

AN COIMISIÚN UM RIALÁIL IARNRÓID
COMMISSION FOR RAILWAY REGULATION

ANNUAL REPORT 2021



Commission for Railway Regulation
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REPORT OF THE COMMISSIONER



To Minister Eamon Ryan,
Minister for Transport

Minister,

The Commission for Railway Regulation (CRR) is pleased to submit its annual report for 2021.

It was anticipated that 2021 would be a challenging year as COVID restrictions continued to be in place and there was a lack of certainty as to how this restriction would further develop. As was the case in 2020 I must again, in the context of this 2021 annual report, acknowledge the professionalism and continued dedication of the Commission's staff that ensured that we could continue to fulfil our functions, while fully complying with the public health information and Government restrictions, implemented to control the virus spread. This required a significant change to the work environment, and the way in which our work had previously been done and may be done into the future. I extend my thanks to each member of the CRR staff and acknowledge their continuing commitment, and hard work throughout the year.

The CRR had a full programme of work planned to ensure that it covered the full scope of its responsibility as detailed in the Role of the Commission section of this report. In the planning for 2021 we took account of the learnings from the challenges in 2020.

The CRR fulfilled all its key responsibilities in the areas of conformity assessment, authorisation to place in service, train driver licencing, supervision, and enforcement. These key responsibilities are focused on ensuring the continued safe operation of the railway and tramway networks in the State. We also fulfilled our regulatory functions including the licensing of undertakings, monitoring of the Infrastructure Managers Multi Annual Contract with the Minister, review of the Iarnród Éireann Network Statement and commenced a more detailed engagement on track access charges.

In relation to the national rail systems the CRR issued 18 letters of acceptance under its authorisation to place in service function which related to subsystems, infrastructure, signalling and rolling stock. These included the concept stage applications for DART+ West and DART+ South West, as well as a stage 6 service operation for the Decision Support System at user worked level crossings.

All train drivers are required under EU legislation to hold a valid licence to operate a train on the network. Train driver's licences are issued by the CRR and in 2021, 35 new licences were issued.

Central to ensuring the safe operation of both the heavy and light rail sectors is an effective and efficient supervision system. For this we have developed a balance of activities based on audits, inspection, post occurrence activity and safety performance meetings. These are directed at all the entities we regulate, and the distribution of the actions is risk based. Our overall approach has an emphasis on support, advice, encouragement and when necessary, enforcement.

Two audits were initiated in 2021. One of these addressed the Iarnród Éireann – Railway Undertaking (IÉ-RU) training and competence of train drivers and the other addressed the Iarnród Éireann – Infrastructure Manager (IÉ-IM) management of civil engineering structures and staff competence.

In addition, a further 119 inspections were initiated. One major non-compliance was identified, which is of note, and 16 minor non compliances were identified. There were 65 instances where the CRR required action by the regulated entity in areas where there was the potential for non-compliance to arise unless remedial action was taken, or improvements were made. Where the regulated entities were required to take corrective actions the closure of these will be monitored on an ongoing basis by the CRR.

The CRR received seven investigation reports from the Railway Accident Investigation Unit (RAIU) in 2021. These reports contained a total of 36 recommendations. Safety recommendations made by the RAIU are typically directed at the railway organisation(s) concerned but are addressed to the CRR as the responsible authority for the oversight of their implementation.

In 2021, the CRR received 47 representations relating to a range of heavy and light rail infrastructure and operational matters all of which received attention. However, the majority, 31, were requests for information from and relevant to other regulatory bodies/agencies rather than complaints about services or safety concerns.

The required annual safety reports from the railway organisations covering 2020 were submitted to the CRR in 2021. The CRR's Safety Performance Report for 2020 is based on these submissions and was published and is now available on our website. The safety related data that is presently available for 2021 is provided within this annual report. While this will be augmented by the full safety data for 2021 in the latter half of 2022 the overall safety performance of the Irish heavy railway sector was broadly positive in 2021, when compared to previous years and European statistics.

The CRR as the Regulatory Body undertook its first detailed review of the IÉ-IM Network Statement to ensure that the statement fulfills the requirements as laid down in SI 249 EU (Regulation of Railways) Regulations 2015. While the CRR is satisfied that IÉ-IM have considered the relevant regulations when compiling and publishing their 2021 Network Statement for the working timetable 2022, a more detailed analysis will continue in 2022.

2021 was the second year of the new Infrastructure Manager Multi-Annual Contract (IMMAC) 2020 – 2024 and the CRR fulfilled all its duties in line with the new contract requirements. As the Independent Monitoring Body for the IMMAC between IÉ-IM and the Minister for Transport the CRR reported on a quarterly basis on the performance indicators within the contract.

New oversight and performance delivery agreements 2021 – 2024, in line with the requirements of the Code of Practice for Governance of State Agencies, were agreed between the CRR and the Department of Transport (DoT).

The total funding for the functions of the CRR in 2021 was €2.465m. The CRR receives most of its funding through the annual levy that it places on the entities that are subject to regulation (€1.619m) with the balance received as Grant in Aid from the DoT (€0.728m). The levy is allocated based on the level of activity the CRR must undertake with each regulated entity to fulfil its functions. Additional fees can also be charged for some of our statutory activities such as DeBo recognition and train driver licencing.

The Commission undertook the development of its sixth Statement of Strategy which was published in 2021. The strategy will assist in the development of our annual work programmes over the next three years, and I would like to thank the stakeholders who took the time to engage with us during its development.

To ensure an understanding and awareness of the continued development of the legal and technical framework governing the operation of the European Rail Network, the CRR were active participants in over 50 meetings chaired by the European Commission, DG-MOVE and the European Railway Agency (ERA).

The CRR continues to ensure that it meets the requirement of the revised Code of Practice for Governance of State Bodies. The Comprehensive Report to the Minister, required by the Code of Practice, is included in section 9 of this report.

The CRR is sanctioned to have 17 staff and at the end of 2021 our staff compliment was 16.

The current operational environment for the CRR is, and will continue to be, one that is challenging and involving significant change. While the impact of the COVID-19 pandemic and the uncertainty and restrictions that it introduces are beginning to ease, and the impact of the public health measures including vaccination are becoming evident, the introduction of the fourth railway package and the significant planned enhancement for public transport, particularly in the areas of heavy and light rail continue to be significant developments.

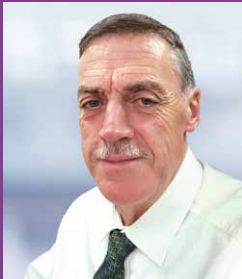
We will continue to meet all these challenges and ensure the CRR, as the National Safety Authority and Railway Regulator, continues to work with the sector and stakeholders, to ensure safe and sustainable rail transport that meets the needs of our society.

Brian Higgisson
Commissioner

ORGANISATIONAL STRUCTURE AND ROLE



Management team and organisational structure



Brian Higginson
Commissioner



Mary Molloy
Principal Inspector
Authorisation to Place in
Service and Conformity
Assessment



Anthony Byrne
Principal Inspector
Compliance Supervision
and Enforcement



Caitríona Keenahan
Head of Corporate
Governance and
Regulation

Inspector	Inspector	Higher Executive Officer
Inspector	Inspector	Executive Officer
Inspector	Inspector	
Inspector	Inspector	
	Inspector	
	Inspector	
	Inspector	
	Inspector	

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. Since it was established, it has been given a range of functions based on both national and European legislation.

Under the Railway Safety Act 2005 the CRR has three principal functions, (a) to foster and encourage railway safety, (b) to enforce this Act and any other legislation relating to railway safety, and (c) to investigate and report on railway accidents and incidents for the purposes of determining compliance with safety management systems and safety targets. These functions relate to both the heavy and light rail.

The responsibilities that the CRR has under legislation relate to three specific areas, heavy rail, light rail, and cableways. Heavy rail refers to the Iarnród Éireann Infrastructure Manager network and the Railway Undertakings that operate on it. Heavy rail is regulated both through the 2005 Act and EU legislation. Light rail refers to the Dublin Light Rail System (LUAS) and is regulated through the 2005 Act, and cableways are regulated through transposed EU legislation.

Heavy and light rail

Commission

The Railway Safety Act No 31 of 2005 (as amended) established the Railway Safety Commission (now the CRR). The Act gave three principal functions, as indicated above, relating to heavy rail, light rail and metros and the powers to fulfil these functions including the use of supervision and enforcement.

In relation to the enforcement of the Act for heavy rail, it should be noted that the issuing of safety certificates and authorisation to place in service fixed installations and vehicles is now covered by European legislation (see below). For light rail the CRR assesses the safety management systems and issues safety certificates required for operation. In addition, the assessment of and acceptance of new works and rolling stock is also undertaken under the 2005 Act.

Heavy rail

National Safety Authority (NSA)

SI 476 EU (Railway Safety) Regulations 2020 gives effect to Council Directive (EU) 2016/798 (Railway Safety Directive) and under this the CRR is established as the national safety authority in the State. This is for the purpose of ensuring compliance with the Directive and these Regulations, including safety certification and authorisation, maintenance of vehicles, supervision, and enforcement.

SI 477 EU (Interoperability of the Rail System) Regulations 2020 gives effect to Council Directive (EU) 2016/797 (Interoperability Directive) and under this the CRR is established as the national safety authority competent for the railway system in the State for the purposes of the Directive and these Regulations including correct implementation of Technical Specification for Interoperability (TSI), placing on the market interoperability constituents and mobile subsystems, authorisation for placing in service fixed installations, upkeep of the national vehicle register, supervision and enforcement.

Certification body for Entities in Charge of Maintenance (ECM)

SI 476 2020 gives effect to Council Directive (EU) 2016/798 (Railway Safety Directive) and under this the CRR is established as the ECM certification body. Certification is carried out in line with Commission Implementing Regulation (EU) 2019/779 which lays down detailed provisions on a system of certification of ECM's.

Regulatory body

SI 249 EU (Regulation of Railways) Regulations 2015 (as amended by SI 398 2020) gives effect to Council Directive EU 2012/34 as amended by EU 2016/2370 on a single European railway area, established the CRR as the regulatory body for the purpose of appeals or complaints relating to infrastructure capacity, access charges, the network statement and monitoring competition.

Independent monitoring body

SI 249 2015 (as amended by SI 398 2020) gives effect to Council Directive EU 2012/34 as amended by EU 2016/2370 established the CRR as the Independent Monitoring Body for the purpose of monitoring the contractual agreement between Iarnród Éireann Infrastructure Manager and the Minister as the competent authority, including monitoring the performance of the Infrastructure manager, arbitrate in the event of dispute, approval of the performance monitoring system, report to the Minister on its monitoring of performance.

Licensing authority

SI 249 2015 (as amended by SI 398 2020) gives effect to Council Directive EU 2012/34 as amended by EU 2016/2370 established the CRR as the licencing authority for the purpose of assessment of licence applications and the issuing of licences to railway undertakings.

Competent authority

SI 399 EU (Train Driver Certification) Regulations 2010 gives effect to Council Directive 2007/59/EC on the certification of train drivers operating locomotives and trains on the railway system in the Community established the CRR as the competent authority for the purpose of assessment of licence applications and the issuing of licences to train drivers, and the recognition of training and examination centres.

SI 651 EC (Transport of Dangerous Goods By Rail) Regulations 2010 (as amended) gives effect to Council Directive 2008/68/EC (as amended) on the inland transport of dangerous goods established the CRR as the competent authority for the purposes of ensuring compliance with Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).

Recognition body

SI 477 2020 gives effect to Council Directive (EU) 2016/797 (Interoperability Directive) and under this the CRR is since October 2020 established as the organisation responsible for the recognition of DeBos in the State.

Cableways

Authorising body

SI 543 EU (Cableway Installations) Regulations 2020 gives effect to Regulation (EU) 2016/424 on cableway installations and established the CRR as the body in the State for authorising construction and entry into service of cableway installations or their modification.

Market surveillance authority

SI 543 of 2020 gives effect to Regulation (EU) 2016/424 of the European Parliament and established the CRR as the market surveillance authority for cableway subsystems and components.

Rail entities subject to regulation

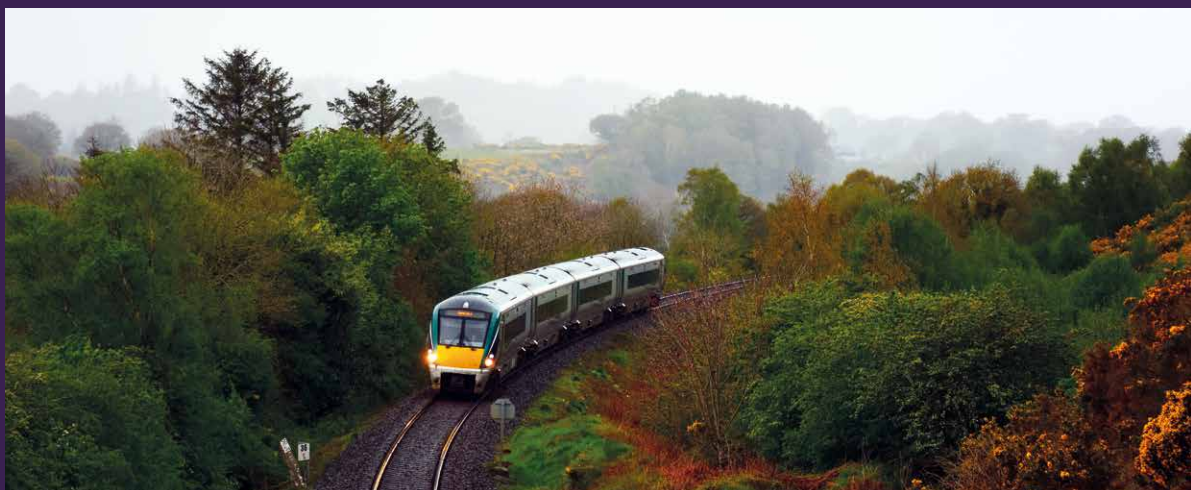
The following entities were subject to regulation by the CRR in 2021:

- Iarnród Éireann – Infrastructure Manager (IÉ-IM)
- Iarnród Éireann – Railway Undertaking (IÉ-RU)
- Transdev (LUAS operator) – Railway Organisation
- Rhomberg Sersa Ireland Limited (RSI)– Railway Undertaking
- Northern Ireland Railways (NIR) Translink– Railway Undertaking
- Transport Infrastructure Ireland (TII) – Railway Organisation
- Bord na Mona (BNM)
- Railway Preservation Society of Ireland (RPSI) – Railway Undertaking
- Heritage Railways.

Passenger numbers

COVID-19 restrictions continued to impact on public transport throughout 2021. Iarnród Éireann have reported 17.41 million passenger journeys, while Transdev have reported 19.5 million passenger journeys in the year.

STRATEGY OF THE COMMISSION FOR RAILWAY REGULATION



The Commission for Railway Regulation developed its sixth Statement of Strategy (2021 – 2024) under the Railway Safety Act 2005 in 2021. It has been developed in consultation with stakeholders and staff.

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 a background that is challenging in the context of key legislative and policy developments. This includes but is not limited to the current COVID pandemic, implementation of the 4th European Railway Package, and the Government's National Development Plan 2018 – 2027.

In the time frame for this Strategy, actions to drive the policy decisions taken by Government, such as those relating to sustainability and reduced carbon emissions will be actively progressing. The development of the rail transport system, recognising the important role that it plays in quality of life, economic activity, and the environment is challenging but of clear importance.

The CRR is conscious of 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 through regulation, monitoring, encouragement, and promotion.

Strategy 2021 – 2024

Mission

The CRR is committed to advancing railway safety, through effective regulation, and by fostering and encouraging the continuous improvement in safety management by railway organisations. It advocates the participation of all stakeholders in the further development of Ireland's rail sector so that it is a safe and efficient mode of transport that benefits our society.

Vision

Safe and sustainable railways that provide efficient and convenient transport for society.

Values

- **Integrity**
We have moral courage, are honest and responsible in our approach
- **Respect**
We respect each other and our stakeholders
- **Independence**
Our decision making is transparent and free from bias and influence
- **Excellence**
We are diligent, professional and strive for continuous improvement.

Strategic priorities

Priority: rail safety

Regulate and promote the continuous improvement of safety performance by railway organisations.

Priority: railway regulation

Effective regulation and monitoring of the Infrastructure Manager in relation to its funding of and expenditure on asset management and network access.

Priority: support to government

To support government public transport policy initiatives directed at the needs of society by ensuring their safe implementation through effective and efficient regulation.

Priority: communication with stakeholders

Promote awareness and understanding of current and emerging risks and developments in national and European railway legislation and guidance.

Priority: our organisation

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 based on EU and National Legislation. The main EU legal requirements are, the Interoperability Directive (EU) 2016/797, the Railway Safety Directive (EU) 2016/798, Commission Implementing Regulation (EU) 2018/545 establishing practical arrangements for vehicle authorisation and the common safety method for risk evaluation and assessment EU/402/2013. National requirements are governed by the Railway Safety Act 2005 amended. 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 (EU) 2016/797 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 for operation but not all evidence of the stipulated requirements and associated administrative paperwork is available.

APIS – Infrastructure

DART+ Programme

The DART+ Programme comprises a series of projects that will create an integrated network for Dublin, expanding the heavy rail electrified commuter network from the existing c.50km to c.150km, with the objective to increase the capacity of the DART network.

DART+ West covers the line to Maynooth and city centre enhancements. Following an application from IÉ-IM a stage 1 – Concept letter of acceptance was issued in August. DART+ Southwest is the line from Heuston to Hazelhatch. A stage 1 – Concept letter of acceptance was issued in September to IÉ-IM following their application.

LUAS Cross City (LCC)

The LCC operated during 2021 under an interim operation letter of acceptance.

One outstanding condition on the stage 5 letter of acceptance which relates to the Midlands and Great Western Railway retaining walls at Phibsboro continues to be in place. During 2021, Transport Infrastructure Ireland progressed the drafting of an operations manual including an alarm response protocol to enable remote monitoring of the retaining walls. In addition, a geotechnical analysis has been performed to understand the groundwater and soil regime resulting in the design of a weephole strategy. This system is expected to be in place by the second quarter of 2022.

Bridges/platforms/stations

In 2021, the CRR issued fifteen letters of acceptance to IÉ-IM in relation to new bridges, platforms and stations projects following review of their applications.

These projects are:

Letters of acceptance for stage 3 – Detailed Design as follows:

- New pedestrian overbridge at Dalkey Station
- New pedestrian overbridge at Gormanston Station
- New station and platforms as part of the Waterford North Quays Development
- Two road overbridges and two pedestrian overbridges as part of the access infrastructure for the Waterford North Quays Development.

Letters of acceptance for stage 5 – Interim Operation as follows:

- New pedestrian overbridge at Ennis Station
- New pedestrian overbridge at Carlow Station
- New overbridge (for use as a haul route) at 149mls 115yds on the Athlone to Westport line as part of the Westport to Boholua road scheme
- New overbridge (for use as a haul route) at 152mls 1100yds on the Athlone to Westport line as part of the Westport to Boholua road scheme
- New station with pedestrian overbridge at Pelletstown on the Dublin to Maynooth line
- New overbridge (for use as a haul route) at 168mls 689yds Cork to Midleton Line
- New pedestrian overbridge at Edgeworthstown Station.

Letter of acceptance for stage 6 – Service Operation as follows:

- New overbridge over Alexandra Road at Dublin Port for the Dublin Port Company.

Decision Support System at User Worked Level Crossings

The Decision Support System at User Worked Level Crossings comprises a set of indicator lights which are connected to train detectors placed on the track to detect a train approaching a level crossing. A warning, by way of a light system is then given to the user. In 2021, a stage 6 – Service Operation letter of acceptance was issued for Phase 1 which comprised eight installations which were installed and commissioned during 2020. As part of Phase 2 of this project, stage 6 – Service Operation letters were also issued for eight more installations.

APIS – Signalling and telecommunications

Global System for Mobile Communications – Railway (GSM-R) phases 2 & 3

In January 2021 the CRR issued a stage 3 – Detailed Design letter of acceptance to the IÉ-IM for the fixed installations part of the GSM-R radio for Phases 2 and 3. The application had been made in 2020. In July a combined stage 4/5 – Testing/Interim Operation application was made to the CRR. Following discussions with the applicant during August/October the applicant advised that they were reducing their submission to a stage 4 – Testing application. The stage 4 – Testing submission was made by the IÉ-IM in December after CRR issues had been satisfactorily addressed.

Iarnród Éireann Train Protection System (TPS) – ETCS Level 1 (Class A)

During the 2nd and 3rd quarter of 2021, IÉ re-evaluated in depth the expected technical performance, time to operational readiness and cost of the TPS project (which was based on a bespoke Irish Train Protection System to be developed to an operating status). Based on this evaluation the IÉ-IM concluded in the 4th Quarter of 2021, that the installation of a generic European ETCS Level 1 (Class A) system would be the preferred solution instead of the TPS.

The project will initially include the fitment of a first section of infrastructure with the associated trackside equipment. A later stage will be the rollout over the entire network with the intention to eventually remove the currently operated (Class B) signalling system.

Despite the existence of generic European ETCS Level 1 system design requirements, such a system permits a significant number of parameters to be selected during its implementation. In order to ensure that any ETCS system equipment from any supplier which will be installed in Ireland, into a vehicle or at trackside, can actually co-operate without costly and time-consuming retrofitting, it is essential that these parameters are predefined in a coherent and future-proven format. In this context a panel of experts from IÉ-IM and the CRR are drafting a set of Irish Railway Standards in order to set parameters for any ETCS signalling system implementations in the State. Once completed, these standards will serve as a basis for efficient implementation of ETCS equipment in Ireland.

In parallel the IÉ-IM made an application to the CRR for a stage 1 – Concept authorisation for the installation of trackside equipment in the section Drogheda to Greystones and Howth. Following review, a stage 1 – Concept letter of acceptance was issued.

APIS – Rolling stock

Iarnród Éireann – additional class 22000 Intercity Diesel Multiple Units (ICDMU)

The ICDMU fleet entered service between 2007 and 2012. These cars were built to UIC Codes, railway group standards and European standards and are therefore not TSI compliant. In 2019, IÉ-RU entered into an agreement with Hyundai-Rotem to supply 41 additional vehicles known as the B2 cars with a provision to extend this build up to 101 vehicles by 2026, to increase the carrying capacity of the ICDMU fleet.

The B2 cars will be based on the design of the existing B1 car and shall be adapted to include necessary engineering changes brought about by legal obligations concerning exhaust emissions and providing suitable alternatives for obsolete or unavailable equipment and material. There will also be internal modifications to increase the carrying capacity.

During 2021, IÉ-RU progressed their submission to the CRR for non-application of TSIs to the new B2 cars under Article 7 of Directive (EU) 2016/797 and Regulation 7 SI 477 of 2020. To justify this non-application, IÉ-RU have submitted justifications to the CRR for each relevant TSI parameter explaining how the alternative provisions proposed by them meet the essential requirements of Directive (EU) 2016/797, including safety, to a similar extent as required by the TSIs. These justifications were reviewed by the CRR.

As the final decision on whether non-application is granted rests with the European Commission the CRR following its assessment will forward the submission to the European Commission in February 2022.

New DART carriages

IÉ-RU and Alstom have concluded a framework agreement allowing for up to 750 new DART carriages to be ordered over a ten-year period. An initial order for 95 carriages comprising six sets of five-carriage conventional electric trains and thirteen sets of five-carriage battery-electric trains was placed.

The trains will deliver off-wire operation through the incorporation of battery-electric technology, enabling new services and new capacity to be provided in the greater Dublin area.

In line with the 4th Railway package the applicant can request that the authorising entity be the European Railway Agency. Where this is the case the CRR, as national safety authority, will be responsible for the assessment of the carriages in relation to their area of use.

Heritage railways

Cavan and Leitrim Railway

A stage 6 – Service Operation letter of acceptance was issued to the Cavan and Leitrim Railway for their Ruston diesel locomotive (LM114) following their submission in 2020.

VeloRail

VeloRail (or Rail Biking) is an outdoor leisure and recreational tourism activity. It consists of pedal powered passenger carts (railbikes) that travel along a closed railway line. There is a development of a velorail system in the vicinity of Kiltimagh, Co Mayo. Because these railbikes will operate across public roads at level crossings the Railway Safety Act 2005 is applicable and the CRR are therefore required to approve their operation. The approval process will involve an assessment of the infrastructure as per guideline CRR-G-34, an assessment of the railbikes as per guidelines CRR-G-055 and assessment of the safety management system for the velorail operation as per guideline CRR-G-022.

Engagement between the CRR and the VeloRail operators IRD Kiltimagh CLG, a community-based organisation located in Kiltimagh, commenced in the second half of 2021. It is anticipated that the system will be operational in 2022 once the approval process has been completed.

For the full list of letters of acceptance issued in 2021 see Appendix 1.

Irish Railway Standards (IRSs)

Irish Railway Standards (IRSs) contain good industry practice and/or National Rules (NRs) on specific technology to the Irish railway system, which is not otherwise contained in national or international standards or legislation. IRSs may within their scope be used as an acceptable national means of compliance. IRSs are developed and maintained with the involvement of all relevant stakeholders. IRSs are published by the CRR on its website on behalf of the Irish railway industry (<https://www.crr.ie/publications/irish-railway-standards/>).

Where a NR is identified within an IRS, prior to publishing, that IRS containing NRs is submitted to the European Union Agency for Railways for their examination and upon agreement of the NR/s, is published on the Reference Document Database (RDD) (<https://rdd.era.europa.eu/rdd/>) and/or Single Rules Database (SRD) if it is required by the operations TSI, TSI-OPE 2019/773.

During 2021, work progressed on drafting IRS-204-A Requirements for analogue Ground-Train Cab Radio for IE (Republic of Ireland) network. The standard is to be published in January 2022.

Guidelines

Updated guidelines

CRR-G-009-G, the Application for Authorisation and Application for Acceptance for Heavy Rail Fixed Installations and Vehicles was published in February. This gives guidance and explanation on the European and Irish legal requirements for authorisation of fixed installations and vehicles.

CRR-G-024-E and its annex which provides a list of parameters and identifies requirements relevant to these parameters to aid the requirements capture process for APIS INF projects. Requirements have been identified for these parameters from relevant TSIs, IRSs, European and International standards and relevant railway and non-railway legislation.

CRR-G-026-C and its annex fulfils the same as CRR-G-024-E except for APIS ENE projects.

CRR-G-030-B, which provides guidance on applying for a single safety certificate, a safety authorisation or a safety management certificate.

CRR-G-031-C, on the Drafting, Reviewing, Publishing and Updating of Irish Railway Standards and Irish National Rules.

CRR-P-010, on the Representation and Appeals Procedure.

New guidelines

CRR-G-055-A, on the Safety Assessment of Velorail Rolling Stock.

CRR-G-054-A, for Applicants for Authorisation of New and Modified Cableway Installations and Funicular Railways.

CRR-G-053-A, for CRR Recognition of Designated Bodies.

Designation of designated bodies

In accordance with S.I. 477 of 2020 Regulation 16(3) the CRR designate the bodies responsible for carrying out the verification procedure in respect of national rules, these bodies are called Designated Bodies. In designating such bodies, the CRR use the recognition process provided in its guideline CRR-G-053-A. For the first time under this statutory instrument the CRR commenced assessment of two applications in the second half of 2021.

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, must 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 may provide certification and annual surveillance.

The CRR was not required to undertake any ECM activity during 2021.

Cableways

The CRR is the Competent Authority for cableways and is responsible for authorising the construction and entry into service of new cableway installations or where significant modification are made to existing cableways.

No such authorisations were required in 2021.

Safety Management System conformity assessment

Conformity Assessment of Safety Management Systems (SMS) is carried out in compliance with the Railway Safety Directive (EU) 2016/798 and the Railway Safety Act 2005 as amended. Specific criteria for assessing conformity are detailed in Regulation (EU) 2018/762

In the second half of 2021 Iarnród Éireann – Infrastructure Manager commenced its pre-engagement with the CRR for the renewal of the authorisation of their safety management system. Their current authorisation expires in March 2022. By the end of 2021 approximately two-thirds of the renewed application had been made to the CRR and assessed.

In March the Waterford and Suir Valley Railway received a renewal of their Safety Management Certificate following assessment of their application.

National rules to operations TSI

Current national rules

The CRR continues to fulfil the requirement to update the existing national rules as previously reported for 2020. The CRR is currently awaiting confirmation from ERA on the outcome of the ERA review of the national rules that have been submitted to it to date.

New national rules

In line with the Railway Safety Directive (RSD) 2018/798 Article 8, the CRR continued to engage with railway organisations in 2021 to construct draft NRs in line with the process as outlined in CRR guidelines. However, the CRR will await a response from ERA for the current national rules already submitted, before progressing further with new draft national rules allowed for in TSI-OPE (EU) 2019/773 Appendix I.

Train driver licensing

The CRR is the competent authority for the purposes of S.I. 399 of 2010 European Communities (Train Drivers Certification) Regulations. All train drivers are required under EU legislation to hold a valid licence to operate a train on the network. Licences are issued subject to the drivers meeting requirements set down in European legislation namely: minimum age, basic education, medical examination, occupational psychological fitness, and general professional competence.

Based on our review and assessment of the applications received from IÉ-RU the CRR issued 35 train driver licences in 2021.

Train driver licences have a validity of 10 years; however, drivers are subject to continuing medical examinations and competency assessment by the Railway Undertaking.

Prescribed body

Under the Planning and Development Act 2001 – 2020 the CRR is a prescribed body where a development may impact on a railway for heavy rail. This includes railway level crossings, under and over bridges, development proximity to the railway or its potential to impact on its structural integrity or endangering or interfering with the safe operation of the railway. This applies both during and after construction. In 2020, the CRR provided observations on 34 of the planning applications it received as a prescribed body.

The CRR noted in 2021 that it was not a prescribed body where a development may impact on a light rail network. The CRR has engaged with the DoT to seek an amendment to the Planning and Development Act to have it included as a prescribed body for such developments.

REPORT OF PRINCIPAL INSPECTOR COMPLIANCE SUPERVISION AND ENFORCEMENT



Supervision activity was impacted again in 2021 owing to the continuing COVID-19 pandemic and restrictions on meeting with railway organisation personnel face-to-face. However, we continued to use technology to our best advantage and while just two audits were largely completed in 2021 a significant number of inspections were completed.

Supervision and enforcement

The supervision of railway organisations is a principal function of the CRR. A Railway Organisation is required to have a certified Safety Management System (SMS) that documents how they manage the risks to safety associated with its activities. It is the CRR's role to supervise the continued application and effectiveness of these SMSs. The CRR do this through frequent interaction with the railway organisations, commensurate with their exposure to risk. CRR inspectors audit them against several European and national requirements checking they are implementing their own standards, processes and procedures and their effectiveness. We also undertake sample inspections of key assets and meeting with company executives to review their safety performance.

Using our previous supervision findings, together with reviewing; the type and number of occurrences (accidents, incidents, and dangerous events) that are attributable to them, their own internal auditing and monitoring regimes and the findings from these, the CRR obtain a picture of the railway organisations safety performance. With this information, together with professional judgement, an annual supervision plan, one for each separate railway organisation, is developed for the coming year.

We employ the ERA principles for supervision, including proportionality, consistency, and transparency together with our own gathered knowledge and understanding of each railway organisation to effectively supervise those we regulate.

The following presents an overview of the CRR's supervision activity for 2021.

Compliance auditing (pro-active supervision)

During 2021, the CRR initiated the audits listed in the following table:

Table 1
Audits undertaken by the CRR in 2021

Railway organisation	Title of audit	Conducted
IE-RU	SMS Audit of Iarnród Éireann-RU – Training and competence of Train Drivers	June 2021
IE-IM	SMS Audit of Iarnród Éireann-IM – Management of Civil Engineering structures and staff competence	August 2021

Neither of the two audits initiated in 2021 were finalised, however both were well advanced at year end. Each of the audits conducted have produced outcomes to address findings that arose. CRR inspectors have commenced engagement with the relevant railway organisations to progress these.

CRR inspectors categorise these outcomes depending on the risk they present, and these are agreed with the railway organisations and their implementation tracked.

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.

In 2021, one major non-compliance was identified. This was in relation to the checking of Train Drivers fitness for duty at the start of their shift. IÉ-RU submitted an Improvement Plan advising the CRR of a number of actions taken/planned to address this and this was accepted by the CRR Inspector.

Inspections

During times of more severe restrictions, CRR inspectors refocused inspection time undertaking asset inspections that could be undertaken adhering to COVID-19 restrictions, i.e., social distancing and working outdoors. Nonetheless, the CRR commenced a total of 109 Inspections which was more than planned for the year but offset the reduced number of audits undertaken. These included looking at:

- Railway assets including rolling stock, stations, level crossings and other structures, e.g., bridges and earthwork structures
- The management of passengers with reduced mobility
- The maintenance of On Track Machines
- Train driver route knowledge and machine competence
- Rail Depot Inspections
- Management of lineside vegetation.

These inspections identified a small number of minor non-compliances with legislation and/or an approved SMS. In such cases the lead inspector considered if there was a risk to the safety of persons. In three cases it was the opinion of the inspector that there was such a risk and therefore necessary to request an Improvement Plan, in accordance with section 76 of the Railway Safety Act 2005.

These related to safe systems of work when grinding rails, gaps in vehicle maintenance records and weaknesses in demonstrating competence of safety critical workers.

In all instances improvement plans were, as required, submitted to the CRR outlining the steps that would be taken to address the identified non-compliances and all were accepted by the reviewing inspector.

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

In 2021, CRR inspectors concluded a total of 119 Inspections across the railway organisations it regulates. Of these 28 were started in 2020 but concluded in 2021.

These resulted in outcomes which are indicated in the table below based on railway organisation and category of outcome.

Table 2
Inspections concluded and outcomes 2021

Railway organisation	No. of inspections	No. of inspections with outcomes	MaNC	miNC	AR	SFI	GP	AT
IE-IM	63	12	0	0	11	5	1	6
IE-RU	23	12	1	7	28	11	3	6
RSIE	4	3	0	4	9	5	0	1
RPSI	4	2	0	0	2	6	0	1
NIR	1	1	0	0	1	0	0	0
TDLR	17	6	0	5	8	1	1	5
BNM	1	1	0	0	6	2	1	0
Heritage	6	1	0	0	0	3	1	0
Totals	119	38	1	16	65	33	7	19

Post occurrence activity (reactive supervision to accidents or incidents)

In 2021, the CRR received 43 formal notifications relating to accidents, incidents or dangerous occurrences and mobilised to a number of these either immediately or in the days following the occurrence to inspect the site/rolling stock involved. A total of 25 related to the IE network, 16 occurred on the LUAS network, 1 involved rolling stock issues belonging to Rhomberg Sersa and 1 involved Bord na Móna operations.

Tragically, in 2021 there were six fatal occurrences on the national railways all of which occurred on the Iarnród Éireann network. The circumstances of four of these fatalities indicate potential self-harm. In the case of the remaining two fatalities, one was due to trespass/misadventure with the final fatality not been attributed to any rail movement but rather the casualty was found adjacent to the railway line.

There was also an attempted act of self-harm on the Dublin LUAS but thankfully the person suffered only minor injury.

Of concern were several occurrences, involving Iarnród Éireann employees and contractors, that under slightly different conditions could have also resulted in loss of life, these included:

- A contractor working under the direction of an Iarnród Éireann Supervisor fell from a Road Rail Vehicle Bucket, 19th May 2021
- A member of Iarnród Éireann Track Engineering staff narrowly avoided being hit by a moving train as they were recording rail temperatures, 21st July 2021
- A train collided with track maintenance equipment and narrowly avoided hitting several engineering staff, 27th August 2021
- The overturning of a Road Rail Vehicle, 28th November 2021.

A number of the above occurrences are solely due to safety rules not being adhered to by staff. This is particularly concerning and CRR inspectors are actively engaging with Iarnród Éireann to review actions they are taking to prevent reoccurrence.

On the Dublin LUAS there was also a dangerous occurrence in which an infrastructure maintenance team unknowingly entered an energised section of the overhead-contact-system (OCS) being put at high risk and this was the subject of an inspection by the CRR.

Incidents notified to the CRR, other than those incidents which are apparent acts of self-harm, were further investigated. The purpose of the CRR's investigations is to check that the railway organisation complied with its safety management system. The role of identifying the cause of the accident/incident rests with the RAIU Unit which is a separate independent body. 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.

In 2021, CRR inspectors concluded a total of 43 Post Occurrence Activities (POA) across the railway organisations it regulates. Of these 16 were started in 2020 but concluded in 2021.

These resulted in outcomes which are indicated in the table below based on railway organisation and category of outcome.

Table 3
Post Occurrence Activity

Railway organisation	No. of POAs	No. of POAs with outcomes	MaNC	miNC	AR	SFI	GP	AT
IE-IM	13	7	0	0	12	4	0	4
IE-RU	12	3	0	2	3	1	0	2
TDLR	16	8	0	4	10	4	0	4
RSIE	1	0	0	0	0	0	0	0
BNM	1	0	0	0	0	0	0	0
Totals	43	18	0	6	25	9	0	10

Furthermore, we undertook a review of the level of post occurrence activity (POA) that the CRR undertakes and an assessment of the outcomes from these activities. This action was linked to the ERA NSA monitoring of the CRR undertaken in 2020. Consequently, procedures relating to POA have been updated such that all POA's are now reviewed to assess the degree of further activity required by the CRR.

Enforcement

Part 7 of the RSA 2005 provides the CRR with powers of enforcement. These powers range from requesting an Improvement Plan, where an activity may involve a risk to the safety of persons, to serving an Improvement Notice for a contravention of the provisions of the Act or a Prohibition Notice where an activity may involve an immediate and substantial risk to the safety of persons. The CRR also has the power in extreme cases to revoke a Safety Authorisation or Safety Certification or make an application to the High Court to seek an order for restriction or prohibition of operations.

CRR inspectors aim to work with railway organisations and seek voluntary compliance rather than immediately instigating enforcement action. We endeavour to be proportionate in our response to findings and failings which is in line with European practice. However, on occasion if risk is present that poses a risk to the safety of persons then it is normal for CRR inspectors to request an Improvement Plan in accordance with section 76 of the Railway Safety Act 2005. In 2021, CRR inspectors requested a total of 8 Improvement Plans from sector organisations. A summary of these is now presented.

Improvement Plans requested in accordance with Section 76 of the RSA 2005

- 1 Improvement Plan was requested from Translink (NIR) following a notifiable occurrence:
 - Door fault onboard a Dublin to Belfast passenger service
- 1 Improvement Plan was requested from IÉ-IM following a notifiable occurrence:
 - Member of staff – fall from RRV bucket while transiting
- 4 Improvement Plans were requested from Transdev following CRR inspections:
 - Tram sanding issues
 - Track walk – Heuston to The Point
 - Possession/isolation breach by tram
 - Sandyford Depot inspection
- 1 Improvement Plan was requested from Transdev following a notifiable occurrence:
 - Maintenance crew entered energised section of OCS
- 1 Improvement Plan was requested from Rhomberg Sersa following a CRR inspection:
 - Rolling stock documentation examinations.

Improvement Notices served in accordance with Section 77 of the RSA 2005

No new notices were served in 2021, however, an extension of time was granted to an existing Improvement Notice served on IÉ-RU, relating to their Drugs and Alcohol policy. IÉ-RU have taken some action, however, what is outstanding is a legislative change that currently rests with the Department of Transport to progress.

Prohibition Notices served in accordance with Section 78 of the RSA 2005

No prohibition notices were served in 2021.

Implementation of audit, inspection, and post occurrence inspection outcomes

Through the course of our supervision activities CRR inspectors ascertain facts that lead to findings which can lead to recommendations (outcomes). Once assigned the implementation of actions to address these outcomes is monitored by the CRR. In 2021, inspectors issued a total of 112 trackable outcomes (Inspections & Post Occurrence Activity), where the CRR inspectors track their implementation. Of these 22 were considered minor non-compliances with legal or SMS requirements and 90 were raised by inspectors when they considered preventative action was necessary.

A breakdown for audit outcomes, inspection outcomes and Post Occurrence Activity outcomes for each of the principal railway organisations made since 2010 is provided in Appendix 3.

RAIU safety recommendations

The RAIU has the function of carrying out investigations of accidents and incidents that occur on the heavy and light railways in Ireland. The purpose of its investigations is to establish cause and not apportion blame. Its reports make safety recommendations which are intended to ensure the avoidance of similar accidents/incidents in the future.

Safety Recommendations made by the RAIU are typically directed at the railway organisation or other third party who may have had a responsibility under legislation. Its recommendations are addressed to the CRR as the responsible national safety authority for the oversight of their implementation. The status of current safety recommendations issued by the RAIU is detailed in Appendix 3.

In 2021, the RAIU issued 7 investigation reports resulting in 36 safety recommendations being addressed to the CRR. These were duly considered and the CRR directed these to the relevant railway organisations or entity best placed to respond to the safety recommendation.

Carriage of dangerous goods by rail

The CRR is the competent authority under Statutory Instrument (SI) 651 (as amended) clause 4(1) EC (Transport of Dangerous Goods by Rail) Regulations 2010.

It performs this function in respect of the transport by rail for a range of dangerous goods, as well as its functions relating to Inspection Bodies for examinations and tests (Regulation 9), and the requirements for the construction and testing of packaging's, intermediate bulk containers (IBCs), large packaging's, tanks, and bulk containers as per Part 6 of the RID.

Under SI 651 clause 9(4) the inspections, tests, and checks, are required to be performed or witnessed by an expert approved by the competent authority, or an inspection body which shall be appointed for that purpose by the competent authority. In 2021, the CRR published CRR-P-027 Procedure for Appointment as an Approved Inspection Body under SI 651 EC (Transport of Dangerous Goods by Rail) Regulations 2010, to facilitate such approval.

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).

Other railway organisations

In addition, the CRR also supervise the following railway organisations.

Rhomberg Sersa Ireland (RSI)

Rhomberg Sersa Ireland completed their second full year of operation in 2021, having taken over the On-Track-Machine (OTM) fleet maintenance and operation contract on behalf of IÉ-IM in July 2019.

RSI had just one reportable incident in 2021. This was following the discovery of a fuel canister becoming detached from a moving OTM. There were no reported injuries, they had no collisions, derailments or SPADs.

RSI did advise the CRR of a dangerous occurrence wherein it had a 'near miss' with a herd of cattle that were being herded across the railway line. It should be noted that OTMs have restricted train speeds. Had a passenger train been approaching at its operational speed then it would not have been able to stop in time.

The CRR undertook 4 inspections on RSI in 2021. These were:

- An inspection of Rolling Stock maintenance/examination documentation;
- An inspection of Kildare Rail depot;
- An inspection of train driver licencing; and
- An inspection of train driver route knowledge and machine competence.

These resulted in several outcomes all of which are being tracked by CRR inspectors.

Bord na Móna

Bord na Móna (BNM) own and operate an industrial railway used for the transport of peat. The CRR supervise BNM where their railway infrastructure interfaces with public roads, i.e., at level crossings and bridges over/under the railway.

As previously reported BNM's milled peat operations are winding down and consequently their level of operation is reducing. Nonetheless, BNM safety performance was subject to review by the CRR.

The CRR were notified of 1 occurrence involving the BNM network. The occurrence took place when a Third-Party Road vehicle collided with level crossing gates (Noggusboy – Drinagh, No. 15-21, on the road from Cloghan to Boora/Blue Ball) in dense fog.

The CRR undertook 1 inspection on Bord na Móna's operation in 2021. This was essentially a mini audit of BNM's management of level crossings and underpasses. This resulted in 6 outcomes all of which are being tracked by an assigned inspector.

Heritage railways

The CRR monitors the operations of a small number of self-contained heritage railways and in 2021 the following heritage railways were 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).

Owing to the continued COVID-19 restrictions in place most heritage railway operators advised the CRR that they were not operating in 2021. Site inspections were however undertaken on the Waterford & Suir Valley Railway, the Diffin Lake Railway and the Finntown & Glenties Railway during the summer of 2021. All were noted to be following all necessary COVID-19 guidelines and only a small number of actions were generated.

Several other heritage railways were contacted, and engagement did take place in respect of reviewing any open points previously identified during inspections.

Railway Preservation Society of Ireland

The Railway Preservation Society of Ireland (RPSI) is the only heritage railway to operate on the IÉ-IM network. RPSI operation was again impacted by COVID-19 in 2021 and the CRR were advised that no public services took place.

Industry alerts

The CRR receives railway sector safety alerts from ERA and the RAIU. In 2021, three safety alerts were received from the ERA.

The first of these related to freight wagons and specifically pocket wagon and their container restraining equipment. This information was shared with IÉ-RU and Northern Ireland Rail (NIR) (Translink) who advised the CRR that they did not have any of this type of freight wagon.

The second related to updated reporting processes of broken wheels by railway undertakings. This information was shared with IÉ-RU and NIR (Translink).

The third safety alert related to damaged wheels due to unintentional brake applications. Again, this was shared with IÉ-RU who advised that it would be briefed to fleet managers and discussed at risk register review meetings.

In March 2021 an Urgent Safety Advice Notice (USAN) was received from the RAIU. This related to safety critical communication on the Dublin Light Rail System. The CRR engaged with Transdev, the LUAS operator, and were provided with evidence that demonstrated that actions had been taken to address identified areas in need of improvement.

Representations

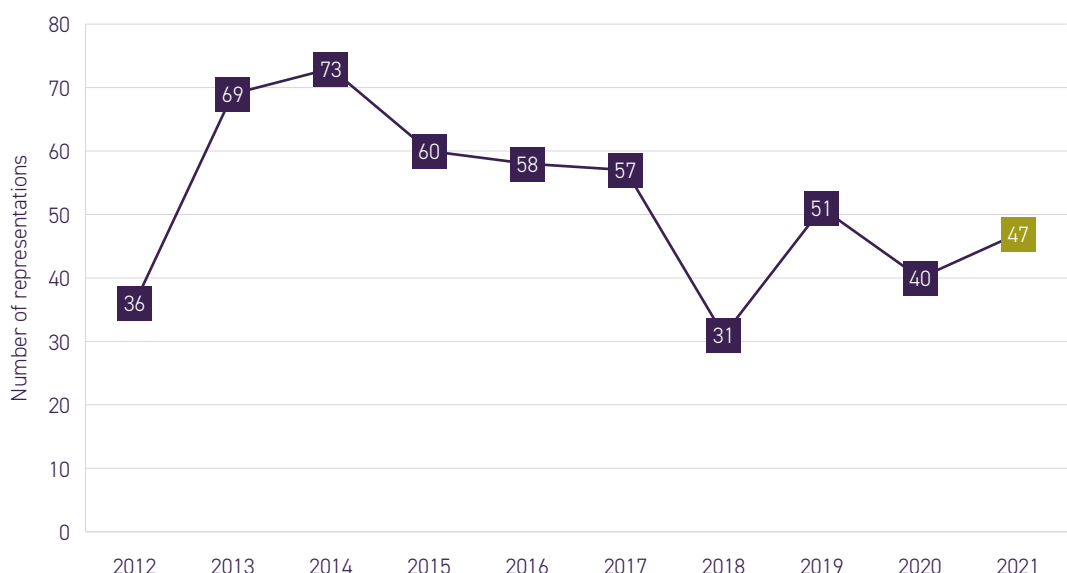
In 2021, the CRR received 47 representations relating to a range of heavy and light rail infrastructure and operational matters. This was a slight increase on the number received in 2020 (40).

Of the 47 representations received in 2021, the majority, 31, were requests for information from other regulatory bodies/agencies rather than complaints about services or safety concerns. Of the remaining 16, 7 related to safety of infrastructure and 9 related to the safety of rolling stock-train operations.

Information requests from other regulatory bodies ranged from requests relating to 'Train Driver Licencing and Training' to the 'use of drones near railways'.

The CRR gives a high degree of attention to any representation concerning railway safety made by railway staff, railway passengers, members of the public, or others. In 2021, only a limited number had potential safety implications, and all were attended to promptly.

Figure 1
Representations
received by the CRR



Safety performance

The CRR engages directly with the senior management of railway organisations in its oversight of their safety performance. This is primarily achieved through regular meetings with company executives to review and discuss numerous safety performance indicators. In 2021, 4 safety performance review meetings were held with IÉ-IM, IÉ-RU, and Transdev. Three meetings were held with RSI, the On-Track-Machine operator, two meetings with NIR (Translink) and one with Bord na Móna. CRR inspectors also met with Transport Infrastructure Ireland (TII) to discuss LUAS safety performance, infrastructure safety concerns and safety initiatives being developed and implemented.

At these meetings, the railway organisations are subject to review by the CRR and are required to demonstrate how they are effectively managing safety and risk associated with their operation. Moreover, the railway organisations must provide details of its own internal audits and investigations after accidents and incidents together with plans and actions taken to prevent reoccurrences/bring about process improvements.

Against the continuing backdrop of the COVID-19 pandemic, overall, the safety performance of the Irish heavy railway sector was broadly positive in 2021, both when compared against previous years and European statistics, cognisant of the reduced passenger numbers.

In an operational context there was a continued reduction in the number of SPAD occurrences, however there was an increasing number of train derailments (albeit all were in Iarnród Éireann sidings). There was also an increase in the number of occurrences where trains collided with large animals, with over 90% being with deer.

While the number of serious accidents and accidents was low in 2021 there were several very serious dangerous occurrences where violations of rules by railway staff could have resulted in multiple fatality events. In 2022, the CRR will be paying particular attention to how company executives and managers respond to these occurrences.

In a European context, Ireland's safety performance is good. However, we must be cognisant of the fact that the small size of the IÉ-IM network means that this statistic must be viewed with caution as even a small number of accidents would have a significant effect on this standing.

Nevertheless, Ireland has consistently been among the member states that have the lowest fatality rates. It should also be noted that there have been no passenger fatalities in Ireland during this period and the fatalities that have been reported are a result of trespass/misadventure by persons.

Separately, the CRR publishes its annual statistical report providing a detailed analysis of railway safety performance in Ireland. This report for 2021 as with the previous reports will be published later in the year to facilitate receipt of complete validated year data from all railway organisations. The Safety Performance Report of 2020 was compiled in 2021 and is available on the CRR website.

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

Safety culture assessment

In 2021, the ERA conducted a European wide safety climate survey with the purpose of soliciting the views and safety perception of railway organisation employees working in the European Union and European Free Trade Association (EFTA) states.

The CRR participated in this survey and promoted participation to all railway organisations operating in Ireland. The ERA confirmed that in excess of 46,000 responses were received from the sector and individual feedback has been provided to all participating organisations.

As stated above in the section on Post Occurrence Activities there were a number of occurrences that under slightly different circumstances could have resulted in loss of life owing to the violation of rules by railway workers. This suggests the safety culture in some organisations is in need of attention and the CRR is actively engaging with these railway organisations to ensure they are taking all reasonable steps to prevent repeat offences.

NSA monitoring

As previously reported, the CRR were audited in late 2020 as part of a three-year audit cycle of all member state NSA's by the European Union Agency for Railways (ERA). This audit evaluated how the NSA was performing its functions relating to railway safety and interoperability legislative framework and was concluded in mid-2021 with the publication of ERA's findings.

ERA's overarching conclusion from the audit was that the CRR is established and organised in a manner that allows the authority to perform its functions. However, the audit team did identify 3 deficiencies (areas where action is required) and 9 observations (areas that could prevent CRR from performing in the most efficient manner and action may be taken as considered necessary). The deficiencies identified were:

1. Lack of resources, in particular for supervision, leading to some activities not being performed
2. The supervision strategy is not risk based and does not set the high-level priorities for supervision and there are no formal cooperation arrangements with the National Investigation Body (NIB)
3. There is no structured and formal review of the supervision strategy and the supervision tools (guideline, procedure, templates etc.).

The CRR submitted its 'Action Plan' to the ERA detailing the tasks it would take to address the deficiencies. The ERA reviewed and accepted this plan and the CRR is now in the process of implementing it. At the time of writing the following has been undertaken.

- With regards to 'Deficiency 1' the CRR is now fully resourced with an additional five new members of staff recruited, 2 in November 2020, 2 in August 2021 and 1 in February 2022
- With respect to 'Deficiency 2' work is in progress to deliver on all agreed tasks on or before the agreed deadline of 30th April 2023
- In relation to 'Deficiency 3' the CRR continues to develop its own internal Quality Management System. As part of this a Staff member has now been trained as a lead auditor to ISO 9001 standards and is designated as the CRR internal auditor with the purpose of checking that internal guidance and procedure documents are reviewed periodically.

REPORT OF HEAD OF CORPORATE GOVERNANCE



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 Public Expenditure and Reform.

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.

In addition, the CRR may charge a fee for a range of its activities, specifically:

Fees charged for Designated Body (DeBo) recognition – S.I. No. 176/2021 – European Union (Interoperability of the Rail System) (Designated Bodies) (Fees) Regulations.

Fees charged to European Railway Agency (ERA) as the national safety authority where ERA is the assessment body for single safety certificate or vehicle authorisation – Regulation EU 2018/764 as amended by Regulation EU 2021/1903.

Fees charged for the authorising of construction and entry into service of cableway installations or their modification – SI 543 EU (Cableway Installations) Regulations 2020.

Fees charged for the issuing or renewal of train driver licences – SI 399 EU (Train Driver Certification) Regulations 2010.

The CRR, with the consent of the Minister and the Minister for Finance, may make regulations imposing a levy on railway organisations. The Regulations for 2021 are contained in Statutory Instrument No.246 of 2021. The application of funds by the CRR is illustrated below:

Table 4
Application of funds by the CRR

	2020 (€ million)	2021 (€ million)
Budget	2.223	2.465
Exchequer Grant	0.509	0.728
Levy Requirement	1.714	1.619
Operating costs	2.378	*
Surplus	*0.160	*

*Full accounts for 2021 are subject to audit by the Comptroller and Auditor General.

The CRR annual audited accounts are published on our website separately to this report.

Total CRR staff remuneration

Employee salary breakdown:

Table 5
Employee salary breakdown

Salary pay scale range		Number of employees	
From	To	2020	2021
€60,000	€69,999	3	6
€70,000	€79,999	5	4
€80,000	€89,999	0	0
€90,000	€99,999	0	0
€100,000	€109,999	3	2
€110,000	€119,999	1	1
€120,000	€129,999	–	–
€130,000	€139,999	–	–
€140,000	€149,000	1	–
€150,000	€159,000	–	1

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

In 2021, the CEO remuneration was €151,816.

Irish language commitment

The CRR is committed to implementing the relevant parts of the Official Languages Act 2003 (as amended 2021). CRR signage and stationery are currently in both Irish and English. Our Annual Report, Financial Statement and Statement of Strategy are all available in Irish on our website.

Freedom of Information (Fol)

The CRR is included among the organisations listed under the Freedom of Information Act 2014 and is committed to conforming to the principles of this Act. In 2021, there were two Fol requests received, both of which were part granted. Details of information previously released by the CRR under Fol can be viewed on the Fol Disclosure Log on our website.

Customer charter

The Customer Service Charter 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 2021, the CRR reported the organisations energy performance in 2020 to the Sustainable Energy Authority of Ireland as required under EU regulations. In 2020, the CRR worked towards improving public sector energy efficiency and have shown an energy saving of 58.5% since the baseline to 2019. The CRR will continue to report its performance and fulfil its legal obligation to report energy data.

CRR governance arrangements with Department of Transport (DoT)

The CRR has in place the required oversight agreement and performance delivery agreement in line with the Code of Practice both of which were renewed with the Minister for Transport in 2021. Based on these agreements the CRR and the DoT met formally on a quarterly basis to keep each party advised on relevant developments in the areas of corporate governance, transport policy and legislation. In 2021, CRR provided the DoT with its quarterly and annual performance delivery report as per the performance delivery agreement.

Statement of Strategy 2021 – 2024

The CRR published its new Statement of Strategy 2021 – 2024 which will guide the development and focus of its activities over the coming three years. For more detail see Section 3 of this report.

Railway Safety Advisory Council

The present Railway Safety Advisory Council (RSAC) was established by the Minister in 2019 in line with Part 8 of the Railway Safety Act 2005. The CRR consulted with the RSAC in the development of its new Statement of Strategy. The functioning of the Council continued to be assisted by the CRR through the provision of facilities, including the provision of a virtual meeting platform to facilitate meeting under COVID restrictions and administrative support. No recommendations were made to the CRR by the Council in 2021.

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 2021, the Head of Administration in the CRR, as the prescribed person under the Protected Disclosures Act 2014, did not receive any protected disclosures from parties external to or within the Commission.

Data protection

During 2021, the CRR continued to keep up to date its policies, systems, and procedures, to ensure compliance with the requirements of data protection legislation. This included the update of its DPO contact details with the Data Protection Commission. In 2021, the CRR did not receive any data protection requests.

Section 42 Irish Human Rights and Equality Commission Act 2014

Consistent with our core values, the CRR is committed to meeting our obligations under the Human Rights and Equality Commission Act 2014. Section 42 of that Act establishes a positive duty on public bodies to promote equality, prevent discrimination and protect the human rights of all those with whom they engage, staff, service-users, and stakeholders alike.

In the preparation of its next Strategy Statement, the Commission will undertake an assessment of human rights and quality issues in relation to our engagement function with stakeholders and a corporate services function, which includes procurement and human resources. The issues identified in this assessment will then be set out in our Strategy Statement 2024 – 2027.

Prompt payments

It is the policy of the CRR to ensure that all payments are made promptly. Every effort, consistent with proper financial procedures, is being made to ensure that all suppliers are paid within the required time frame, in accordance with best practice. The CRR publishes quarterly reports of compliance on its website.

Access to information on the environment

The European Communities (Access to Information on the Environment) Regulations 2007 (S.I. No. 133 of 2007) gives legal rights to those seeking access to information on the environment from public authorities. In 2021, the CRR received no requests under Access to Information on the Environment legislation.

REPORT OF PRINCIPAL INSPECTOR RAILWAY REGULATION



Railway regulation

SI 249 2015 (as amended by SI 398 2020) gives effect to Council Directive EU 2012/34 as amended by EU 2016/2370 establishing a single European railway area. It establishes the CRR as the Independent Monitoring Body, the Regulator and the Licencing Authority for the purpose of implementing the requirements of the Regulations. The activity of the CRR in each of these areas for 2021 is outlined below.

Licencing authority of railway undertakings

The CRR is the Licensing Authority responsible for assessing applications for and granting a licence to a railway undertaking in the State. A railway undertaking cannot operate a rail service without a licence. For the assessment, the railway undertaking applying for a licence must demonstrate to the Licensing Authority, before the start of its activities, that it will at any time be able to meet the requirements relating to good repute, financial fitness, professional competence and cover for its civil liability. The licence of itself does not entitle the railway undertaking access to the railway infrastructure.

Licences must be renewed every five years and a register of issued licences is published on the CRR website.

No licences were due for renewal and no new applications for railway undertaking licences were received in 2021.

Independent monitoring body

SI 249 2015 (as amended by SI 398 2020) giving effect to Council Directive EU 2012/34 as amended by EU 2016/2370 established the CRR as the Independent Monitoring Body for the purpose of monitoring the contractual agreement between IÉ-IM and the Minister as the Competent Authority.

The functions of the CRR as the Independent Monitoring Body are to monitor the performance of the IÉ-IM in respect of its obligations under the IMMAC; to arbitrate where a dispute arises between the parties as to the requirements for compliance with the contract; to approve the performance monitoring system developed by IÉ-IM and to advise the Minister of any persistent failure-to-perform trends of the IÉ-IM.

On the 5th March 2021, the CRR issued its IMMAC Annual Report to the Minister for 2020.

Key findings of the report included the following:

- There was a lower-than-expected IMMAC outturn for 2020. This was due to the lower amount of IÉ-IM allocated costs incurred during the year, which was only realised in early January 2021 for the financial year end 2020. In the main the lower allocated charges were a result of lower IE & Group charges due to COVID-19, remote working & lower 3rd Party claims provision charges.
- The CTC Interim Upgrade is nearing completion with the upgrades of both the Mainline and Suburban CTC Signalling Computer Systems completed.

- During Q4, the Train Protection System (TPS) Project sought and was granted financial authority and board approval to commence work on the detailed planning of a pilot scheme. A costed schedule of works has been prepared and subjected to a quantified risk analysis.
- Progress in relation to the works set out in Schedule C has been steady throughout 2020.

2021 was the second year of the new IMMAC. Performance criteria within the new contract have changed and now include three separate categories, namely contract indicators, performance indicators and key performance indicators. The reports to the Minister have been amended to reflect and report on these broader range of performance indicators contained within the new contract. The first three quarterly reports were issued to the Minister in line with our statutory obligations as contained in the contract, and no issues of concern were reported.

The 2021 IMMAC annual report is to issue in early 2022.

The IÉ-IM provided the IMMAC annual work plan 2022 to the CRR in November 2021 for its review as required by the contract. No issues were raised following the review of the work plan by the CRR.

Regulatory body

Appeals and complaints

SI 249 2015 (as amended by SI 398 2020) giving effect to Council Directive EU 2012/34 as amended by EU 2016/2370 established the CRR as the regulatory body for the purpose of appeals or complaints relating to infrastructure capacity, access charges, the network statement and monitoring competition.

The CRR received no appeals or complaints as the Regulatory Body in 2021.

Network statement

The CRR undertook its initial review of the Network Statement as published by Iarnród Éireann Infrastructure Manager (IÉ-IM), to determine if its contents is in accordance with S.I. No. 249 of 2015, European Union (Regulation of Railways) Regulations 2015 and S.I. No. 398 of 2020, European Union (Regulation of Railways) (Amendment) Regulations 2020, which give effect to Directive 2012/34/EU and 2016/2370/EU of the European Parliament and of the Council.

Of the 40 regulations reviewed, the CRR are satisfied that IÉ-IM have considered the relevant regulations when compiling and publishing their 2021 Network Statement for the working timetable 2022. There are a number of actions arising from the review which will be followed up with IÉ-IM.

Further reviews on the specific implementation of each element of the Network Statement will follow and the first of these commenced in 2021. This involves a review of the process used by the Essentials Functions Body to determine track access charges.

NATIONAL AND EUROPEAN LEGISLATION FRAMEWORK DEVELOPMENTS



National railway legislation framework

2021 was a year of consolidation with the implementation of the Statutory Instruments that transposed the Directives of the 4th Railway Package in 2020.

The additions to the national legislation framework in 2021 that are directly relevant to the CRR were:

S.I. No. 246/2021 – Railway Safety Act 2005 (Section 26) Levy Order 2021

This placed the annual levy on the railway organisations in the State for 2021. The levy funded the activities related to the functions of the CRR as allowed for under Section 26 of the Railway Safety Act 2005.

S.I. No. 589/2021 – Railway Safety Act 2005 (Section 4(5)) (Specified Infrastructure, Monorail) Regulations 2021

The Commission may by regulation specify any other infrastructure to be a railway for the purposes of this Railway Safety Act 2005 where, in the opinion of the Commission, it is appropriate to do so in the interest of the safety of persons. In this regard the Commission regulated through SI 589/2021 that monorail infrastructure should come within the remit of the RSA 2005. This action was taken to ensure a legislative basis for the regulation of the Lartigue Monorail heritage railway.

In relation to the continuing development of legislation, the CRR has a function under Section 72 of the RSA 2005 to keep legislation under review. In this context the CRR continued its engagement with the Department of Transport in 2021 on proposed amendments to the RSA 2005.

European railway legislation framework

As previously reported 2020 was a milestone year in the development of EU legislation governing railways as in October of that year both the recast Railway Safety Directive EU 2016/798 and the recast Interoperability Directive EU 2016/797 were transposed into national legislation.

With the completion of the 4th Railway Package the European focus is now centred to the revision of the Technical Specifications for Interoperability.

The continued development of the legal and technical framework governing the operation of the European Rail Network requires extensive engagement by the European Commission, DG-MOVE and ERA with member states and other stakeholders. To ensure an understanding and awareness of the continued development of the legal and technical framework governing the operation of the European Rail Network the CRR were active participants in over 50 meetings chaired by the European Commission, DG-MOVE and the European Railway Agency (ERA).

In 2021, we continued to participate in the Railway Interoperability and Safety Committee (RISC) as a member state nominee and as technical support to the DoT. We also participated in the DG MOVE European network of rail Regulatory Bodies. We continued in our role as the Member State representative on the ERA Management Board.

The CRR is a member of the Network of National Safety Authorities where the core objective is to conduct an active exchange of views and experience for the purpose of harmonising decision-making criteria. The CRR participated in all plenary meetings of this forum in 2021.

The CRR also continued its involvement in a number of prioritised ERA topic specific working groups. These included the task force on safety culture assessment, the Human & Organisational Factors Task Force on Safety Climate, the Common Safety Method Safety Level and Safety Performance Working Party and the TSI-OPE Acceptable Means of Compliance Working Party. All of these meetings were held virtually in 2021 which again facilitated a higher rate of attendance and participation by the CRR.

The Commission Omnibus Regulations provisions relating to the extension of timeframes that apply to elements of rail regulation in view of COVID-19 restrictions continued in 2021.

COMMISSIONERS 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 CRR for the year ended 31 December 2021 and up to the date of approval of the financial statements.

The CRR 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 CRR 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 CRR. 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 CRR 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 CRR has procedures to monitor the effectiveness of its risk management and control procedures. The CRRs 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 CRR.

A Code of Conduct and Ethics is 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 CRR is compliant with the Government travel policies.

The CRR is compliant with the asset disposal procedures.

The CRR is in compliance with all relevant tax laws.

The CRR is adhering to the Public Spending Code.

APPENDICES



Appendix 1

APIS stage letters of approval

Table A1.1
Authorisation to Place in Service letters issued 2021

	Concept	Preliminary design	Detailed design	T & C	Interim operation	Service
APIS stages	1	2	3	4	5	6
Infrastructure						
DART+ West	■					
DART+ South West	■					
ETCS – Level 1 Fixed Installations	■					
GSM-R Phases 2 & 3 Fixed Installations			■			
Overbridge Dalkey Station			■			
Overbridge Gormanstown Station			■			
New Station Waterford			■			
Overbridges (4) as part of Waterford North Quays Development			■			
LUAS Cross City					■	
Overbridge Carlow Station					■	
Overbridge Edgeworthstown Station					■	
Overbridge Ennis Station					■	
Overbridges (2) – Athlone to Westport					■	
Overbridge – Cork to Midleton					■	
New Station – Pelletstown					■	
Overbridge – Dublin Port						■
Decision support system at user worked level crossings (16)						■
Rolling stock						
Cavan and Leitrim Diesel Locomotive						■

Appendix 2

Passenger numbers on the heavy and light rail systems 2021

COVID-19 restrictions reduced public transport capacity in 2021 such that the data does not facilitate trend analysis on public transport use in the short to medium term. The reported figures are provided for information.

Figure A2.1
Passenger journeys
on the Iarnród Éireann
network

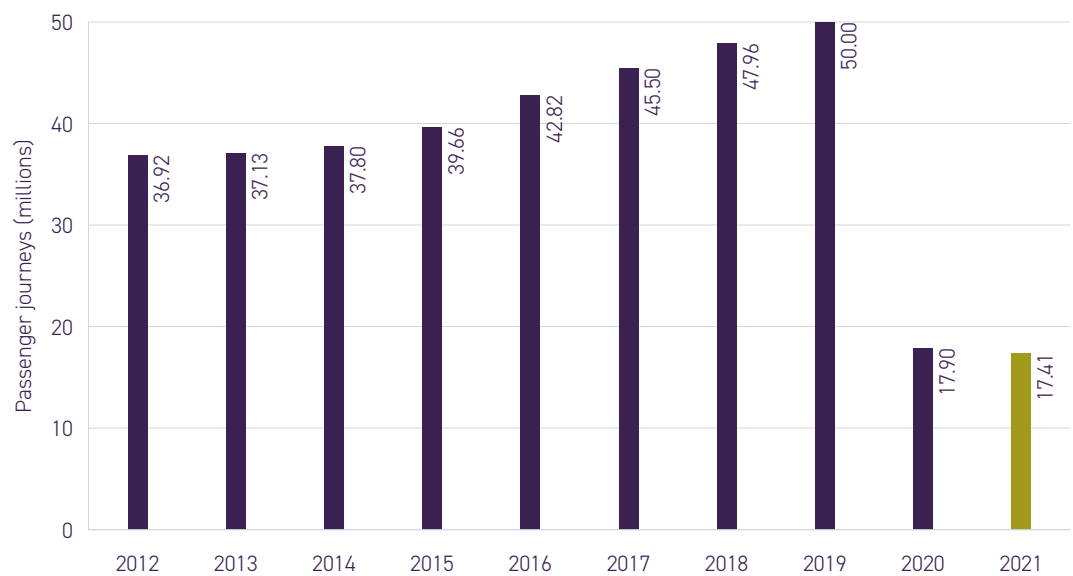


Figure A2.2
Passenger journeys on
the LUAS network



Appendix 3

CRR outcomes (recommendations) made to railway organisations

The following tables present the status of CRR outcomes made to railway organisations. These are typically made following audits, inspections or after conducting a post occurrence activity linked to accidents and incidents.

Progress continued to be made in 2021 and while some figures appear high in the 'Open' category this does not mean no action has been taken, rather work is in progress to address the findings made by CRR inspectors.

Table A3.1
Status of CRR outcomes as of 31 December 2021

Activity	Open		FER		Complete		Closed	
	AR's	NC's	AR's	NC's	AR's	NC's	AR's	NC's
CRR outcomes for IE-IM								
Audit	13	8	6	6	1	1	252	70
Inspections	63	16	2	0	0	0	15	5
Post occurrence inspections	26	8	9	3	0	0	82	19
CRR outcomes for IE-RU								
Audit	7	7	12	9	0	0	112	31
Inspections	22	8	1	1	0	0	26	7
Post occurrence inspections	7	1	3	0	0	0	21	6
CRR outcomes for Transdev								
Audit	39	9	18	0	0	0	43	6
Inspections	12	4	0	0	0	0	4	0
Post occurrence inspections	10	2	0	0	0	0	2	1
CRR outcomes for NIR								
Audit	5	2	0	0	0	0	3	2
Inspections	0	0	0	0	0	0	2	0
Post occurrence inspections	1	1	0	0	0	0	3	1
CRR outcomes for RPSI								
Audit	6	0	1	0	14	1	15	2
Inspections	4	0	0	0	1	0	2	0
Post occurrence inspections	0	0	0	0	2	0	0	0

Table A3.1
Status of CRR outcomes as of 31 December 2021

Activity	Open		FER		Complete		Closed	
	AR's	NC's	AR's	NC's	AR's	NC's	AR's	NC's
CRR outcomes for RSI								
Audit	0	0	3	0	0	0	27	11
Inspections	14	4	0	0	0	0	0	0
Post occurrence inspections	0	0	0	0	0	0	0	0
CRR outcomes for BNM								
Audit	4	3	0	0	0	0	0	0
Inspections	6	0	0	0	0	0	0	0
Post occurrence inspections	2	0	0	0	0	0	0	0

RAIU safety recommendations

The implementation of safety recommendations made by the RAIU is monitored by the CRR. We formally issue RAIU recommendations to railway organisations or others and then track their implementation.

The status categories for recommendation tracking purposes are:

Open/in progress

Feedback (Evidence) from Railway Organisation (or another party) is awaited or actions have not yet been completed.

Submitted

The Railway Organisation (or other party) has made a submission to the CRR, advising that it has taken measures to effect the recommendation and the CRR is considering whether to close the recommendation.

FER (Further Evidence Requested)

The CRR has reviewed a submission (or further submission) but considers that further evidence is necessary to close the safety recommendation.

Closed

The CRR has reviewed a submission (or further submission) and is satisfied that the safety recommendation has been addressed.

Table A3.2
RAIU safety recommendations

Year	No. of reports	No. of recommendations				
		Open	Submitted	FER	Closed	Total
2010	5	1	0	0	25	26
2011	6	0	0	2	15	17
2012	3	0	0	0	13	13
2013	3	0	0	1	9	10
2014	6	0	0	5	21	26
2015	2	0	0	2	2	4
2016	3	6	0	2	12	20
2017	1	1	0	3	5	9
2018	1	1	0	3	5	9
2019	4	18	0	7	11	36
2020	4	8	0	6	4	18
2021	7	25	0	6	5	36
Totals	52	60	0	37	161	258
Total recommendations made to date						258

Appendix 4

Safety indicator statistics

Table A4.1
Iarnród Éireann fatality and injury statistics

Category	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	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	0	0	0	0	0	0	0	1	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	

Table A4.1
Iarnród Éireann fatality and injury statistics

Category	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	Trend
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	5	4	6	2	5	12	9	4	7	5	
Railway operations: non fatal injuries to passengers											
Injury to passenger travelling on train due to a railway accident not at level crossing	0	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	41	39	45	48	79	57	74	76	42	32	
Injury to passenger travelling on train, other than due to a railway accident	27	43	18	15	31	33	46	38	9	0	
Railway infrastructure: third party non fatal injuries											
Third party at level crossing injury involving a train	116	193	205	146	192	321	199	288	122	96	
Level crossing user injury not involving a train	5	3	0	1	2	6	0	2	0	0	
Railway infrastructure: non fatal injuries to other persons											
Injury to customer or visitor to premises	13	5	21	3	1	15	13	7	8	0	
Injuries to other persons including unauthorised persons	32	39	43	32	30	30	13	35	16	8	

Table A4.1
Iarnród Éireann fatality and injury statistics

Category	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	Trend
Railway operations: non fatal employee injuries											
Employee lost time accident involving train movement or train accident	13	5	21	3	1	15	13	7	8	0	
Employee lost time accident while working on railway not due to train in motion	32	39	43	32	30	30	13	35	16	8	
Railway infrastructure: non fatal employee injuries											
Employee lost time accident involving train movement or train accident	1	0	0	0	0	0	0	0	0	0	
Employee lost time accident while working on railway not due to train in motion	32	41	25	6	23	22	26	24	20	33	
Employee lost time accident while working at level crossing not due to train in motion	1	1	2	0	3	1	1	0	3	0	
Entity in charge of maintenance and maintenance workshops: non fatal employee injuries											
Employee lost time accident involving train movement or train accident	0	0	0	0	0	0	0	0	0	0	
Employee lost time accident while working on railway not due to train in motion	10	14	18	13	11	10	12	15	4	11	

Figure A4.1
Total number of train collisions by year

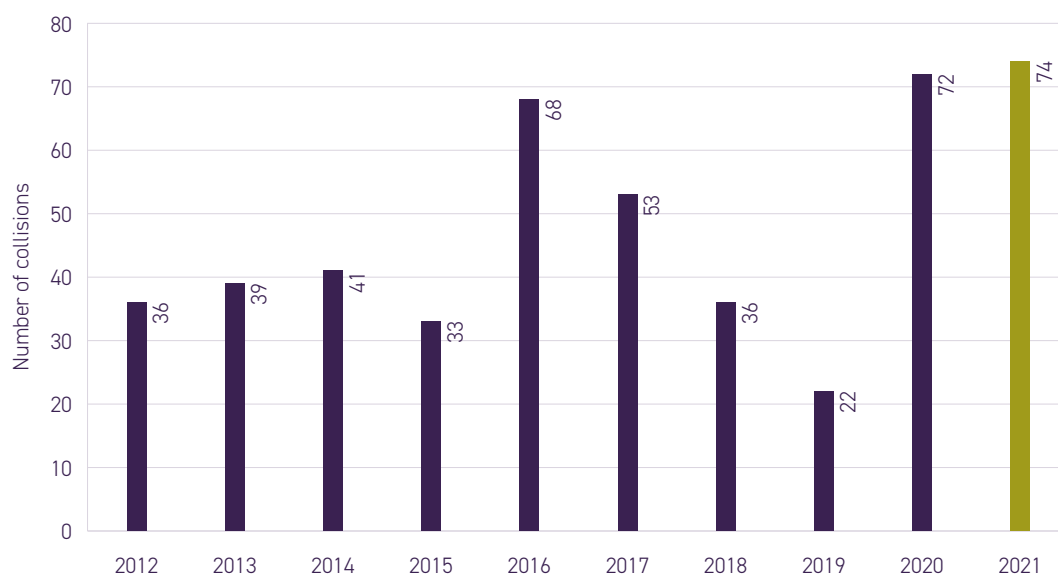


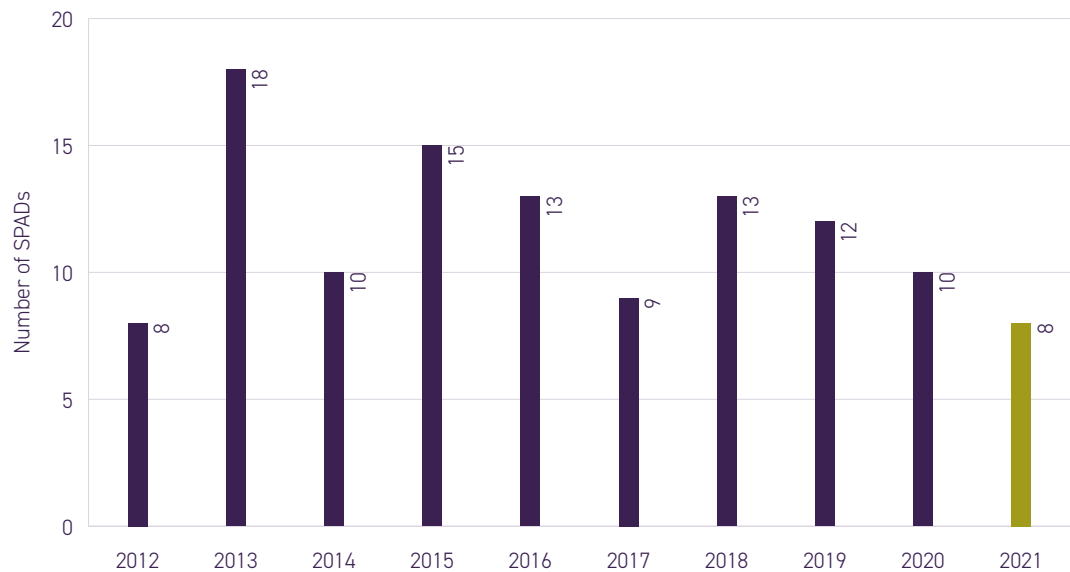
Table A4.2
Train collision statistics by year by category

Category	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	Trend
Train collision with passenger or goods train on running line	0	0	0	0	0	0	0	0	0	0	
Train/railway vehicle collision in station or possession movement	0	1	1	1	1	1	2	1	1	4	
Train collision with a motor vehicle at a level crossing	1	2	1	2	0	0	3	1	2	1	
Train collision with pedestrian at a level crossing	0	0	0	0	0	0	0	0	0	0	
Train collision with attended gates at a level crossing	0	0	0	0	1	0	0	0	0	0	
Train collision with road vehicle obstructing the line (not at a level crossing)	0	1	1	0	1	1	0	0	0	0	
Train collision with other obstacle on the line	7	6	7	29	1	31	25	23	8	29	
Train collision with large animal(s) on the line	35	26	29	9	29	35	23	11	11	38	
Total	43	36	39	41	33	68	53	36	22	72	

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-IM and IÉ-RU. The trend in recent years has seen a decline in these precursors.

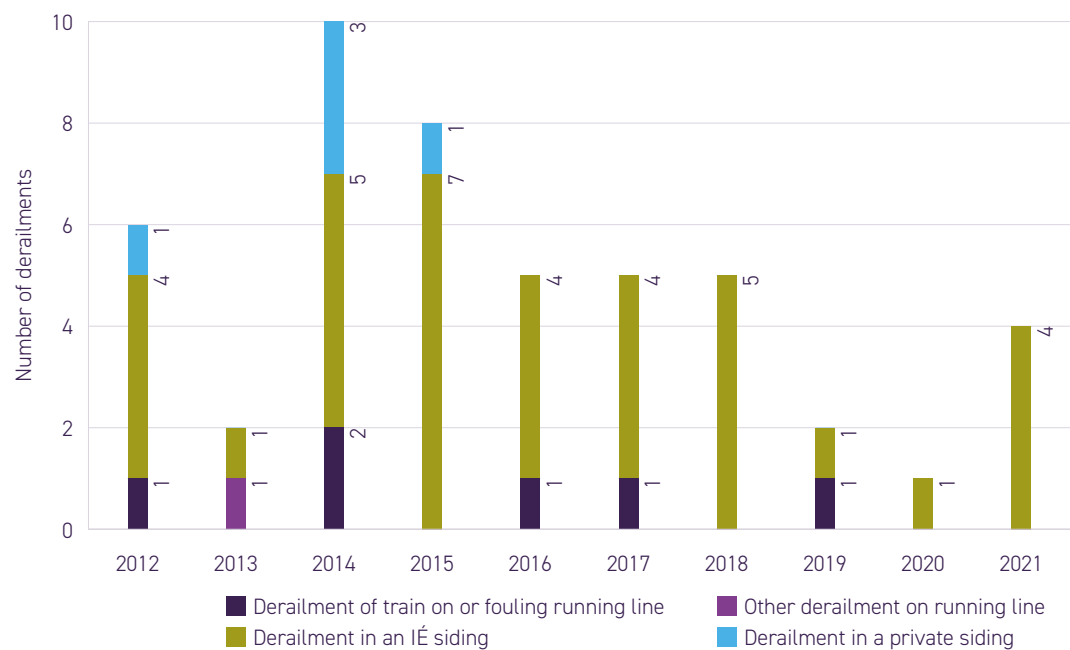
Figure A4.2
Signals passed at danger



Train derailments

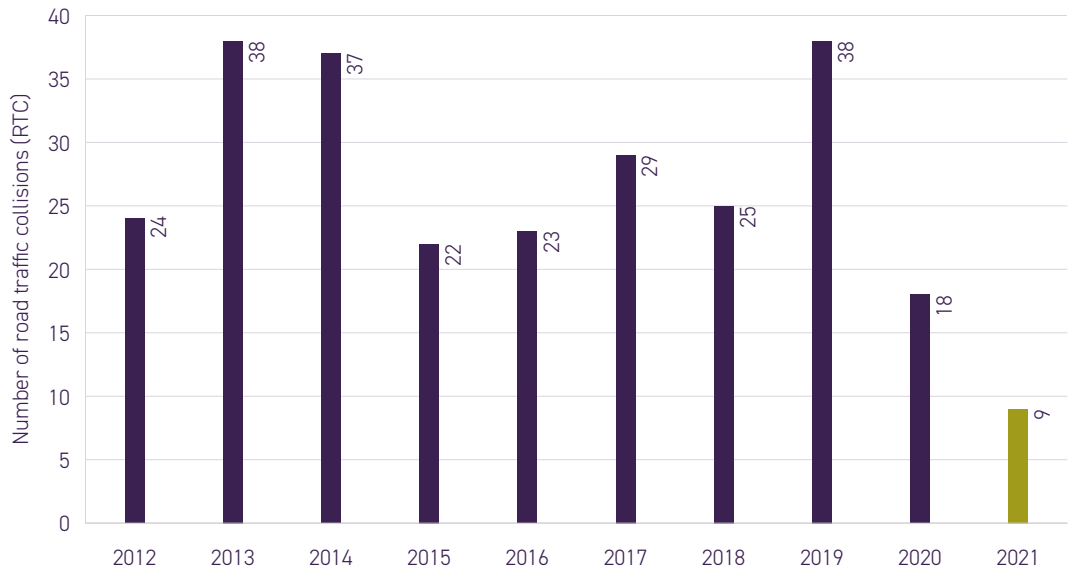
Train derailments remain at low levels with all those occurring in 2021 taking place in sidings.

Figure A4.3
Train derailments



Road traffic accidents involving trams

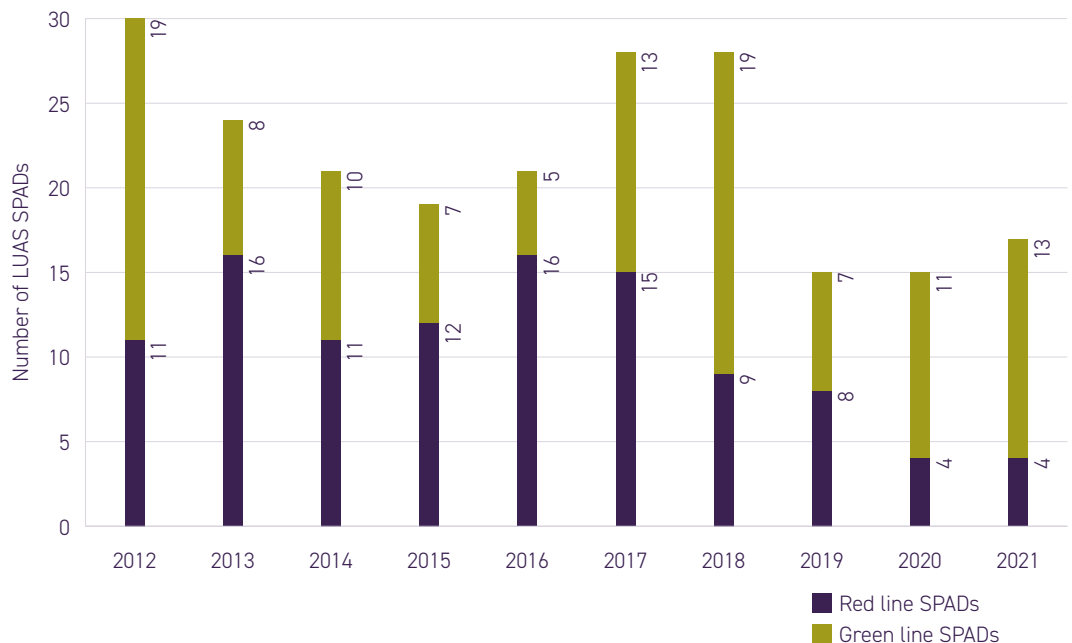
Figure A4.4
Road traffic accidents
(collisions) involving
trams by year



Signals Passed At Danger (SPADs) LUAS

SPAD events also occur on the LUAS network, albeit the signalling system doesn't automatically identify these. Rather it relies on the driver to self-report that they passed a signal at danger. While there was a slight increase 2021 the trend is broadly positive particularly given the significant increase in operation that followed the opening of the LUAS Cross City Line in December 2017.

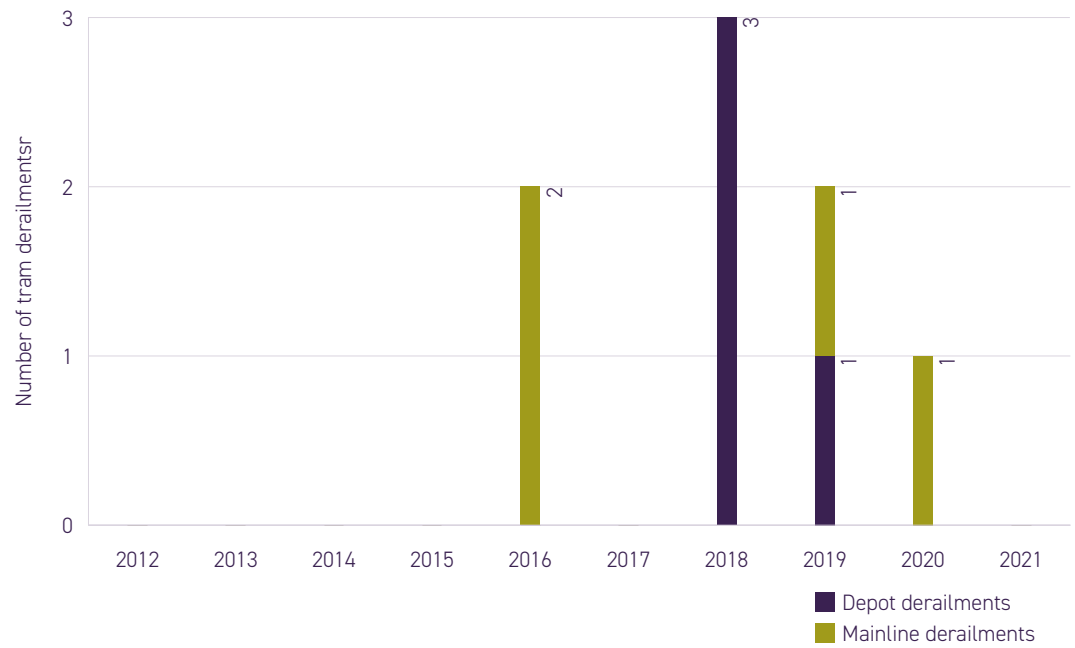
Figure A4.5
Signals passed at
danger by trams



Tram derailments

Tram derailments remain at low levels with none reported in 2021.

Figure A4.6
Tram derailments



Appendix 5

Heritage railways with a current safety certificate

Table A5.1
Heritage railways with a current safety certificate

Diffin Light Railway Oakfield Park Raphoe Co Donegal	The Diffin Light railway is a private narrow-gauge railway, 4.5km long, in the grounds of Oakfield Park Demesne, 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 Gaeltacht Lair 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. 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.
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.

Table A5.2
Heritage railways that do not hold a current safety certificate

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.

Heritage Railways cannot operate unless they have a current safety certificate.

Appendix 6

Glossary

APIS	Authorisation to Place in Service
BNM	Bord na Móna
CILT	Chartered Institute of Logistics and Transport
CRR	Commission for Railway Regulation
DGSA	Dangerous Goods Safety Advisor
DoT	Department of Transport
ECM	Entity in Charge of Maintenance.
EFTA	European Free Trade Association
ERA	European Railway Agency
ETCS	European Train Control System
FoI	Freedom of Information
GSM-R	Global System for Mobile Communications – Railway
ICDMU	Intercity Diesel Multiple Units
IE-IM	Iarnród Éireann Infrastructure Manager
IE-RU	Iarnród Éireann Railway Undertaking
IMMAC	Infrastructure Manager Multi Annual Contract
LCC	LUAS Cross City
NIB	National Investigation Body
NIR	Translink Northern Ireland Rail
NR	National Rules
NSA	National Safety Authority
OTM	On Track Machine
RAIU	Railway Accident Investigation Unit.
RISC	Railway Interoperability and Safety Committee
RPSI	Railway Preservation Society of Ireland
RSA	Railway Safety Act
RSI	Rhomberg Sersa Ireland
SMS	Safety Management System
TII	Transport Infrastructure Ireland
TPS	Train Protection System
TSI	Technical Specification for Interoperability
USAN	Urgent Safety Advice Notice



The CRR is grateful to Neil Dinnen for permission to use his copyright images in this report



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