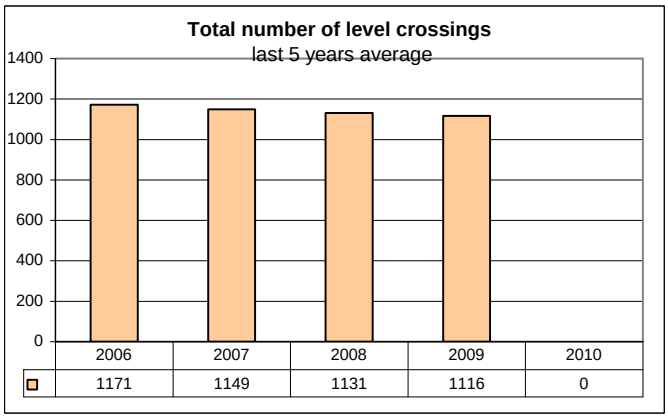

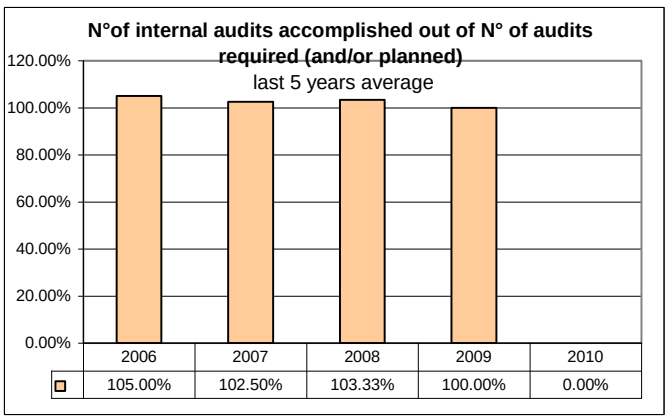

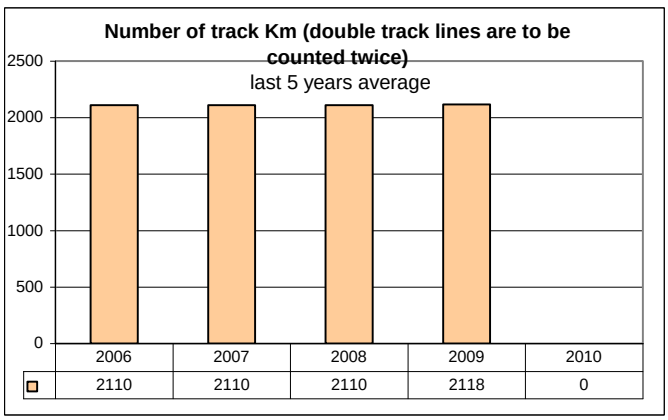

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2009 report: values related to the average among 2006, 2007, 2008 and 2009.

C.2. Definitions used in the annual report

C.2.1. Definitions to be applied:

The definitions used in this report correspond with the definitions outlined in Annex I to the Directive 2004/49/EC as revised by Directive 2009/149/EC.

C.2.2. National definitions

The original Directive 2004/49/EC lays down in Annex I, point 6:
"Definitions
The reporting authorities may use nationally applied definitions of the indicators and methods for calculation of costs when data according to this Annex are submitted. All definitions and calculation methods in use shall be explained in an Annex to the annual report described in Article 18."

The CSI statistical report to ERA asks for data on suicides and accidental deaths. In regard to 'cause of death', the competent national authority is the Coroner. However, deaths resulting from "accidents to persons caused by rolling stock in motion" do not always result in a Coroner's Verdict of accidental death or suicide.

To avoid 'second-guessing' the Coroner, while maintaining a reasonable level of statistical integrity, the RSC currently reports to ERA as follows:

- deaths with a verdict of 'suicide' or 'open verdict' are collectively reported as 'suicide', and
- deaths with a verdict of 'death by misadventure' or 'accidental death' are collectively reported as 'accidental death'.

C.3. Abbreviations

ATP	Automatic Train Protection;
BLN	10^9
CSI	Common Safety Indicator
ERA	European Railway Agency
IÉ	Iarnród Éireann – Irish Rail
IM	Infrastructure Manager
HSL	High Speed Line (Definition acc. Directive 96/48/EC);
LC	Level Crossing
MLN	10^6
NIB	National Investigating Body for railway accidents
NSA	National Safety Authorities
RS	Rolling Stock
RSC	Railway Safety Commission
RU	Railway Undertaking

ANNEX D: Important changes in legislation and regulation:

	Legal reference	Date legislation comes into force	Reason for introduction (Additionally specify new law or amendment to existing legislation)	Description
General national railway safety legislation	NONE			
Legislation concerning the national safety authority	NONE			
Legislation concerning notified bodies, assessors, third parties bodies for registration, examination, etc.	NONE			
National rules concerning railway safety				
Rules concerning national safety targets and methods	NONE			
Rules concerning requirements on safety management systems and safety certification of Railway Undertakings	NONE			
Rules concerning requirements on safety management systems and Safety Authorisation of Infrastructure Managers	NONE			
Rules concerning requirements for wagon keepers	NONE			
Rules concerning requirements for maintenance workshops	NONE			
Rules concerning requirements for the authorisation of placing in service and maintenance of new and substantially altered rolling stock, including rules for exchange of rolling stock between Railway Undertakings, registration systems and requirements on testing procedures	NONE			

Common operating rules of the railway network, including rules relating to the signalling and traffic procedures	SI 377 of 2009		European Communities (Working Conditions of Mobile Workers engaged in Interoperable Cross-border Services in the Railway Sector) Regulations 2009	
Rules laying down requirements on additional internal operating rules (company rules) that must be established by the Infrastructure Managers and Railway Undertakings	NONE			
Rules concerning requirements on staff executing safety critical tasks, including selection criteria, medical fitness and vocational training and certification	NONE			
Rules concerning the investigation of the accident and incidents including recommendation	NONE			
Rules concerning requirements for national safety indicators including how to collect and analyse the indicators	NONE			
Rules concerning requirements for autorisation of placing in service the infrastructure (tracks, bridges, tunnels, energy, ATC, radio, signalling, interlocking, level crossing, platforms, etc.)	NONE			

ANNEX E: The development of safety certification and authorisation – Numerical Data

E.1. Safety Certificates according to Directive 2001/14/EC

Number of Safety Certificates issued according to Directive 2001/14/EC, held by Railway Undertakings in year 2009	being licensed in Member State	1
	being licensed in another Member State	0

E.2. Safety Certificates according to Directive 2004/49/EC

		New	Updated / amended	Renewed
E.2.1. Number of valid Safety Certificates Part A held by Railway Undertakings in the year 2009	being registered in Member State	0	0	0
	being registered in another Member State	0	0	0

		New	Updated / amended	Renewed
E.2.2. Number of valid Safety Certificates Part B held by Railway Undertakings in the year 2009	being registered in Member State	0	0	0
	being registered in another Member State	0	0	0

			A	R	P
E.2.3. Number of applications for Safety Certificates Part A submitted by Railway Undertakings in year 2009	being registered in Member State for	new certificates	0	0	0
		updated / amended certificates	0	0	0
		renewed certificates	0	0	0
	being registered in another Member State for	new certificates	0	0	0
		updated / amended certificates	0	0	0
		renewed certificates	0	0	0

			A	R	P
E.2.4. Number of applications for Safety Certificates Part B submitted by Railway Undertakings in year 2009	being registered in Member State for	new certificates	0	0	0
		updated / amended certificates	0	0	0
		renewed certificates	0	0	0
	being registered in another Member State for	new certificates	0	0	0
		updated / amended certificates	0	0	0
		renewed certificates	0	0	0

A = Accepted application, certificate is already issued
R = Rejected applications, no certificate was issued
P = Case is still pending, no certificate was issued so far

E.2.5. List of countries where RUs applying for a Safety Certificate Part B in your Member State have obtained their Safety Certificate Part A:

No application received in 2009.

E.3. Safety Authorisations according to Directive 2004/49/EC

	New	Updated / amended	Renewed
E.3.1. Number of valid Safety Authorisations held by Infrastructure Managers in the year 2009 being registered in your Member State	0	0	0

		A	R	P
E.3.2. Number of applications for Safety Authorisations submitted by Infrastructure Managers in year 2009 being registered in your Member State	new authorisations	0	0	0
	updated / amended authorisations	0	0	0
	renewed authorisations	0	0	0

A = Accepted application, authorisation is already issued
R = Rejected applications, no authorisation was issued
P = Case is still pending, no authorisation was issued so far

E.4. Procedural aspects – Safety Certificates part A

		New	Updated / amended	Renewed
Mean time after having received all necessary information between the receipt of an application and the final delivery of a Safety Certificate Part A in year 2009 for Railway Undertakings	being registered in your Member State	0	0	0
	being registered in another Member State	0	0	0

E.5. Procedural aspects – Safety Certificates part B

		New	Updated / amended	Renewed
Mean time after having received all necessary information between the receipt of an application and the final delivery of a Safety Certificate Part B in year 2009 for Railway Undertakings	being registered in your Member State	0	0	0
	being registered in another Member State	0	0	0

E.6. Procedural aspects – Safety Authorisations

		New	Updated / amended	Renewed
Mean time after having received all necessary information between the receipt of an application and the final delivery of a Safety Authorisation in year 2009 for Infrastructure Managers	being registered in your Member State	0	0	0
	being registered in another Member State	0	0	0