

ANNUAL REPORT 2018



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REPORT OF THE COMMISSIONER

TO MINISTER SHANE ROSS,
MINISTER FOR TRANSPORT, TOURISM AND SPORT

Minister,

The Commission for Railway Regulation is pleased to submit its annual report for 2018.

The Commission had a challenging program in 2018 relating to its safety and regulatory functions. These included a range of safety assessments associated with the certification and authorisations required under EU legislation as well as safety supervisory functions on the major regulated entities including audit and inspection planned on a risk-based analysis. We continued to monitor railway organisations implementation of CRR required actions and the recommendations of the Railway Accident Investigation Unit. In addition, the CRR as the monitoring body for the Infrastructure Manager Multi Annual Contract fulfilled all of its functions. Technical support was provided to the Department as required with particular emphasis on the implementation of the EU 4th Railway Package, amendments to the Railway Safety Act 2005 and the potential impact of Brexit on rail transport in Ireland.

In order to fulfil our safety functions the Commission undertook a range of activities relating to conformity, authorisation to place in service, supervision and enforcement. These actions are focused on the continued safe operation of the Irish rail network

In 2018 twelve letters of authorisation relating to the various stages associated with authorisation to place in service were issued by the Commission. These included two Stage Six "Service Operation" authorisations which are issued when the applicant has made available all the required evidence to show that the installation or vehicle has met the full design requirements for all operating modes and the foreseeable degraded operating modes. Of note also was the renewed Safety Certification to Iarnród Éireann-Railway Undertaking and renewed Safety Authorisation to Iarnród Éireann – Infrastructure Manager in March 2018 following a full and detailed assessment of their respective Safety Management Systems.

The Commission carries out supervision and enforcement functions with an emphasis on support, advice, encouragement and when necessary direction.

The supervision activity completed six audits relating to four regulated entities resulting in the identification of 17 minor non-compliances and a further 27 required actions. No major non-compliances were found in 2018. A total of 105 inspections 30% more than in the previous year were also completed. Formal enforcement in the form of Improvement Plan or Improvement Notice after audit or inspection was required in five instances.

The Commission undertook the development of our new Statement of Strategy which was published in 2018. I would like to thank all those individuals and organisations who took the time to engage with us during its development. This important document will guide our work over the coming years.

REPORT OF THE COMMISSIONER

TO MINISTER SHANE ROSS,
MINISTER FOR TRANSPORT, TOURISM AND SPORT

The societal and economic value of both the heavy and light rail networks is clearly evident with the increasing numbers of both heavy and light rail passenger journeys in 2018. The total number of passenger journeys increased to just under 90m an increase of approximately 5.5% in heavy rail use and 11% in light rail use.

The total funding for the functions of the Commission in 2018 was € 2.27m. The Commission continues to receive most of its funding through the annual levy that the CRR places on the entities that are subject to regulation (€1.67m) with the balance received as Grant in Aid from the Department of Transport Tourism and Sport (€0.48m). The levy is allocated based on the level of authorisation and/or supervision that each entity will be subject to in that levy year.

The CRR received 31 representations relating to a range of heavy and light rail infrastructure and operational issues down from 58 in the previous year. All representations received by the CRR were actioned.

A significant deadline in 2018 related to the requirement for all train drivers to be licenced by the 29th October in order to operate on the rail network within the EU. In line with the legal requirements the CRR received applications from Iarnród Éireann-Railway Undertaking and Balfour Beatty Rail Ireland for driver licences. Based on the review and processing of the applications, 540 Train Driver Licences were issued within the required deadline.

As the rail regulator the Commission is the independent monitor of the Multi-Annual Contract between the IÉ Infrastructure Manager and the Minister. The Commission completed the required review and reporting requirements in line with the contract criteria. We also contributed to the review of the current contract which is being undertaken by the Department of Transport, Tourism and Sport.

The Commission in 2018 engaged with stakeholders in relation to Brexit and the Commission's information to relevant stakeholders and the impact of Brexit on EU railway undertaking licensing, driver licensing and certification in the context of EU rules in the field of rail transport.

Railway organisations are required to submit an annual safety report to the CRR by the 30th June each year in regard to the preceding year. While some of the data is provided within the annual report the CRR publishes its Railway Safety Performance in Ireland Report at a later date. The complete report for 2017 has been published and is available on the CRR website www.crr.ie.

The CRR hosted the International Railway Safety Council annual conference in October 2018. The theme of the conference was organisational culture that values safety and was attended by over 230 delegates from 12 different countries.

We continue to ensure that the Commission meets the requirement of the revised Code of Practice for Governance of State Bodies and in 2018 and we finalised new Oversight and Performance Delivery Agreements with the Department.

Any organisation is totally dependent for its success and achievement on the quality and professionalism of its staff. I would therefore like to extend my thanks to each member of the CRR staff and acknowledge their continuing commitment, dedication and hard work throughout the year.

Brian Higginson

Commissioner

COMMISSION FOR RAILWAY REGULATION MANAGEMENT GROUP AND ORGANISATION STRUCTURE

MANAGEMENT TEAM



ORGANISATION CHART

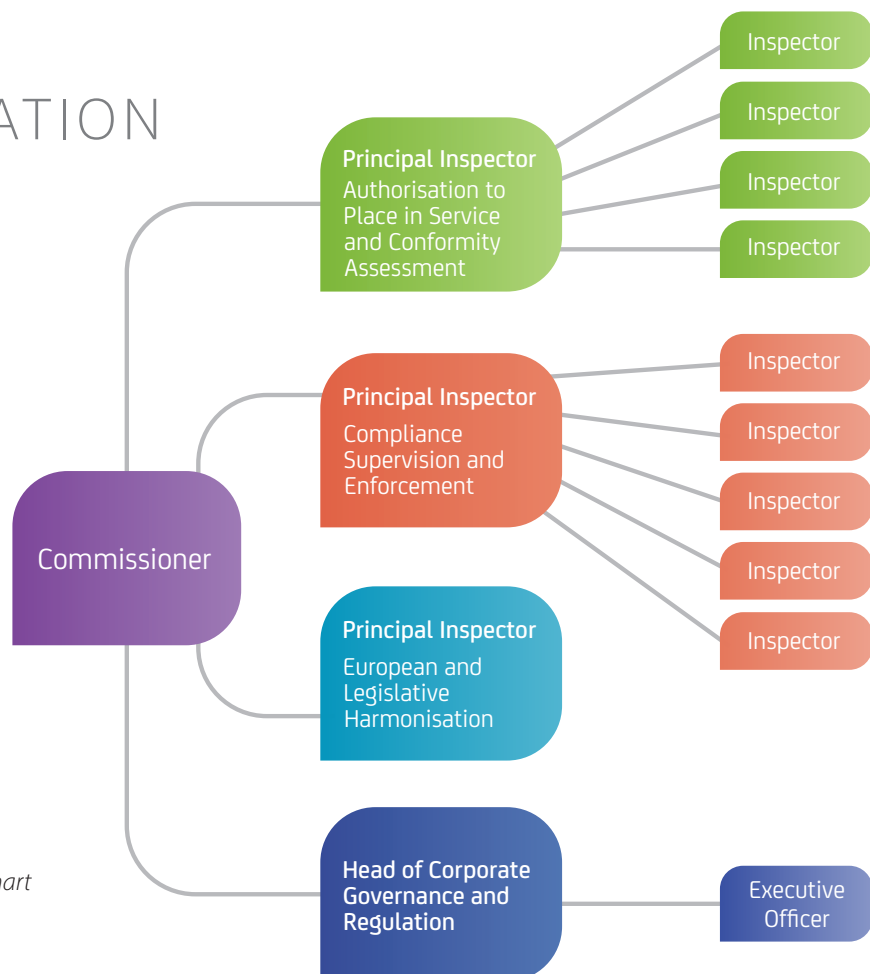


Table 1- CRR Organisational Chart

ROLE OF THE COMMISSION FOR RAILWAY REGULATION

The Commission for Railway Regulation was established on 1st January 2006 under the provisions of the Railway Safety Act (RSA) 2005. In the context of the Railway Safety Directive (EU Directive 2004/49/EC), as reflected in S.I. No.444 of 2013, the CRR is the National Safety Authority for the railway sector in the Republic of Ireland. It is the independent regulatory agency charged with oversight of the safety of heavy and light railway organisations that provided close to 90 million passenger journeys in the State in 2018.

The CRR is required to ensure that each railway organisation operating in the State understands and effectively manages the risk to safety associated with its activities. This is achieved in the following ways:

- **Conformity Assessment** – This involves assessing the Safety Management Systems (SMS) of railway organisations to ensure that they conform to all the EU based legal requirements prior to awarding safety authorisation or safety certification.
- **Authorisation to Place in Service (APIS)** – This involves assessing APIS applications for new or altered railway infrastructure, command control and signalling equipment, energy supply equipment and rolling stock in accordance with National and EU legal provisions.
- **Compliance Supervision & Enforcement** – This involves both audit and inspection for compliance with the procedures and standards prescribed in each SMS approved in conformity assessment, the inspection of railway assets to assess compliance with fitness for purpose criteria, as well as ensuring compliance with safety recommendations through the monitoring of implementation plans and by taking enforcement action where necessary.
- **Entity in Charge of Maintenance** – Providing certification and annual surveillance of entities in charge of maintenance in Ireland in accordance with Commission Regulation EU 445/2011.
- **European & Legislative Harmonisation** - Supporting the harmonisation of legislation with EU Directives and Regulations, and ensuring that the consequent implementation of related technical and procedural measures conforms to mandatory EU requirements.

In terms of EU Directive 2012/34, as reflected in S.I. No.249 of 2015, the CRR is the Regulatory Body, Licensing Authority and Independent Monitoring Body for the heavy rail sector in the State. In this context it has the following additional regulatory functions:

- **Licensing of Railway Undertakings** seeking to access the network.
- **Independent Monitoring of the Multi-Annual Contract** between the Minister and the Infrastructure Manager.
- **Oversight of the Iarnród Éireann track access allocation and pricing regime and adjudication on appeals by Railway Undertakings.**

The CRR is also the Competent Authority designated for:

- The transport of dangerous goods by rail.
- Cableways relating to installations designed to carry persons.
- The oversight and regulation of train driver's certification.

ENTITIES SUBJECT TO REGULATION

The following entities may be subject to regulation by the CRR;

Iarnród Éireann - Infrastructure Manager; Iarnród Éireann – Railway Organisation; Transdev; Balfour Beatty Rail Ireland Limited; NIR Translink; Transport Infrastructure Ireland; Bord na Mona; Belmont Grand Hibernian; Railway Preservation Society of Ireland; Heritage Railways and Cork County Council (Cableway).

In addition in 2018, a new entity Rhomberg Sersa Ireland commenced engagement with the CRR in relation to safety certification.

PASSENGER NUMBERS

Iarnród Éireann

2018 saw continued growth on the Iarnród Éireann rail network with 48 million¹ passenger journeys made, representing an increase of approximately 6%. Dart, Commuter and Inter City services saw passenger journeys increase by 4%, 5% and 8% respectively.

LUAS (Transdev)

2018 also saw continued growth on the LUAS light-rail network with 41.8 million¹ passenger journey made, representing an increase of approximately 11% on 2017. With the opening of the LUAS Cross City (Green Line extension) in December 2017 contributing to the current and expected continued growth in passenger journeys.

Trends in passenger journeys are provided in Appendix 1.

STRATEGY OF THE COMMISSION FOR RAILWAY REGULATION

The Commission for Railway Regulation developed its fifth Statement of Strategy (2018 – 2020) under the Railway Safety Act 2005 in 2018. It has been developed with the participation of staff and in consultation with stakeholders.

In developing this Strategy, the Commission recognised that the regulation of the rail sector continues to develop both at national and European level. This Strategy has been prepared against the background that is challenging in the context of key legislative and policy developments. This includes but is not limited to the implementation of the 4th European Railway Package, the Government's Project Ireland 2040 National Development Plan 2018 – 2027 and Brexit.

In addition, it is expected that the time frame for this Strategy will be a period of continued economic growth and recovery bringing with it increased demands for public transport and increased traffic on the national heavy and light rail systems. The Commission's main aim is to ensure that the national rail infrastructure and the railway organisations in the country operate under effective safety management systems that deliver safe and sustainable rail transport.

¹ : National Transport Authority preliminary figures 2018.

Mission: The CRR is committed to advancing railway safety, the maintenance and further development of high performing and sustainable railway systems and ensuring fair access to the Irish conventional railway network in Ireland through regulation, monitoring, encouragement and promotion.

Vision: Railways that safely deliver.

Objectives:

Priority 1: Ensure continuous improvement in the safety performance of heavy and light railway systems.

Priority 2: Effective monitoring relating to rail infrastructure, access and licencing requirement of the single European network area.

Priority 3: To support government public transport policy initiatives directed at the needs of society and the economy through safe, sustainable and competitive railway transport networks and services.

Priority 4: Ensure industry awareness and understanding of changing national and European railway Regulatory environment.

Priority 5: Be a high performing organisation delivering quality and value in what we do.





REPORT OF PRINCIPAL INSPECTOR - AUTHORISATION TO PLACE IN SERVICE AND CONFORMITY ASSESSMENT

AUTHORISATION TO PLACE IN SERVICE (APIS)

The requirement for the CRR to perform Authorisation to Place in Service on railway systems is mandated by EU and National Legislation. The main EU legal requirements are, the Interoperability Directive 2008/57/EC (IOD), the Railway Safety Directive (RSD) 2004/49/EC and the common safety method for risk evaluation and assessment EU/402/2013. National requirements are governed by the Railway Safety Act 2005 amended by SI 444 of 2013. EU and national requirements apply to the heavy rail system while only national requirements apply to the LUAS light rail system.

Meeting the essential requirements as outlined in IOD Annex III is a pre-requisite for APIS. CRR requirements are underpinned by I.S. EN 50126 – railway applications – the specification and demonstration of reliability, availability, maintainability and safety. This is managed through the system life cycle known as the V-cycle. The V-cycle contains twelve cycles – i) Concept, ii) System Definition and Application Conditions, iii) Risk Analysis, iv) Safety Requirements, v) Apportionment of System Requirements, vi)

Design and Implementation, vii) Manufacture, viii) Installation, ix) System Validation, x) System Acceptance, xi) Operation and Maintenance and xii) De-commission. The CRR guidance RSC-G-009 and RSC-G-032 are designed around the V-cycle and have six Stages. These are::

Stage 1 – Concept (V-cycle i)

Stage 2 – Preliminary Design (V-cycle ii and iii)

Stage 3 – Detailed Design (V-cycle iv, v, vi and vii)

Stage 4 – Testing (V-cycle viii and ix)

Stage 5 – Interim Operation (V-cycle x, xi and xii)

Stage 6 – Service Operation (V-cycle x, xi and xii)

Stage 5 Interim Operation is a stage where the safety of a system has been proven but not all evidence of the stipulated requirements and associated administrative paperwork is available.

APIS - Infrastructure

LUAS Cross City (LCC)

The LCC operated during 2018 under a stage 5 approval, interim operation Letter of Acceptance (LoA). A stage 5 LoA is issued where the safety of an installation or vehicle has been proven but not all evidence of the stipulated requirements is available. Stage 5 interim operation is likely to have timebound conditions attached to operation. Good progress was made during 2018 in closing out the timebound conditions on the LCC stage 5 LoA.

Bridges/Platforms

In 2018 the CRR issued a number of LoAs to IÉ-Infrastructure Manager in relation to new bridge projects.

These projects were:

LoA for detailed design, stage 3

- New railway overbridge which will tie in with the Newcomen Bridge at 2mls 635yds for pedestrian and cycle use on the Connolly to Newcomen Junction line
- New railway underbridge at 77mls 1,370yds Dublin-Galway Line
- New platform at Limerick Junction with pedestrian overbridge including lifts and stairs.

A LoA for interim operation, stage 5, was issued for a new railway underbridge on the Dublin-Cork line at 18mls 880yds.

A LoA for interim operation, stage 5, for use as a construction haul route only, was issued for a new railway overbridge as part of the Enniscorthy bypass at 75mls 1160yds on the Dublin-Rosslare line.

A LoA for interim operation, stage 5, was issued for a new railway overbridge at 1ml 1,105yds Dublin-Sligo line.

The Waterford and Suir Valley heritage railway was issued with a stage 6, full approval LoA for two new platforms at Mount Congreve Gardens and Bilberry.

Cableways

The CRR is the Competent Authority for Cableways under S.I. No. 766 of 2007. This role is fulfilled with respect to Dursey Island Cable Car and the CRR has continued to work with the duty holder, Cork County Council, throughout 2018. This included engagement with Cork County Council to discuss future plans for the cableway and the potential implications of imminent changes to legislation relating to cableways.

APIS - Signalling and Telecommunications

City Centre Re-Signalling Project (CCRP)

The CCRP provides for reduced signalling headways (the time between two trains passing the same location on a railway line at a defined speed profile) and future additional services in the City Centre area and Northern Line corridor. The project is being implemented in four phases.

Phase 1 covers the area between Malahide/Howth and Killester and has been fully approved. Phase 3 covers the area from Tara Street to Sandymount. A stage 6, service operation (full approval) LoA was issued for Phase 3 in December 2018 following an application from the IÉ-IM.

Phase 2 covers the area from Killester to East Wall Junction and has a stage 2, preliminary design LoA. It is expected that a stage 3, detailed design application will be made by the IÉ-IM during 2019 for this phase. Phase 4 covers the Connolly station area and has a stage 3, detailed design LoA.

Global System for Mobile Communications – Railway (GSM-R) Phase 1

This project comprises the replacement of the analogue radio system which is used to provide direct communications between train drivers and controlling signalmen/regulators with GSM-R. Phase 1 is the fitment of GSM-R compatible cab radios to the DART fleet, the construction of GSM-R base stations and antennas along the DART route and related works at the Central Traffic Control centre at Connolly. This project has received stage 5 approval, interim operation. A stage 6, service operation (full approval) application is expected in early 2019.

Iarnród Éireann Hybrid System (IEHS) train protection system

The IEHS train protection system is a replacement for the existing Continuous Automatic Warning System and Automatic Train Protection systems. The first stage of the project is the fitment of three train types with the prototype design and associated track equipment. A later stage will be the rollout over the entire network. The CRR continued to engage with the IÉ-IM during 2018 with the system requirements being drafted by IÉ-IM.

APIS - Rolling Stock

Citadis 502 Trams

The Citadis 502 tram is a 54.7m tram with a carrying capacity of 380 passengers compared to the Citadis 402 tram which is 43.6m long and can carry 320 passengers. Early in 2018 the application process for this project received a stage 4, testing LoA. On satisfactory completion of testing the trams proceeded to interim operation under a stage 5 LoA 2018.

Entity in Charge of Maintenance (ECM)

Entity in charge of maintenance requirements are mandated by the Railway Safety Directive. Each vehicle, before it is placed in service or used on the network, shall have an entity in charge of maintenance assigned to it and in the case of freight wagons this entity must be certified. Freight wagons operating in Europe must be maintained by a certified ECM in accordance with Commission Regulation (EU) No 445/2011. In this context the CRR provide certification and annual surveillance.

The CRR was not required to undertake any ECM activity during 2018.



	Concept	Preliminary Design	Detailed Design	T & C	Interim Operation	Service
APIS Stages	1	2	3	4	5	6
Infrastructure						
LUAS Cross City					√	
Underbridge – Dublin/Galway Line			√			
Overbridge – Connolly/New-comen Jctn Line			√			
Overbridge – Dublin/Sligo line				√		
Underbridge – Dublin/Cork Line				√		
Overbridge – Dublin/Rosslare Line				√		
Limerick Junction platform			√			
WSVR – 2 platforms						√
CCRP – Phase 3						√
CCRP – Phase 3			√			
Rolling Stock						
Citidas 502 Tram				√	√	

Table 1 – Authorisation to place in Service letters issued 2018.

CONFORMITY ASSESSMENT

Conformity Assessment of Safety Management Systems (SMS) are carried out in compliance with the Railway Safety Directive and the Railway Safety Act 2005 amended by SI 444 of 2013. Specific criteria for assessing conformity are detailed in EU Regulation 1158/2010 Safety Certification and EU Regulation 1169/2010 Safety Authorisation.

CRR issued renewed Safety Certification to IÉ-RU and renewed Safety Authorisation to IÉ-IM in March 2018 following assessment of their respective SMSs. The assessment was done in accordance with Commission Regulations EU Nos 1158/2010 and 1169/2010 and took approximately four months, in line with the legislation.

During Q4 2018 the CRR commenced engagement with Balfour Beatty Rail Ireland for renewal of their Safety Certification which must be complete before 22nd February 2019. Good progress was made by the end of 2018 and CRR expects to issue a Safety Certificate before the current certification expires.

In December the CRR commenced engagement with Rhomburg Sersa a new entity due to apply for Safety Certification in 2019.

TRAIN DRIVER LICENSING

The CRR is the competent authority for the purposes on S.I. 399 of 2010 European Communities (Train Drivers Certification) Regulations 2010. Before 29th October 2018 all train drivers were required under EU legislation to hold a valid licence to operate a train on the network. The CRR as the competent authority for the issuing of these licences reviewed and verified the applications and subsequently issued 540 train driver licences.

LICENSING OF RAILWAY UNDERTAKINGS

The CRR was not required to issue any railway undertaking licence in 2018.





REPORT OF PRINCIPAL INSPECTOR - COMPLIANCE SUPERVISION AND ENFORCEMENT

SUPERVISION & ENFORCEMENT

A key activity of the CRR is the supervision of Railway Organisations operating in the state. Every Railway Organisation has a certified Safety Management System (SMS) that documents how they effectively manage the risks to safety associated with its activities. The CRR supervise the continued application and effectiveness of these SMSs. To achieve this the CRR develops multi-annual and/or annual supervision plans for each railway organisation operating in the state. The supervision plans comprise several activities that include;

- Quarterly safety performance review meeting with company senior managers.
- Auditing the railway organisations SMS and associated standards and procedures;
- Sample inspections of the railway organisations assets to ensure that they are fit for purpose.

Additionally, reactive activities such as following up on accidents, incidents, dangerous occurrences,

or public and other third-party representations are undertaken.

Every year the CRR review the safety performance of each railway organisation, including the type and number of accidents, incidents they have suffered, audit and inspection findings, complaints and representations by, or on behalf of staff and passengers. Using this data, together with professional judgement, new supervision plans are developed for the forthcoming year.

These supervision plans are risk based meaning those railway organisations that have greater exposure to risk, by virtue of the size of the operation, can expect more supervision than those who have limited exposure to risk. The CRR adopt the principles for supervision that include, proportionality, consistency, transparency and we work closely with the railway organisations we regulate.

The following sections present an overview of the CRR's supervision activity for 2018.

COMPLIANCE AUDITING (PRO-ACTIVE SUPERVISION)

During 2018, the CRR initiated the audits listed in the following table:

Railway Organisation	Title of Audit	Conducted
BBRI	Accident Investigation & Emergency preparedness	February 2018
IÉ-IM	People & Location Audit - Level Crossing Control Centres	March 2018
IÉ-RU	People & Location Audit – Limerick Rolling Stock Maintenance Depot	March 2018
Transdev	Accident Investigation & Emergency preparedness	June 2018
NI Railways - RU	Train driver – Training & Competence	June 2018
IÉ-IM	An audit of the Signalling, Electrification and Telecoms Department.	September 2018

Table 2: Audits undertaken by the CRR in 2018

Three of the audits initiated in 2018 were also finalised in 2018. In addition, the CRR finalised three audits that were initiated late in 2017. Each of the audits conducted produced outcomes to address findings that arose from the facts ascertained during the audits. CRR inspectors categorise these outcomes depending on the risk they present.

CRR Inspectors use the following classification system for these outcomes.

Major Non Compliance (MaNC): an area of non-compliance with an IÉ internal standard, an applicable external standard, or legislation that is evidence of a system failure.

Minor Non-Compliance (miNC): an area of non-compliance with IÉ internal standards, an applicable external standard, or legislation that is evidence of a sporadic lapse in implementation of a system or deviation from a system.

Action Required (AR): an area where potential exists for a non-compliance to occur unless remedial action is taken, or improvement is made, an isolated error that requires correction, or some other issue where, in the opinion of the auditor action is necessary.

Scope for improvement (SFI): an area highlighted where, in the opinion of the Auditor, system or business improvement can be achieved by the company. Typically, this is phrased as a recommendation, the merits and implementation of which should be decided by the audited organisation.

Good Practice (GP): an area highlighted which, in the opinion of the Auditor, is good practice within the industry.

Audit Trail (AT): an area that the auditor believes should have further attention, either by inclusion in the programme for future audits (but not necessarily an external audit item) or by some other means.

The tables overleaf provide further detail on audit outcomes -

Railway Organisation	Title of Audit	Major Non-Compliance	Minor Non-Compliance	Action Required
Iarnród Éireann-RU	Audit of the STMA of Persons engaged in operations Duties	0	3	1
Transdev - RU	Risk control related to maintenance, materials & Contractors	0	0	2
Iarnród Éireann-RU	Audit of the Management of Shunting Risk	0	6	6

Table 3: CRR Audits initiated in 2017 and finalised in 2018

Railway Organisation	Title of Audit	Major Non-Compliance	Minor Non-Compliance	Action Required
Iarnród Éireann-IM	People & Location Audit - Level Crossing Control Centres	0	3	7
Iarnród Éireann-IM	An audit of the Signalling, electrification and Telecoms Department.	0	3	7
BBRI	Accident Investigation & Emergency preparedness	0	2	4

Table 4: CRR Audits initiated and finalised in 2018

Railway Organisation	Title of Audit	Audit initiated
Iarnród Éireann - RU	Audit of Limerick Rolling Stock Maintenance Depot	March 2018
Transdev - RU	Accident Investigation & Internal Auditing / Monitoring	June 2018
Northern Ireland Railways - RU	Train driver – Training & Competence	June 2018

Table 5: CRR Audits initiated but not finalised in 2018

For those audits that were finalised in 2018, as indicated in the tables above no instances of major non-compliance were identified. Where the audit discovered minor non-compliances with law and/or an approved SMS and the lead Inspector considered there was a risk to the safety of persons, the railway organisations concerned was requested to submit an Improvement Plan, in accordance with the requirements of Section 76 of the Railway Safety Act.

In the vast majority of cases the railway organisations concerned have already implemented or are in the process of implementing the agreed corrective and preventative actions from these audits.

CRR Inspectors also report on identified areas of good practice within the industry. The CRR cited 15 such good practice items in 2018 across several railway organisations including:

- IÉ-RU District Traffic Executives adapted presentations on human factors delivered in other areas of the business and compiled a briefing for Shunting staff.
- IÉ-RU trainers arranged special trains for staff to practice Pilotman working which is a task that is infrequently carried out and therefore introduces risk.
- IÉ-IM encourage the reported of hazards in the LCCCs by providing several different mechanisms to report hazards.
- Alstom (Tram Maintenance Contractor) showed a positive safety culture by awarding a Technician who stopped a job because the correct safety paperwork was not complete.
- IÉ-IM's safety briefing process was considered robust and well documented with the rationale for each update provided and available via the SharePoint portal.

POST INCIDENT INSPECTIONS (Reactive Supervision to Accidents or Incidents)

The CRR operates an on-call 24 hours/day, 364 days/year roster, to respond to accidents, incidents and dangerous occurrences. In 2018 the CRR received a total 62 notifications and mobilised to a number of these either immediately or in the following days

after the event to inspect the site. The majority, 43, related to the IÉ network, 18 occurred on the LUAS network, 1 involved a BBRI On-Track Machine and 1 door fault on a Northern Ireland Railways train.

Tragically, there were 10 fatal occurrences on the IÉ network during 2018 and one fatal occurrence on the LUAS network. The circumstances of all these fatalities indicate apparent self-harm. There were additional incidents that under slightly different conditions could have also resulted in serious consequences, these included:

- Person struck by DART at Lansdowne Road station, 3rd March 2018.
- Person struck by tram at Kylemore Stop, 23rd May 2018.
- Person caught in tram doors and dragged momentarily at Citywest Stop, 22nd August 2018.
- Person struck by train near Navan Road Parkway Station, 21st September 2018.

Incidents notified to the CRR, other than those incidents which are apparent acts of self-harm, were further investigated. In any instance where safety was deemed to be at risk the CRR sought the necessary assurances that mitigation measures had been put in place by the relevant organisation.

INSPECTIONS

An important aspect of the CRR's supervision is Inspectors being out on the operational railway inspecting assets against fitness for purpose criteria and observing railway staff undertaking duties. In 2018 the CRR undertook a total of 105 Inspections which focused on:

- Railway assets with particular reference to rolling stock, stations, level crossings and other structures, e.g., bridges.
- Risk management including the management of change.
- Train operations and event management.
- Light Rail infrastructure, trams and monitoring of LUAS Cross City interface works.

CRR Inspectors also took the opportunity to travel in Iarnród Éireann locomotive and railcar cabs to assess the operations and the condition of the permanent way with 25 such assessments taking place in 2018.

During 2018 the CRR also carried out inspections of all operational self-contained heritage railways, meeting with and discussing the implementation of their safety management systems with company directors/managers.

Outcomes arising from all these inspections are being progressed by the railway organisation concerned, and the CRR is monitoring remediation of all safety critical issues.

ENFORCEMENT

Section 7 of the RSA 2005 provides the CRR with powers of enforcement. These powers range from requesting an Improvement Plan, typically for more minor infringements, to serving an Improvement Notice or Prohibition Notice for more serious non-compliances. The CRR has the power in extreme cases to revoke a Safety Authorisation or Safety Certificate or make an application to the high court to seek an order for restriction or prohibition of operations.

In utilising its powers of enforcement, the CRR, wherever possible, employs the principle of proportionality where the aim is to respond using the appropriate powers in reacting to any failing or apparent failing of a railway organisation. In 2018 the following enforcement measures were initiated by the CRR:

Section 76 of the RSA 2005 – Improvement Plan

1 Improvement Plan was requested following audits:

- CRR Audit of Iarnród Éireann- Infrastructure's Level Crossing Control Centres

4 Improvement Plans were requested following inspections:

- CCR Inspection of the Diffin Lake Railway
- CCR Inspection of the Waterford & Suir Valley Railway
- CCR Inspection of IÉ-RU's management of operational risks

- CCR Inspection of IÉ-IM's Competence Management of Electrical Control Operators

Section 77 of the RSA 2005 – Improvement Notice.

1 extension to an existing Improvement Notice was granted.

- Extension of time granted to Improvement Notice served on Iarnród Éireann, in 2016, relating to their drugs and alcohol policy.

Section 78 of the RSA 2005 - Prohibition Notice

- No Prohibition Notices were served in 2018

IMPLEMENTATION OF AUDIT, INSPECTION AND POST-INCIDENT INSPECTION OUTCOMES

The implementation of corrective actions is monitored by the CRR on an on-going basis. A three-tier status flagging system is applied to monitor the railway organisation progress to closure.

A detailed breakdown for audit outcomes, inspection outcomes and post incident inspection outcomes for each of the principal railway organisations is provided in Appendix 2.

Safety Recommendations made by the Railway Accident Investigation Unit although directed at the railway organisation(s) concerned are in the first instance addressed to the CRR. It is the responsibility of the CRR to ensure that the safety recommendations issued by the RAIU are taken into consideration and acted on by the railway organisations. The status of current safety recommendations issued by the RAIU is detailed in Appendix 3.

OTHER RAILWAY ORGANISATIONS

In addition to Iarnród Éireann and Transdev (LUAS Operator), the CRR also supervise the following railway organisations

Balfour Beatty Rail Ireland

Balfour Beatty Rail Ireland (BBRI), operate and maintain the On-Track-Machine fleet on behalf of Iarnród Éireann – Infrastructure Manager. Their principal activity is track maintenance using bespoke railway vehicles. They do not carry passengers with much of their work being undertaken at night.

BBRI's Accident Investigation & Emergency Preparedness was audited in 2018 and no significant findings were identified. Company executives were also met with on four occasions at which their safety performance was reviewed and discussed.

Bord Na Móna

Bord Na Móna (BNM) own and operate a sizeable industrial railway used for the transport of peat. The CRR supervise BNM where their railway interfaces with public roads, i.e., at level crossings and bridges over/under the railway. BNM were not subject to any CRR supervision activity in 2018.

Heritage Railways

The CRR monitor the operations of a small number of self-contained heritage railways. In 2018 the following heritage railways were operational and subject to supervision.

- Diffin Lake railway, Oakfield, Raphoe, Co Donegal
- Finntown & Glenties Railway, Co Donegal
- Listowel Lartigue Monorail, Co Kerry
- Waterford & Suir Valley Railway (W&SVR)
- Irish Steam Preservation Society, Stradbally, Co Laois
- Lullymore Heritage & Discovery Park Limited, Rathangan, Co Kildare.

All were inspected by the CRR with their infrastructure and rolling stock assets being subject to high level assessment. Their operation of services was also observed, and any identified issues relayed to railway managers. A listing of heritage railways in Ireland can be seen at Appendix 5.

The Railway Preservation Society of Ireland

RPSI is also a railway organisation who operate steam and diesel hauled heritage trains. However, they operate services on the Iarnród Éireann rail network which presents different and additional risks. Furthermore, as a Railway Undertaking (RU) under the EU Railway Safety Directive they are subject to a supervision regime that is commensurate with the risks they import onto the Iarnród Éireann network. As an RU the RPSI has received safety certification based on the acceptability of its Safety Management System, compliance with which is also supervised by the CRR.

The CRR undertook three inspections of the RPSI in 2018, one checking the management of rolling stock maintenance. This involved Inspectors visiting their maintenance facility in Whitehead, Co. Antrim, interviewing personnel and reviewing maintenance documentation. Additionally, two inspections were undertaken reviewing the RPSI's train operations during two of their seasonal events.

INDUSTRY ALERTS

The CRR receives industry safety alerts from the European Union Agency for Railways (EUAR). In 2018 two such safety alerts were received both relating to defects found on freight vehicles operating in mainland Europe. When considered appropriate this information is furnished to all relevant railway organisations operating in the state for their review and action as necessary. Additionally, EU and international accidents are often highlighted to railway organisations to ensure similar occurrences here in Ireland are minimised. For example, following a dangerous occurrence on the Nottingham Tram system in which an empty pushchair became trapped on the outside of a tram, and was then dragged to the next tram stop the CRR sought assurances from Transdev, the operator of the Dublin LUAS trams, that systems are in place to minimise the risk of a similar occurrence on the Dublin network.

REPRESENTATIONS

In 2018, the CRR received 31 representations relating to a range of heavy and light rail infrastructure and operational matters. This was considerably fewer than that received in 2017, (See the graph below for representation trend details). Of the 31 representations received in 2018, 22 related to IÉ infrastructure or operations, 5 to the LUAS system, 2 relating to the Bord Na Móna industrial railway with the remainder being mainly of either a general legislative or network nature.

The CRR gives a high degree of attention to any representation concerning railway safety made by either railway staff, railway passengers, members of the public, or others. The CRR ensures that representations are addressed.

SAFETY PERFORMANCE

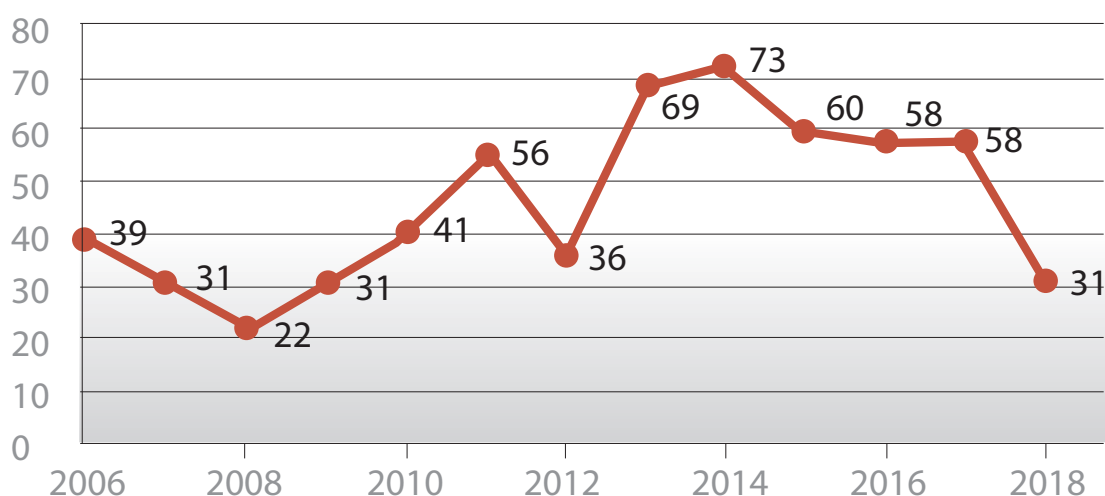
In 2018, 4 safety performance review meetings were held with each of the principal railway organisations, i.e., Iarnród Éireann-Infrastructure, Manager Iarnród Éireann-Railway Undertaking, Transdev, and Balfour Beatty Rail Ireland. Two meetings were held with Northern Ireland Railways and 1 meeting was had with the Railway Preservation Society of Ireland. At these meetings, the railway organisation's 'year-to-date' safety performance is reviewed and discussed. Safety performance indicator data is presented by the railway organisations and detail / explanation is provided when requested. The status of internal investigations is also discussed together with plans and actions taken to prevent reoccurrences. This review process as indicated informs further and future aspects of the CRR's

supervision plans.

The CRR publishes a separate report annually giving a detailed analysis of railway safety performance in Ireland. This report for 2018 as with the previous reports will be published later in the year to facilitate receipt of complete validated year data from all railway organisations.

Some of the safety performance data for railway organisations available at the time of publication of this annual report are presented in Appendix 4.

NUMBER OF PUBLIC/RAILWAY STAFF REPRESENTATION BY YEAR



Graph 1: Representations received by the CRR

STAKEHOLDER SURVEY

The CRR undertook a survey of railway organisation stakeholders in January 2018 which was the second such survey undertaken by the CRR of the sector. The aim of the survey was to gather feedback on CRR supervision activity on railway organisations.

A survey response rate of 87% was achieved. The survey sought the views of railway organisations in 18 specific areas relating to audit and inspection. These included: Audit expectations, usefulness, outcome, proportionality, scope and administration, inspection usefulness: inspection outcome, proportionality and administration as well as common areas including communication effectiveness, consistency, inspector knowledge and experience, degree of supervision, risk targeting and effectiveness in raising awareness of safety.

The comparison with the 2013 survey results broadly align. It is noted that the intervening period has seen many personnel changes in the sector, so it is encouraging to see that railway organisation personnel with whom the CRR interacts most frequently consider that CRR standards have been maintained.





REPORT OF PRINCIPAL INSPECTOR - EUROPEAN AND LEGISLATIVE HARMONISATION

RAILWAY INTEROPERABILITY AND SAFETY IN A SINGLE EU RAILWAY AREA

2018 marked a period of further intense activity in the development of EU law governing railways, particularly the instruments supporting the fourth railway package of EU railway law: this package aims for regulatory convergence combined with the further opening of the market for railway products and services.

The technical and market pillars of the fourth package are represented in three recast railway directives published in 2016 concerning railway safety, railway interoperability and the single railway area. The regulation for the EU Agency for Railways (ERA) was also recast, making it the central authority for the certification of railway undertakings and authorisation of railway vehicles operating internationally (effective from mid-2019) and consolidating its role as the system authority for the European Rail Traffic Management System (ERTMS).

The revised system under the recast directives on railway safety and interoperability must commence on the expected implementation date 16th June 2019, even though many member States, including Ireland, have exercised the option to defer implementation by one year. The revised system will be supported in advance by reformed technical instruments that

facilitate immediate implementation, including common safety methods and technical specifications for interoperability.

To ensure that the industry stakeholders, the Member States and the national safety authorities (NSAs) including the CRR are adequately consulted, an expert group comprised of Member State and industry representatives meets frequently in parallel with the Railway Interoperability and Safety Committee (RISC), to advise on the reformed technical instruments. Drafts proposed by the EU Commission in connection with the technical pillar of the fourth railway package, are intensively scrutinised and amended by the expert group before presentation to the RISC committee for its acceptance.

The CRR also engages with the national stakeholders when forming its submissions on practical matters, particularly regarding technical specifications for interoperability (TSIs). The resulting legal instruments will apply directly in the Member State once the new directives are transposed into national law.

In 2018, the CRR represented the State at five meetings of the expert group, and at the three meetings of the RISC committee.

The CRR actively contributed, both directly and in writing, to the detailed discussions at the expert group and RISC leading to the formation of implementing acts addressing –

- the fees and charges for services rendered by the Agency and the NSAs in relation to applications for international safety certifications and vehicle authorisations;
- the rules of procedure of ERA Board of Appeal;
- the revisions to TSIs, and infrastructure register and vehicle registration specifications, and
- the templates for EC Declarations.

A mandate to ERA on the CSM for assessing the safety level and the safety performance of railway operators at national and Union level was also agreed. An annex of the Driver Certification Directive relating to language requirements was amended by Regulation.

OTHER ASSISTANCE TO THE DEPARTMENT OF TRANSPORT, TOURISM AND SPORT

The CRR contributed its comprehensive observations to the Department of Transport Tourism and Sport in regard to the draft transposition of the revised Single European Railway Area SERA directive into national law.

The CRR also provided objective advice to the DTTAS concerning the revision of the Railway Safety Act 2005, including the need to update the national legislation for the testing of safety critical railway workers for the presence of drugs or alcohol.

CARRIAGE OF DANGEROUS GOODS

The CRR continues to ensure provision of an examination and certification service for dangerous goods safety advisors (DGSA). This service is contracted to the Chartered Institute of Logistics and Transport (CILT), which is a body in the State competent to provide a scheme of approved examinations and to issue vocational training certificates or extended validity certificates. The current contract for the provision of this service is for renewal in 2020. The CILT devises the syllabus, and it sets, arranges and marks annual examinations for DGSAs in line with the individual international conventions on the inland transport of dangerous goods by road (ADR) and rail (RID). There is a common examination format for all papers, except in the case of the mode-specific papers for road and for rail.



REPORT OF HEAD OF GOVERNANCE AND REGULATION

CORPORATE GOVERNANCE AND ADMINISTRATION

The CRR is compliant with the Code of Practice for the Governance of State bodies, as published by the Department of Finance. In 2018 the CRR conducted a review of its policies and practices in line with the Code of Practice for the Governance of State Bodies to ensure this compliance with the code requirements.

FINANCE

Funding for the CRR is provided in part by a Safety Levy on the various railway organisations and in part by an Exchequer Grant.

The Commission, with the consent of the Minister and the Minister for Finance, may make regulations imposing a levy on railway undertakings. The Regulations for 2018 are contained in Statutory Instrument No.114 of 2018. The application of funds by the CRR is illustrated below:

	2017 (€ million)	2018 (€ million)
Budget	2.23	2.377
Exchequer Grant	0.62	0.483
Levy Requirement	1.61	1.69
Operating costs	1.63	*
Surplus	0.60	*

** Full Accounts for 2018 are subject to audit by the Comptroller and Auditor General.*

TOTAL CRR STAFF REMUNERATION

Salary pay scale range		Number of employees	
From	To	2017	2018
€60,000	€69,999	6	8
€70,000	€79,999	-	-
€80,000	€89,999	1	0
€90,000	€99,999	3	2
€100,000	€109,999	-	2
€110,000	€119,999	-	-
€120,000	€129,999	-	-
€130,000	€139,999	1	1

A breakdown of total employee remuneration over €60,000, in increments of €10,000 is disclosed pursuant to DPER circular 13/2014.

In 2018 the CEO remuneration was €139,420.

COMPREHENSIVE REPORT TO THE MINISTER

As Commissioner I acknowledge the Commission for Railway Regulation's responsibility for ensuring that an effective system of internal control is maintained and operated. This responsibility takes account of the requirements of the Code of Practice for the Governance of State Bodies (2016).

The system of internal control is designed to manage risk to a tolerable level rather than to eliminate it. The system can therefore only provide reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded, and that material errors or irregularities are either prevented or detected in a timely way.

The system of internal control, which accords with guidance issued by the Department of Public Expenditure and Reform has been in place in the Commission for the year ended 31 December 2018

and up to the date of approval of the financial statements.

The Commission has a risk management policy which sets out its risk appetite, the risk management processes in place and details the roles and responsibilities of staff in relation to risk. The policy is available to all staff who may alert management on emerging risks and control weaknesses.

The Commission has implemented a risk management system which identifies and reports key risks and the management actions being taken to address and, to the extent possible, to mitigate those risks. A risk register is in place which identifies the key risks facing the Commission. These have been identified, evaluated and graded according to their significance. The register is reviewed and updated by the Management Team on a quarterly basis.

I confirm that a control environment containing the following elements is in place:

- procedures for all key business processes have been documented,
- financial responsibilities have been assigned at management level with corresponding accountability,
- there is an appropriate budgeting system with an annual budget which is kept under review by senior management,
- there are systems aimed at ensuring the security of the information and communication technology systems,
- there are systems in place to safeguard the assets, and

I confirm that the following ongoing monitoring systems are in place:

- key risks and related controls have been identified and processes have been put in place to monitor the operation of those key controls and report any identified deficiencies,
- reporting arrangements have been established at all levels where responsibility for financial management has been assigned, and
- there are regular reviews by senior management of periodic and annual performance and financial reports which indicate performance against budgets/forecasts.

I confirm that the Commission has the appropriate procedures in place to ensure compliance with current procurement rules and guidelines. Matters arising regarding controls over procurement are highlighted under internal control issues below.

I confirm that the Commission has procedures to monitor the effectiveness of its risk management and control procedures. The Commission's monitoring and review of the effectiveness of the system of internal control is informed by the work of our internal audit, the external audit and the senior management within the Commission.

A Code of Conduct and Ethics has been put in place for employees.

Government policy on the pay of Chief Executives and all State body employees is being complied with. Details of the salary of the Chief Executive Officer are published in the Annual Report and Financial Statements.

There have been no significant post balance sheet events.

The Commission is compliant with the Government travel policies in all respects, is substantially adhering to the relevant procurement policy and procedures and is compliant with the asset disposal procedures.

The Commission is in compliance with all relevant tax laws.

IRISH LANGUAGE COMMITMENT

The CRR is committed to implementing the relevant parts of the Official Languages Act 2003. CRR signage and stationery are currently in both Irish and English.

FREEDOM OF INFORMATION

The CRR was included among the organisations listed under The Freedom of Information Act 2014 and is committed to conforming to the principles of this Act. In 2018 there were three FOI requests received, two were granted with the response issuing within the statutory timeline. One request was refused as the records requested did not exist.

CUSTOMER CHARTER

The Customer Service charter was updated in 2013 and is available on the CRR's website. This charter describes the level of service a customer can expect to receive from the CRR.

ANNUAL ENERGY EFFICIENCY REPORTING

In 2018 the CRR reported the organisations energy performance in 2017 to the Sustainable Energy Authority of Ireland as required under EU regulations. In 2017 the CRR made savings in energy consumption of 87.9% on the baseline. The CRR continues to work towards improving public sector energy efficiency and will be reporting its performance and fulfilling its legal obligation to report energy data.

CRR GOVERNANCE ARRANGEMENTS WITH DTTAS

In 2018 the CRR signed both the Performance Delivery Agreement and an Oversight Agreement with the Minister for Transport, Tourism and Sport. The CRR meets on a quarterly basis with officials from the DTTAS on governance issues, in line with the Agreements.

STATEMENT OF STRATEGY 2018 – 2020

The CRR submitted its strategy for the years 2018-2020 to the Minister in June 2018. This Statement of Strategy sets out the Commission's mandate, mission, vision, and key priorities to the end of 2020. The strategy was developed in consultation with key stakeholders and the CRR's own staff. It will be the basis of the Commission's activity over this time period and will be implemented through the development of its annual work programme.

MARKET REGULATION FUNCTIONS

In accordance with the initial Multi-Annual Railway Infrastructure Contract dated the 13th June 2014 between the Minister for Transport, Tourism and Sport and Iarnród Éireann (Infrastructure Manager), the Minister appointed the then Railway Safety Commission (RSC) to undertake the roles of the "Railway Regulator" as per the contract.

The Railway Regulator (now the Commission for Railway Regulation) is designated to act as the Independent Monitoring Body to monitor and review the performance of the Infrastructure Manager. The Railway Regulator is required to provide the Minister with a report on the progress made by the Infrastructure Manager in regard to the programme of works and an assessment of the performance of the Infrastructure Manager in delivering infrastructure services as measured against Performance Indicators such as network condition, delay minutes and temporary speed restrictions.

On the 8th March 2018 the CRR issued its IÉ-IM MAC Annual Report for 2017 to the Minister.

Key findings of the report included the following:

- IÉ-IM's planned versus actual spending profile shows an overspend of in the order of €3.23M in Quarter 4.
- In relation to asset condition, SE&T defects remain high, however the inherent nature of SE&T equipment lends itself to a higher proportion of faults in comparison to CCE assets.
- Both CCE and SE&T spending profiles show an overspend for 2017. SE&T recorded an overspend of €2.20M in 2017 and CCE recorded an overspend of €1.74M in 2017.
- Delay minutes attributable to IÉ-IM were within the defined thresholds overall, however connecting services exceeded the annual threshold by 1,951 minutes.
- With regard to service cancellation, the total for 2017 was within the defined threshold, however, Commuter services exceeded the annual threshold for cancellations by 31 services

Throughout 2018 the CRR continued its independent monitoring function in relation to 2018 expenditure and has issued quarterly reports to the Minister.



REPORT UNDER THE PROTECTED DISCLOSURES ACT 2014

Under the Protected Disclosures Act 2014 every public body is required to publish a report on the number of protected disclosures made to the public body in the preceding year and the action taken (if any) in response to the protected disclosures. In 2018 the Head of Administration, in the context of their role as a prescribed person under the Protected Disclosures Act 2014, did not receive any protected disclosures from parties external to the Commission.

INTERNATIONAL RAILWAY SAFETY COUNCIL

The International Railway Safety Council (IRSC) provides a forum for an in-depth exchange of experience and lessons for improving railway safety and is exclusively devoted to railway safety issues. The CRR hosted the IRSC Conference in October 2018, and were supported by DTTAS, Irish Rail, TII, Transdev, NIR Translink and DFINI. The conference was very well attended with delegates and presenters from 24 countries, including Australia, South Korea and Hong Kong as well as many of our European colleagues.

DATA PROTECTION

During 2018, work continued on a programme to develop and update a suite of documents setting out CRR's policy and procedures aimed at ensuring our compliance with the requirements of the current Data Protection legislation and the General Data Protection Regulation (GDPR).



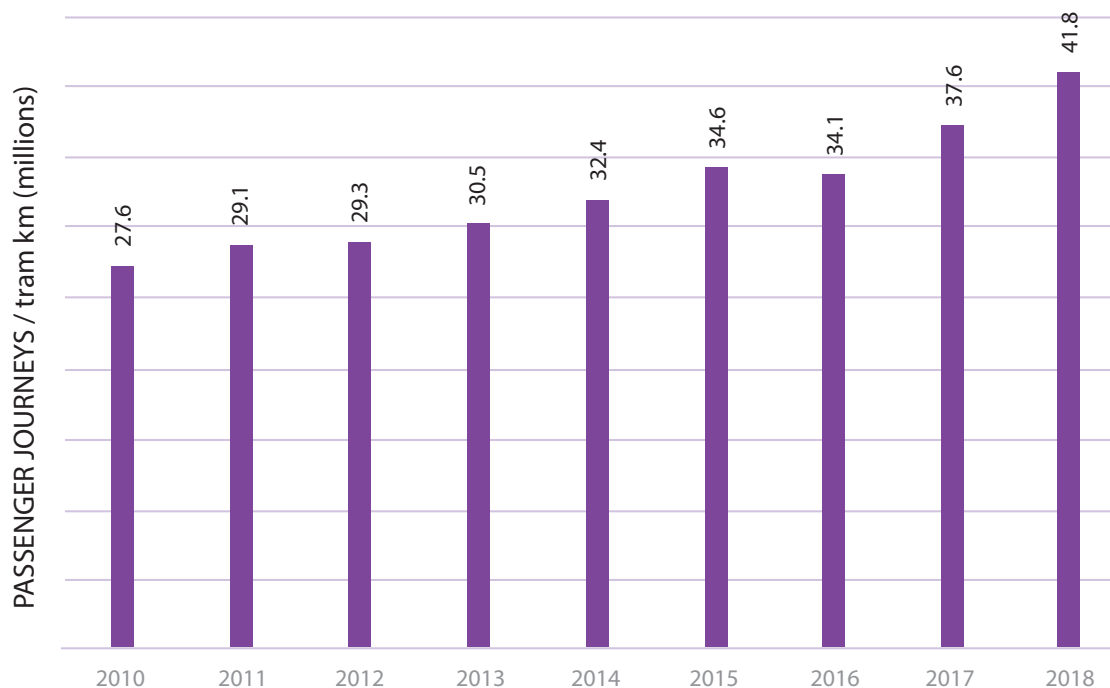
APPENDIXES

APPENDIX 1 - PASSENGER NUMBER ON THE HEAVY AND LIGHT RAIL SYSTEMS 2018

PASSENGER JOURNEYS ON THE IARNRÓD ÉIREANN NETWORK



PASSENGER JOURNEYS ON THE LUAS NETWORK



APPENDIX 2 – (CRR SUPERVISION ACTIVITY OUTCOMES)

The following tables present the status year on year for outcomes made by the CRR during its supervision activities. The current status, in terms of number of outcomes is shown in the 2018 rows.

CRR Audit Outcomes							
Railway Organisation	Status at	OPEN		COMPLETE		CLOSED	
		AR's	NC's	AR's	NC's	AR's	NC's
IÉ-IM	2014	100	40	0	0	127	23
	2015	33	16	0	0	194	49
	2016	6	3	5	5	216	57
	2017	22	10	7	3	221	61
	2018	32	14	3	3	232	64
IÉ-RU	2014	78	28	1	0	12	2
	2015	71	26	1	0	31	6
	2016	18	6	48	16	46	13
	2017	10	1	43	12	64	22
	2018	13	6	37	12	78	23
LUAS	2014	54	6	0	0	2	0
	2015	50	4	0	0	22	3
	2016	22	2	26	2	28	3
	2017	27	5	25	1	29	4
	2018	27	5	22	0	34	5
BBRI	2014	5	4	0	0	0	0
	2015	0	0	0	3	5	1
	2016	1	0	6	1	10	4
	2017	8	4	3	0	15	5
	2018	6	2	7	4	17	5
NIR	2014	2	1	0	0	0	0
	2015	2	1	0	0	0	0
	2016	8	4	0	0	0	0
	2017	8	4	0	0	0	0
	2018	8	4	0	0	0	0

CRR Inspection Outcomes							
Railway Organisation	Status at	OPEN		COMPLETE		CLOSED	
		AR's	NC's	AR's	NC's	AR's	NC's
IÉ-IM	2016	10	2	0	0	0	0
	2017	12	4	0	0	5	3
	2018	28	5	0	0	5	3
IÉ-RU	2016	2	1	0	0	0	0
	2017	14	5	2	1	1	1
	2018	21	4	4	2	8	5
LUAS	2018	1	0	1	0	1	0
NIR	2018	0	0	0	0	1	0

Note: the 2016 figures for IÉ-IM have been updated to reflect all activities undertaken in this year.

CRR PII Outcomes							
Railway Organisation	Status at	OPEN		COMPLETE		CLOSED	
		AR's	NC's	AR's	NC's	AR's	NC's
IÉ-IM	2014	27	10	0	0	0	0
	2015	14	3	0	0	13	7
	2016	11	7	2	0	26	9
	2017	11	3	1	0	28	13
	2018	9	0	1	0	35	16
IÉ-RU	2014	6	3	0	0	0	0
	2015	9	4	0	0	2	0
	2016	3	1	6	3	5	1
	2017	0	0	8	4	7	1
	2018	6	2	7	4	8	1
NIR	2016	3	0	0	0	0	0
	2017	0	0	3	0	0	0
	2018	0	0	3	0	0	0

APPENDIX 3 – RAIU RECOMMENDATIONS

Recommendations issued by Railway Accident Investigation Unit on foot of their Investigation Reports.

RAIU Recommendations					
Year	Reports	Open	Complete	Closed	Total
2010	6	1	0	25	26
2011	6	1	3	13	17
2012	3	1	0	12	13
2013	3	1	0	9	10
2014	6	4	1	22	27
2015	2	2	0	2	4
2016	3	11	0	9	20
2017	1	5	0	4	9
2018	1	8	0	0	8
		34	4	96	134



APPENDIX 4 – SAFETY INDICATOR STATISTICS

Category	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	Trend
Railway operations: passenger fatal injuries											
Fatal injury to passenger due to a train accident, not at level crossing	0	0	0	0	0	0	0	0	0	0	
Fatal injury to passenger due to a train accident at level crossing	0	0	0	0	0	0	0	0	0	0	
Fatal injury to passenger travelling on a train, other than in train accident	0	0	0	0	0	0	0	0	0	0	
Fatal injury to passenger attempting to board or alight from train	0	0	0	0	0	0	0	0	0	0	
Railway infrastructure: third party fatal injuries											
Fatal injury to third party at a level crossing involving a train	0	2	0	0	0	0	0	0	0	0	
Fatal injury to third party at a level crossing not involving a train	0	0	0	0	0	0	0	0	0	0	
Fatal injury to employee at a level crossing due to train in motion	0	0	0	0	0	0	0	0	0	0	
Fatal injury to employee due to train in motion (other than at a level crossing)	0	0	0	0	0	0	0	0	0	0	
Fatal injury to employee not due to train in motion	0	0	0	0	0	0	0	0	0	0	
Railway infrastructure: employee fatal injuries											
Fatal injury to employee at a level crossing due to train in motion	0	0	0	0	0	0	0	0	0	0	
Fatal injury to employee due to train in motion (other than at a level crossing)	0	0	0	0	0	0	0	0	0	0	
Fatal injury to employee not due to train in motion	0	0	0	0	0	0	0	0	0	0	
Railway operations: fatal injuries to other persons											
Fatal injury due to train in motion not at level crossing	0	0	0	0	0	0	0	0	0	0	
Fatal injury to customer or visitor, no train involved	0	0	0	0	0	0	0	0	0	0	
Fatal injury involving train in motion on railway or level crossing where trespass or suspicious death was indicated	3	8	7	5	4	6	2	5	9	8	
Railway operations: non fatal injuries to passengers											
Injury to passenger travelling on train due to a railway accident not at level crossing	2	0	0	0	0	0	0	0	0	0	
Injury to passenger travelling on train due to railway accident at level crossing	0	0	0	0	0	0	0	0	0	0	
Injury to passenger attempting to board or alight from train	17	64	46	41	39	45	48	79	57	74	
Injury to passenger travelling on train, other than due to a railway accident	40	28	10	27	43	18	15	31	33	46	
Railway infrastructure: third party non fatal injuries											
Third party at level crossing injury involving a train	0	0	1	2	0	0	0	0	0	1	
Level crossing user injury not involving a train	1	0	2	5	1	0	0	0	0	1	
Railway infrastructure: non fatal injuries to other persons											
Injury to customer or visitor to premises	56	85	113	116	193	205	146	192	321	199	
Injuries to other persons including unauthorised persons	0	0	0	5	3	0	1	2	6	0	
Railway operations: non fatal employee injuries											
Employee lost time injury involving train movement or train accident	13	11	7	13	5	21	3	1	0	13	
Employee lost time injury while working on railway not due to train in motion	31	27	22	32	39	43	32	30	30	13	
Railway infrastructure: non fatal employee injuries											
Employee lost time injury involving train movement or train accident	0	1	2	1	0	0	0	0	0	0	
Employee lost time injury while working on railway not due to train in motion	34	30	23	32	41	25	6	23	22	26	
Employee lost time injury while working at level crossing not due to train in motion	0	0	0	1	1	2	0	3	1	1	
Entity in charge of maintenance and maintenance workshops: non fatal employee injuries											
Employee lost time injury involving tram movement or train accident	1	0	0	0	0	0	0	0	0	0	
Employee lost time injury while working on railway not due to train in motion	21	10	18	10	14	18	13	11	10	12	

Table 1: Iarnród Éireann Fatality & Injury statistics

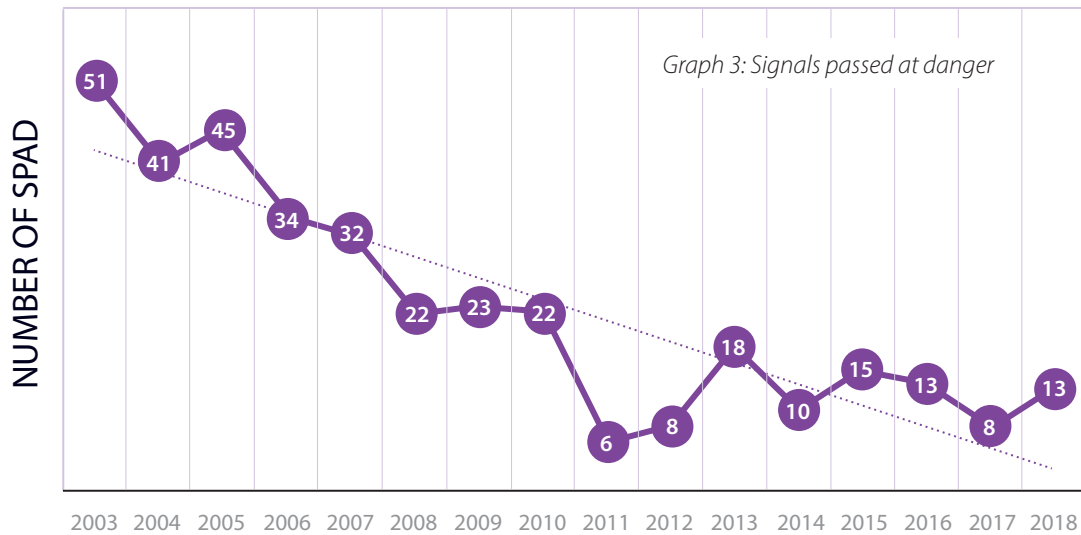
Category	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	
Train collision with passenger or goods train on running line	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Train/railway vehicle collision in station or possession movement	2	0	1	1	0	1	1	0	0	1	1	1	1	1	2	1	10
Train collision with a motor vehicle at a level crossing	1	2	2	1	4	4	0	2	1	2	1	2	0	0	3	1	20
Train collision with pedestrian at a level crossing	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3
Train collision with attended gates at a level crossing	2	4	2	2	2	1	0	1	0	0	0	0	1	0	0	0	10
Train collision with road vehicle obstructing the line (not at a level crossing)	2	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	10
Train collision with other obstacle on the line	4	10	8	5	9	17	10	1	7	6	7	29	1	31	25	113	150
Train collision with large animal(s) on the line	43	40	42	43	42	33	20	24	35	26	29	9	29	35	23	4	250
TOTAL	54	56	55	53	58	56	31	29	43	36	39	41	33	68	53	119	500

Table 2: Train collision statistics by year by category

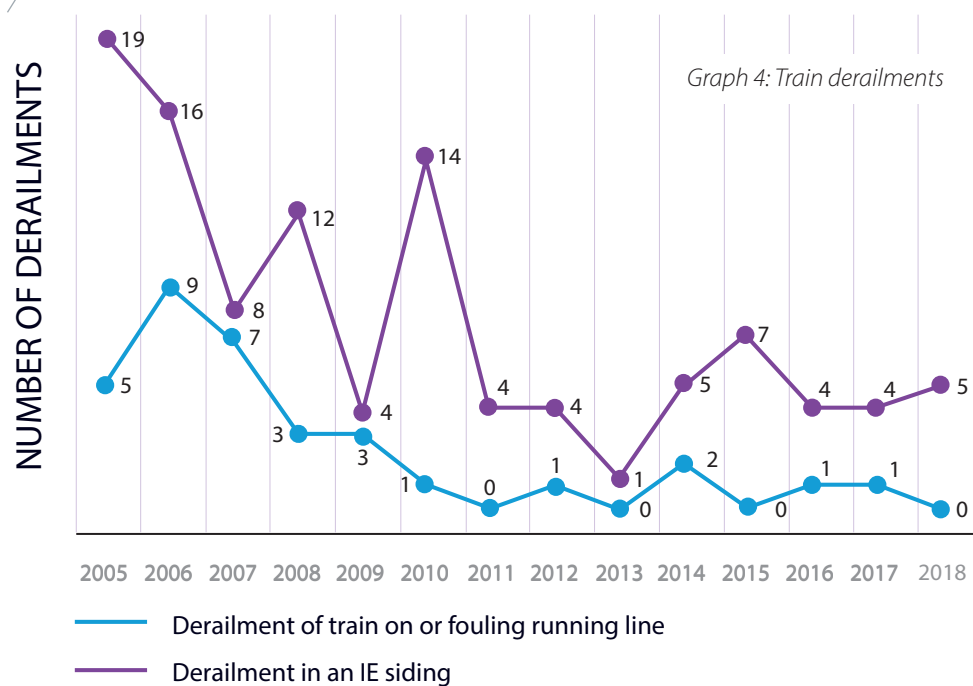


Signals Passed At Danger (SPADs)

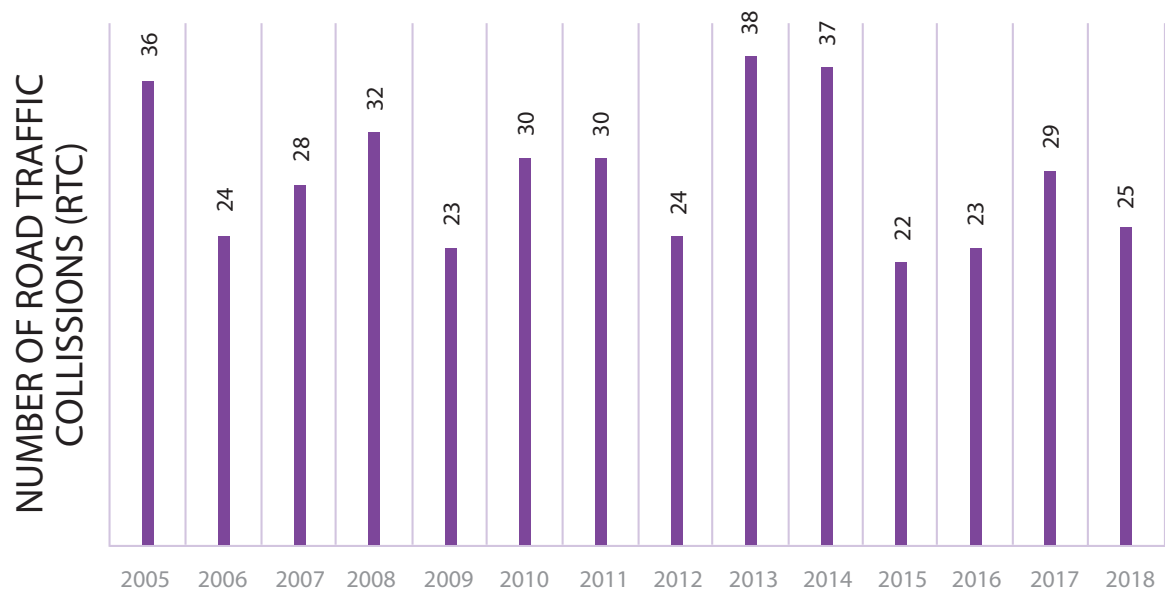
A SPAD is defined as having occurred when a train passes a stop (red) signal without authority. SPADs are a particular precursor event that the CRR monitors at its supervisory meetings with IÉ. The trend in recent years has been a steady decline albeit there was an increase in 2018.



Train derailments



LUAS - Road traffic Accidents (Collisions) involving trams



Graph 5: Road traffic Accidents (Collisions) involving trams by year



Tram derailments

Tram derailments remain at low levels albeit there were three reported in 2018. Graph 7 illustrates the history of derailments since operation commenced back in 2005.

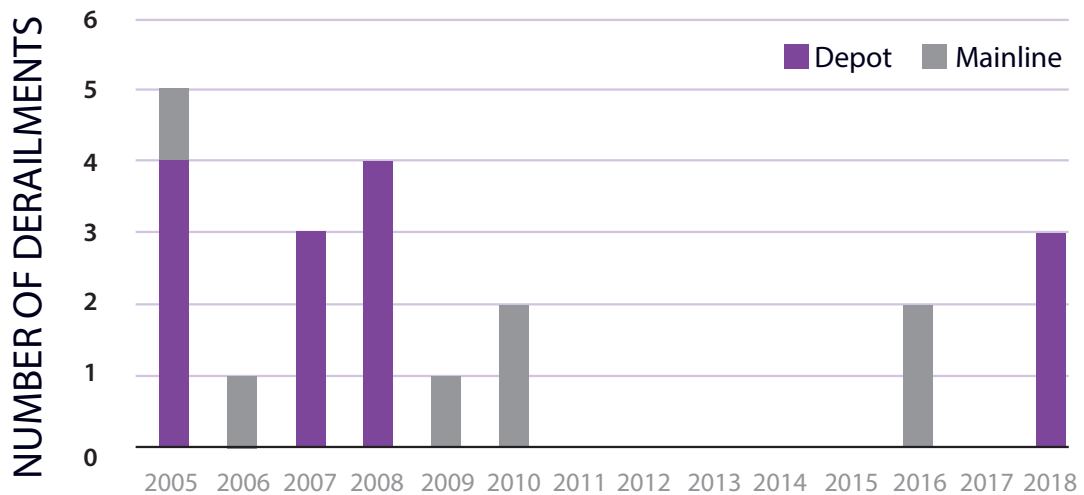


Figure 7 – LUAS derailments

Statistics re: safety performance

In 2018 BBRI had just one reportable occurrence which was an improvement on preceding years. This reportable occurrence was a SPAD event near Tipperary Station involving an On Track Machine. There were no injuries and no damage to either the machine or the infrastructure.

In 2018 BNM reported no occurrences to the CRR.

There were no reported occurrences by the Railway Preservation Society of Ireland nor at any of the operational heritage railway in 2018.



APPENDIX 5 – HERITAGE RAILWAYS

Heritage Railways with a current Safety Certificate

Difflin Light Railway Oakfield Park Raphoe Co Donegal	The Difflin Light railway is a private narrow-gauge railway, 4.5km long, in the grounds of Oakfield Park Demnse, Raphoe, Co Donegal. The line runs through a variety of landscaped gardens with features which include, lawns, lakes, woods, meadows and streams.
Cumann Traenach na Gaeltachta Láir Fintown Co Donegal	Cumann Traenach na Gaeltacht Lair is a narrow-gauge railway 4.8km long. The railway runs from Fintown to a point known as a 'Head of Lake'. The railway is a community owned project funded by Government and open to the public on specified dates.
Irish Steam Preservation Society Narrow Gauge Railway Stradbally Co Laoise	The Irish Steam Preservation Society Narrow Gauge Railway marketed as the Stradbally Woodland Express is located in the woodlands of Stradbally Hall Estate through a lease agreement with the landlord. It is a narrow gauge railway 800m long. The railway is operated for heritage and leisure purposes by volunteers.
Lartigue Mono Railway John B Keane Road Listowel Co Kerry	The Lartigue Mono Railway, LMR, is located on the John B. Keane Road, Listowel, Co. Kerry. Three distinct areas make up the railway, these are, the Main site, the Museum and the Original site. Within the main site is located the railway itself. The Museum section consists of the entrance to the site, the car park and the Museum building. To the rear of the car park is to be found the Original site where the Lartigue of 1886 was located the remains of which have been unearthed.
Lullymore Heritage & Discovery Park Ltd, Lullymore Rathangan Co Kildare	Lullymore Heritage Railway is a 1km looped journey through rehabilitating cutaway peatlands in Lullymore Heritage & Discovery Park Ltd, Rathangan, Co Kildare.
Waterford and Suir Valley Railway Kilmeadan Station Kilmeadan Co Waterford	The Waterford and Suir Valley Railway is a narrow-gauge railway between Kilmeadan Station and Bilberry, Waterford city. It runs on a section of the abandoned Waterford to Mallow railway line. The length of the railway is 10km. The Company is overseen by a voluntary Board of Directors.

APPENDIX 5 – HERITAGE RAILWAYS


Heritage Railways that do not hold a current Safety Certificate

Cavan & Leitrim Railway Dromod Co Leitrim	The Cavan & Leitrim Railway is a narrow-gauge railway 0.8km long. The railway runs from Dromod station to a point approximately 90 meters from the Mohill-Dromod road on the original track of the Cavan & Leitrim Railway.
Tralee-Dingle Steam Railway Co Ltd Town Hall Prince's Quay Tralee Co Kerry	The Tralee-Dingle Railway is a narrow-gauge railway of 3km in length and runs from Ballyard Station at Tralee to Blennerville Station. The railway runs along the line of the closed Tralee to Dingle railway line.
West Clare Railway Co Ltd Moyasta Junction Kilrush	The West Clare Railway is a narrow-gauge railway, operating over 4km of track. The railway is centred on the former station at Moyasta, near Kilrush Co Clare where the original station house has been restored to a museum. The line in use runs over the original track bed of the West Clare Railway.



Notes

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