

# **LIGHT RAIL**

**Safety and Standards Board**

## **Annual Report 2023/2024**

# Chief Executive's Overview

The Light Rail Safety and Standards Board (LRSSB) was formed by the UK light rail industry and UK Tram in 2019 under the guidance of the Department for Transport (DfT) and the Office of Rail and Road (ORR).

This was following the Rail Accident Investigation Branch (RAIB) report into the Croydon tram accident at Sandilands on 9th November 2016.

*LRSSB is managed by the LRSSB Board, which consists of:*

- *A Non-Executive Chair*
- *Four Non-Executive Directors (consisting of representation from both operators and owners)*
- *A Chief Executive Officer (CEO)*
- *The Managing Director of UK Tram*
- *An ORR observer.*

Within the year, the Board constitution remained largely unchanged; however, a new Chair and Non-Executive Director were appointed in January 2024.

The LRSSB senior team remained unchanged in the year. It remains our intention to recruit to fill vacant roles whilst also adding to the organisation in engineering research and operational auditing support within the next financial year. Diagrams and descriptions of the organisational structures can be found in the LRSSB Business Plan.

Supplementary internal support from UK Tram colleagues has also been provided during the year. Additionally, LRSSB has been successful in partnering with a number of external agencies to leverage our capacity to produce documentation and information.

LRSSB launched the new TAIR platform, and all networks received their risk model dashboards. Networks are now actively inputting and utilising TAIR, the Risk Model and their outputs.

In tandem with the outputs from TAIR, the Risk Model and Sector feedback, LRSSB, with a third-party specialist, conducted the first ever national pedestrian survey in the cities that have tramways. With the results and analysis received, LRSSB has developed a National Safety Campaign to assist the sector in promoting good health and safety around their networks. We are also leading on technology advances for pedestrian crossings, whilst also strengthening our existing guidance.



LRSSB signed a Memorandum of Understanding with the ORR that strengthens ties between the two organisations. This MOU is further recognition of LRSSB's standing and how it has become an intrinsic part of the delivery of "safer transport" for staff, users and the general public.

2023 saw LRSSB cited with an action within an RAIB report. This was the first time our organisation had been tasked in this way. The report was into an accident at Audenshaw, Manchester. LRSSB has to complete that action with the delivery of new guidance to aid the Road Safety Audit process (RSA).

LRSSB signed a Memorandum of Cooperation with RSSB to better enable the two sectors to work collaboratively to coordinate work on such things as common areas of technological and scientific advancement and the sharing of good practice.

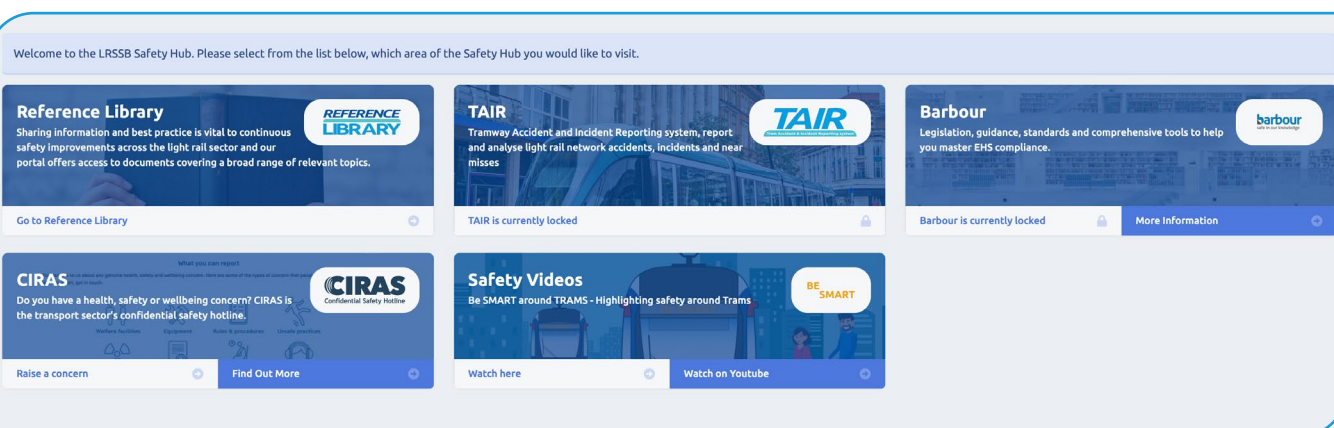
To assist in our ongoing goal of offering "ease-of-use solutions" to our customers, we have reviewed our business processes and invested further in our website.

## SAFETY HUB

The upgraded site is now host to our new Safety Hub. Within the Hub will sit all of our products, such as TAIR, Safety Risk Model, Risk Assessments and Digital Reference Library. The Hub will allow LRSSB to better promote and administer the delivery of our materials.

The delivery of training has remained an important principle for LRSSB, and to assist in this, we have, with collaboration and assistance from partners, committed to a project to deliver a sector-wide Learning Management System (LMS) facility. The first of its kind for the light rail sector.

LRSSB assisted the sector in the development of an exemplar Safety Management System guidance document. The guidance was designed specifically for light rail systems and aligns with national and international standards, including ISO 45001 guidance on occupational health and safety management systems, the Office of Rail and Road's RM3 framework, and guidance on the assessment criteria for non-mainline safety certificate and safety authorisation applications. This was a lengthy and detailed piece of work that has been well received and utilised with immediate effect by tramways.

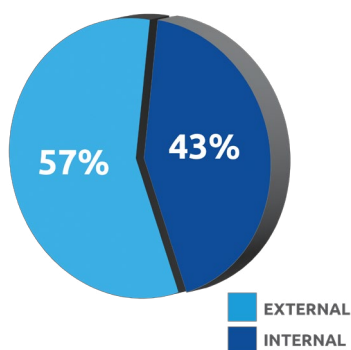


# Finance

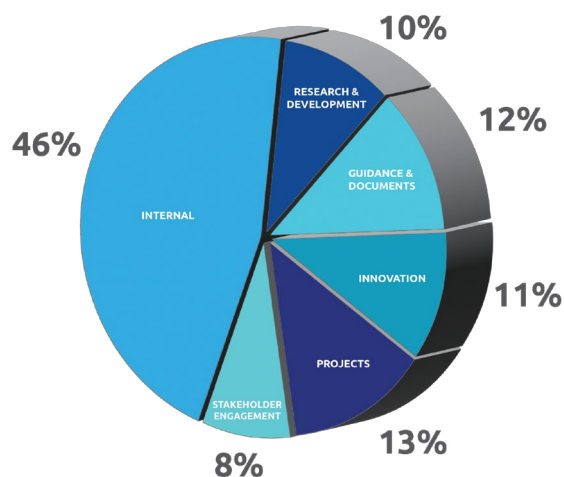
LRSSB believes that by using its position as the sector's safety and standards body, understanding the sector's needs, and being proactive in our approach, we can reasonably assume that we have saved our sector circa £4m by investing once in projects, research and guidance that would otherwise have required expensive "one-off" costs to be incurred by seven individual networks.

LRSSB will also continue to explore third-party revenue streams and has been able to assist on a number of projects for either international or non-light rail sector benefit. This is evidence that LRSSB looks for opportunities to relieve the financial commitment for the UK sector but also that the benefit delivered to date is being more widely acknowledged and potentially invested in.

**RESOURCE ALLOCATION**



**LRSSB PRINCIPLE EXPENDITURE**



Section	Activity	Deliverable	Measure
SUSTAINABILITY, FUNDING AND COST MANAGEMENT	Provide value for money	Via improved stakeholder engagement, ensure that we are providing the sector with good value for money.	Ongoing engagement at consistently high level (see charts). Sector acceptance of data sharing agreement evidence of excellent engagement and trust. Utilisation of sector resource through secondment process.
	Third-party revenue	Identify and develop third-party (non-member) revenue opportunities.	Achieved with further potential for growth.
	Cost management	Deliver all activities within budget.	Achieved.
	Cost management	Deliver more activities in-house.	Continued reduction in outsource requirement for document production

Section	Activity	Deliverable	Measure
ORGANISATION AND STRUCTURE	Recruitment	Operational Lead.	New post identified.
		Technical Lead.	In post.
		Head of Knowledge.	Now Research Coordinator.
		Documentation Co-Ordinator.	Facilitated by third-party.
		Project Manager.	Facilitated by third-party.

# Activities in 2023/2024

*I am delighted by the progress the team has made over the past year.*

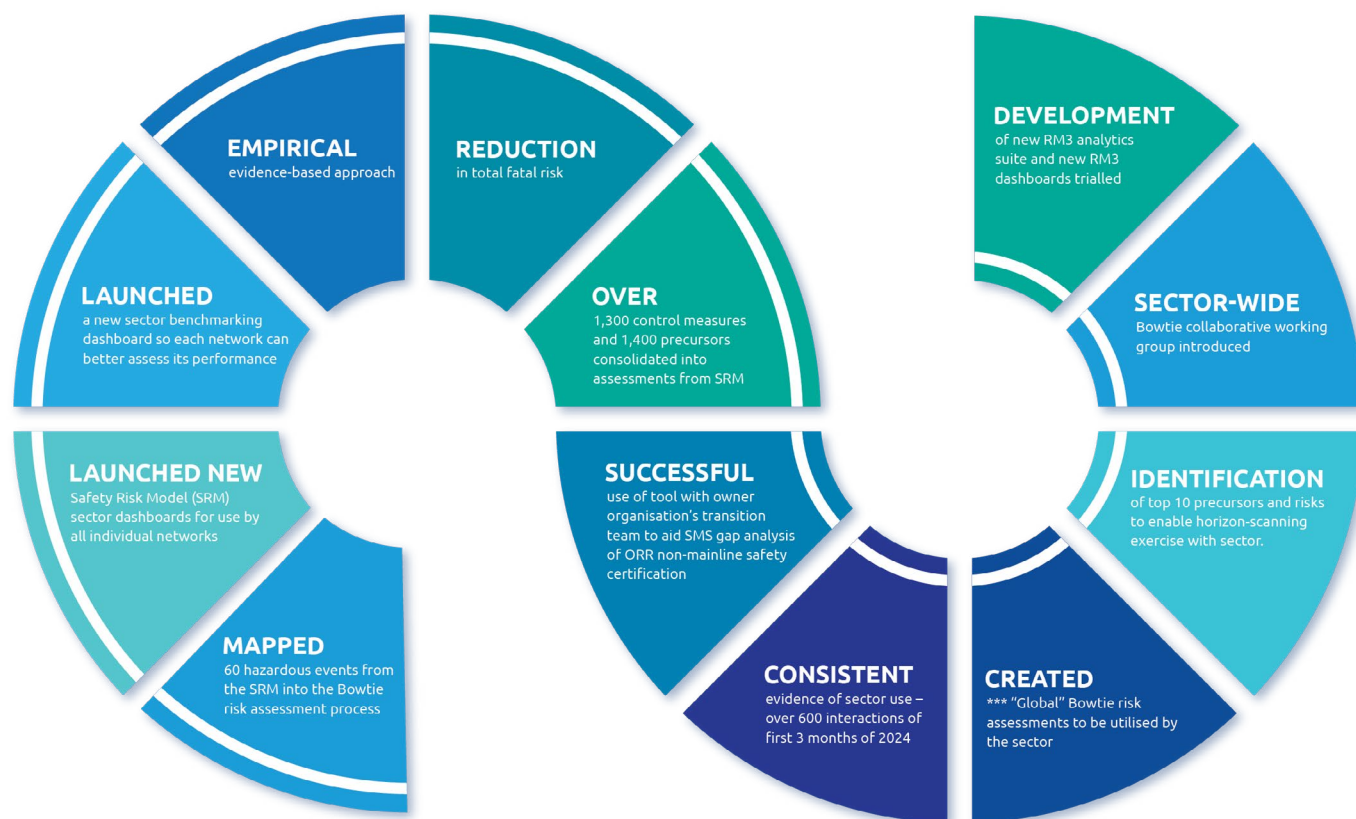
*This report demonstrates a high level of achievement which will bring huge benefit to our members and the wider sector as a whole.*

*Details and commentary on activities and achievements are contained within later sections of this Annual Report.*

## Safer Light Rail Sector

By utilising the outputs from the Industry Risk Model, LRSSB has continued to manage and maintain the implemented model to better inform, both locally and nationally, where risks are emerging. LRSSB believes that by taking this information from the model and conducting Bowtie risk assessment exercises, the sector can significantly reduce the threat of real and perceived risk, and in moving to a leading rather than a lagging system, we have never been better placed to prevent accidents happening.

Described here are the key activities we have either led on or been part of the delivery of.



Section	Activity	Deliverable	Measure
SAFETY LIGHT RAIL SECTOR	TAIR	Ongoing engagement and support.	Ongoing
		Delivery of outputs to statutory bodies.	Achieved
		Platform update.	Available to sector
		Provide user training post-delivery of new platform update.	Achieved
		Improve interfaces between TAIR and user base system - localised dashboards.	Interfaces in development
	Safety Risk Model	Ongoing engagement and support.	Achieved
		Strategy for review, update and maintenance.	In development
		Enhanced dashboard and benchmarking.	Achieved
	Bowtie Risk Assessments	Ongoing engagement and support.	Ongoing
		Bowtie Working Group to develop and review global Bowties from risk model.	Achieved
		Development of generic global Bowties.	Achieved
		Apply RM3 maturity levels against Bowtie assessments.	Pending data review
	Risk Management Maturity Model	RM3 Working Group.	Ongoing
		Ongoing engagement and support.	Ongoing
		Support the ORR in development of future RM3 applications.	Ongoing support

## Leading Proactive Ideas

LRSSB has commissioned research relevant to its members and for the benefit of member organisations in the industry. LRSSB continued to horizon-scan to better inform itself of relevant research programmes to ensure the benefit of any lessons learned.

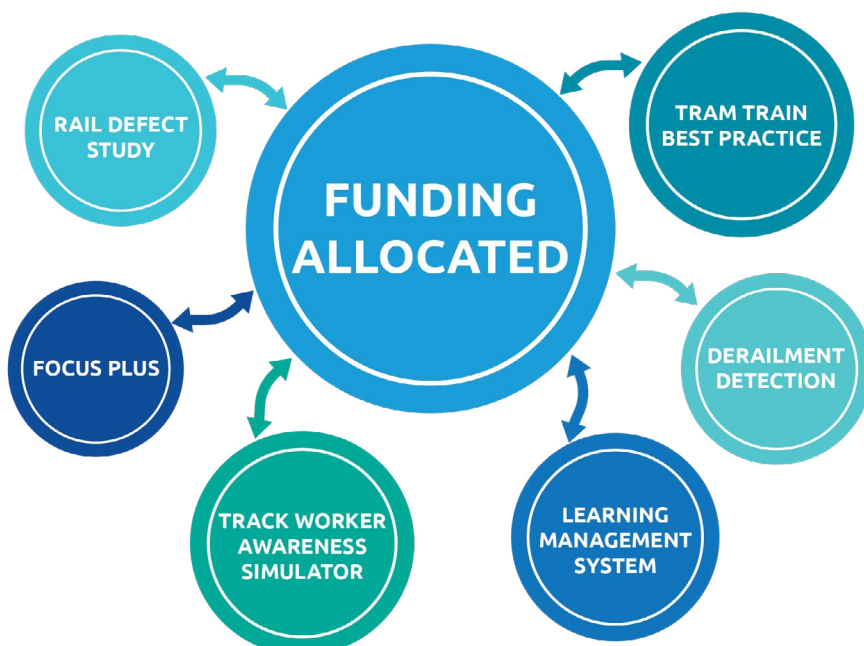
This year LRSSB held a “horizon scanning” event with the sector where over 180 ideas were raised. LRSSB has crystallised these ideas into 190 areas for future planning and potential investment. In 2023/2024 LRSSB invested in a number of projects, either in its own capacity or jointly with other organisations.

LRSSB has also invested in the development of a Learning Management System for the sector. LRSSB in partnership with Edinburgh Trams has now put in place a platform on which the LMS site can be built. This “first of a kind” facility for the sector has been welcomed and extremely well supported to date. We expect to continue to populate the LMS and have our first suite of competency assessment aids over the coming year.

Section	Activity	Deliverable	Measure
LEADING A PROACTIVE APPROACH TO SAFETY	Research & Development	Development of relationships with partner organisations and improved representation.	Schedule of confirmed meeting attendance
		Investment into Focus+.	Effective input into successful concept delivery stage
		Collaboration with other sectors and third parties.	Achieved - integral partner in a number of joint funded initiatives
		Hold sector workshop with HR and Training managers.	Achieved - workshop schedule in place
		Anti-Drag Door Safety Devices.	Ongoing
		Human Factors Pedestrian Behaviour.	Ongoing
		Pedestrian Crossing Risk Mitigation.	Ongoing in line with National Safety Campaign
		Obstacle Detection.	Ongoing
		Sand Drags (Phase 1).	Phase 1 report published
		Stud Rail Defect Analysis.	Analysis completed awaiting report
		On Tram Derailment Detection.	Research completed awaiting report
		Tram Train Wheel Rail Interface.	First meeting in October 2023 involving all partners. Revised anticipated timeline mid 24
		Competency & Training. Develop a fully functional digital Learning Management System (LMS) for the sector.	Ongoing - full sector engagement achieved

## Research, Development & Innovation

**OVER £200K  
SECTOR INVESTMENT**

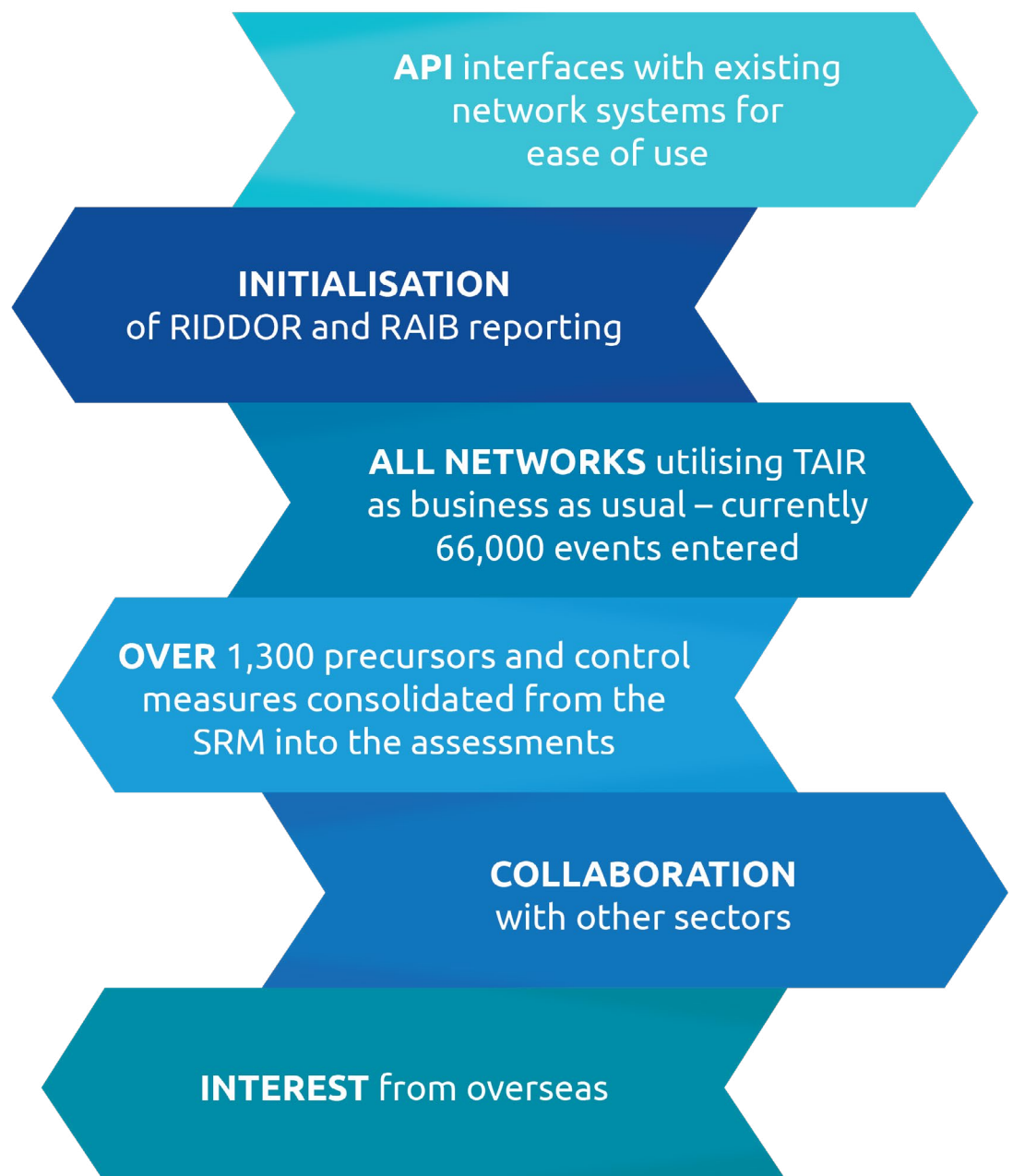


LRSSB continues to invest its time, resources and finances, championing multiple groundbreaking workstreams guaranteed to bring further benefit to the sector.



# Sector Accident and Incident Reporting

Significant investment and development into a standardised safety reporting dashboard applicable to all tramways to provide national oversight and understanding of current risk profiles and changes within the profile over time.





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**TAIR** used to undertake analysis of pedestrians and road vehicle collisions

**HISTORICAL** data successfully integrated

## KEY

**LRTHE.002** Collision between LRT Rolling Stock and Road Vehicle in Road Section

**LRTHE.007** Collision between LRT Rolling Stock and Pedestrian Passenger/Member of the Public

**LRTHE.009** Collision between LRT Rolling Stock and Unauthorised Member of the Public

**LRTHE.012** Collision between LRT Rolling Stock and an Object within Swept Path

**LRTHE.021** LRT Rolling Stock Struck by Falling/Flying Object

**LRTHE.029** Passenger/Public Assault on LRT System

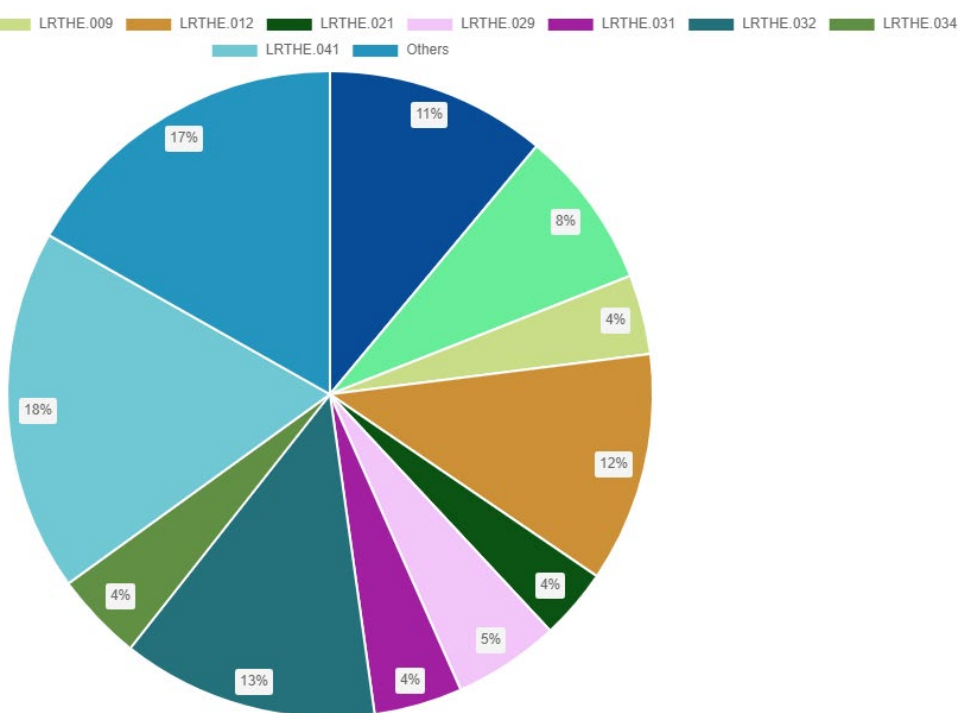
**LRTHE.031** Passenger Incident Whilst Boarding/Alighting LRT Rolling Stock

**LRTHE.032** Passenger Slip Trip & Fall on/ out of LRT Rolling Stock

**LRTHE.034** Passenger/Public Slip, Trip, Fall on LRT Infrastructure (Platform/Access Route/ Line of Route)

**LRTHE.041** Staff Assault

**OTHER** Other



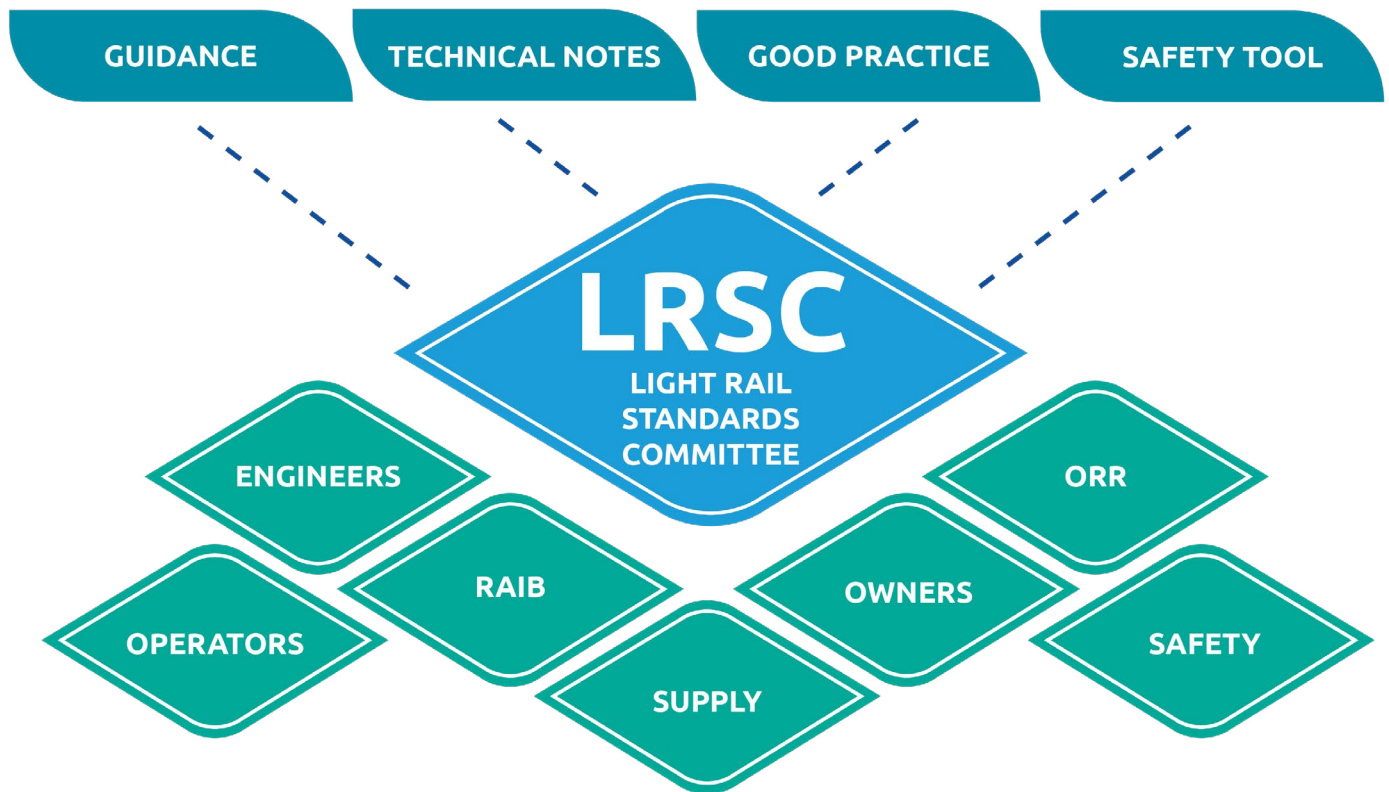
Example Data

# Standards and Guidance

LRRSB is the custodian for light rail standards and guidance for the UK. It has a process of assessing priorities and needs for the sector. LRRSB delivers its guidance in a hierarchical way whilst also attempting to lead the sector to improve. The images below describe this process and how we apportion cost and resource.

LRRSB continues to build its comprehensive library of documents with over 40 available free to view and download. Regulated by the newly formed Light Rail Standards Committee (LRSC).

## ***DOCUMENTATION***



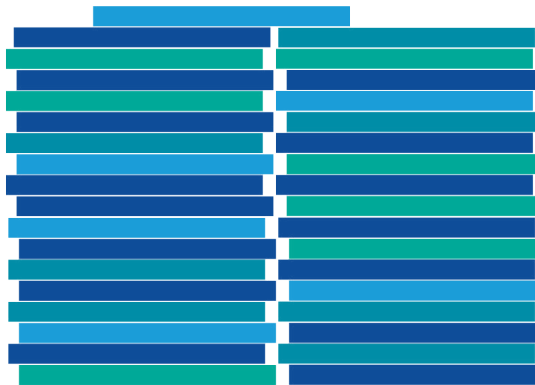
Selection and implementation continue to be initiated by LRRSB's strong stakeholder engagement with standards produced for the sector in collaboration with the sector. The documents have now been expanded to include Technical Notes (LRTN) and good practice (LRGP) in line with other sector approaches.

# Publications

The graphics below describe the documents LRSSB has either produced or reviewed. Furthermore, LRSSB has also purchased, reviewed and distributed BSi documents pertinent to the sector's activities at no direct cost to the networks. This workstream is an important part of how LRSSB remains informed about new and altered British and international standards that may affect the sector.

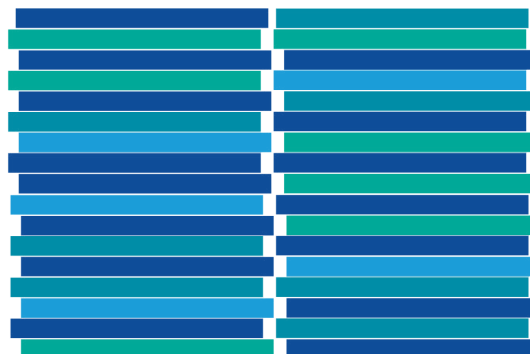


**35**  
**DOCUMENTS**  
**REVIEWED**

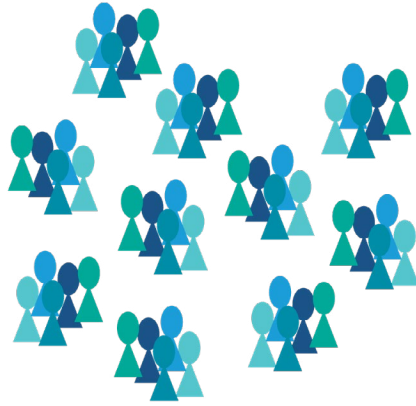


As per the terms of reference, 35 documents have undergone the first annual review in 2023/2024.

**34**  
**BSI DOCUMENTS**  
**PURCHASED**



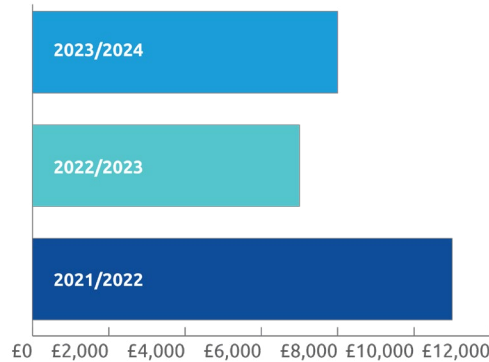
As part of its role as BSI distributor, LRSSB has purchased 34 new required standards for the sector.



## EN/ISO WORKING GROUPS

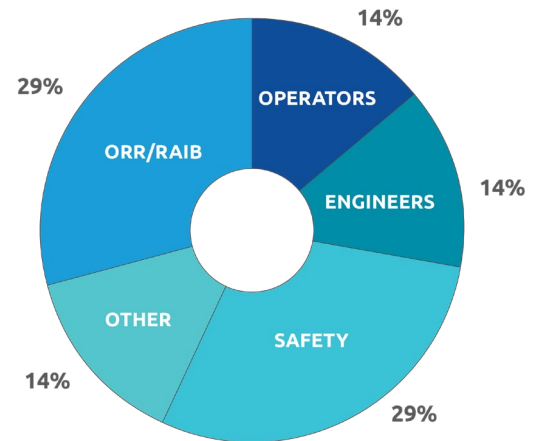
LRSSB is currently active in 10 working groups offering expertise in the production of new urban standards.

## YEAR-ON-YEAR AVERAGE COST PER DOCUMENT



23/24 saw a slight rise in the cost per document. This was due to the time and scale of the SMS document which required additional resource and input as reflected in the chart below.

## SOURCE OF RECOMMENDATION



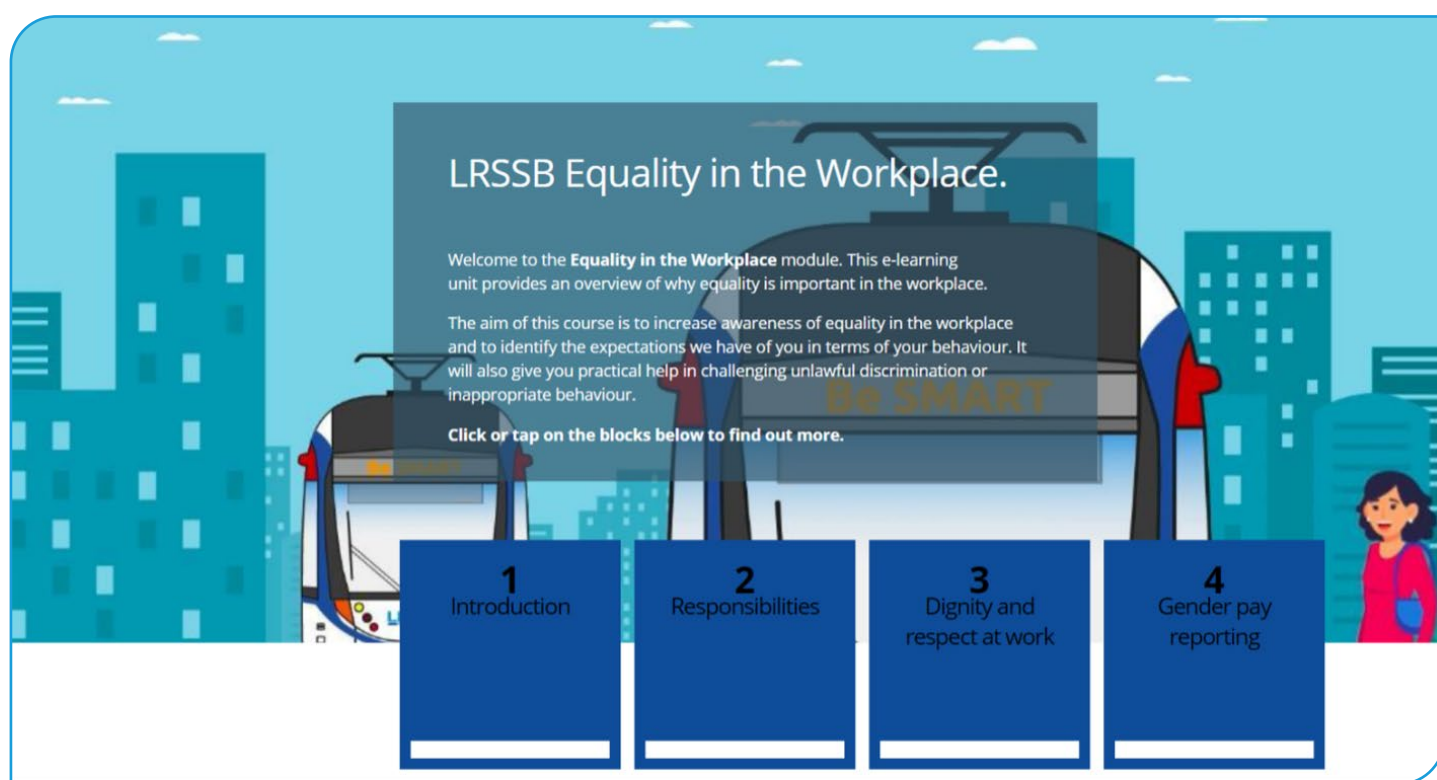
Section	Activity	Deliverable	Measure
PUBLICATION OF NEW STANDARDS AND GUIDANCE	Prioritisation	Ongoing review of planned publications and re-prioritisation as deemed necessary.	Ongoing
	Production	Publication of new documents:	6 new documents produced
		LRSSB/LRG 35.0 Safety Validation & Verification for Change Control Guidance	
		LRSSB/LRG 36.0 Tramworker Safety	
		LRSSB/LRG 41.0 Tramway Safety Audit guidance	
		LRSSB/LRG** Tram Train Integration	
		LRSSB/LRG 42.0 Signalling	
		LRSSB/LRG 43.0 Embedded Trackform Renewals	
		Exemplar SMS produced for sector.	
	Review	Review all existing documents in line with cyclical review requirements.	35 documents reviewed
	Influence	Formation of UK mirror groups to ensure appropriate input into development of Guidance / Standards.	Formation of groups
	Influence	Develop framework of sector expertise to provide representation at BSI working groups.	Ongoing utilisation of sector experts for specialist activities

# HEALTH & WELLBEING

As part of the LMS sector workshops, one area of focus for the LRSSB was Health & Wellbeing and understanding what each organisation offered within that space. As a whole, the sector has responded positively to enhancing its offerings to employees over the past 12 months, and LRSSB wishes to build on this and further support the sector and recognises how important H&W being is.

In response, LRSSB is in the process of drafting a H&W charter for the sector and wishes to be the self-appointed champion. In a more practical approach, LRSSB is currently building an Equality, Diversity, and Inclusivity module into the LMS platform, as well as stress awareness, Wellbeing Leadership and conflict awareness courses all highlighting the challenge light rail staff face and how we can standardise the approach to dealing with this.

In recognising that it must lead from the front, LRSSB has also started within and updated its own H&W policy and is currently reforming all its internal staff policies which are currently being rolled out in 2024.



Section	Activity	Deliverable	Measure
HEALTH & WELLBEING	Policy Production	The production of a Health & Wellbeing Policy.	Completed
	Online Hub	Production and roll-out of an online safety hub.	Phase 1 achieved

# Communications

Enhancing communication with key stakeholders whilst managing relationships with strategic partners has been another important pillar of the LRSSB's work over the past year.

Having previously developed a power/influence matrix, we have been able to effectively target priority audiences through a broad mix of communication channels.

As highlighted in the graphic below, we have consistently managed contact with core audiences, including those within government, regulatory bodies and other sector leaders, through regular meetings. Alongside these activities, tools such as social media, e-shots and the trade press have been utilised to deliver appropriate messages to the wider sector and other stakeholders.



Section	Activity	Deliverable	Measure
STAKEHOLDER ENGAGEMENT	Engagement	Maintain or develop channels identified in Stakeholder Engagement Plan.	Achieved
		Establish sector Working Group.	Achieved
	Influence	Enhance awareness of LRSSB role.	Continued stakeholder visits - new blog under development
	Capture Feedback	Ensure feedback is formally captured and retained - inform demand for new initiatives or enhancements.	Tracker updates



# Summary

LRSSB have now become an important partner to the whole light rail sector. We have worked hard this year to ensure that our position, offerings and services are both what our sector needs and also wants us to do. We are becoming ever more involved in the “mass transit” discussion and welcome the challenges posed by schemes such as Restoring Your Railways and Very Light Rail.

The signing of a Memorandum of Understanding with the ORR places the two organisations jointly on a path to improve safety and standards across the sector. The ORR are now also working with LRSSB in the production of their own reporting metrics.



The latest production of the Safety Risk Model demonstrated a 3% reduction in total collective risk. This level of evidence and knowledge would not be known if it wasn't for the work LRSSB carry out.

The sector now inputs routinely into the TAIR portal and can utilise its outputs more easily. This gives immediate reporting capability to each network.

The sector joined together with LRSSB to agree the Data Sharing Framework, which for the first time allows the sector to see safety metrics across individual networks. This pivotal moment allows cross network assessment, whilst also giving learning potential, and will serve to improve competency and standardisation across the sector.

The newly developed Safety Hub will greatly enhance and change the service user and customer experience

when interfacing with LRSSB, its software platforms, tools and information sources moving forward, effectively streamlining access to our products and resources. LRSSB will also be able to better administer, manage and control access to the services it provides.

LRSSB has worked hard to engage, analyse, consider and then lead in the areas either identified by empirical evidence or requested by the sector or our stakeholders. We believe that we are now fully embedded in our sector's fabric and thinking. As we move into the final year of the current funding cycle, we are extremely well placed to continue supporting and leading our sector. We have produced our strategic blueprint, and this will be consulted over the coming year as we develop our next strategic business plan and secure our position in the UK light rail sector.



# LIGHT RAIL

## Safety and Standards Board



West Midlands  
Combined Authority



West  
Midlands  
Metro



Blackpool Council

First Tram Operations

• EDINBURGH •  
THE CITY OF EDINBURGH COUNCIL

Edinburgh  
Trams



Department  
for Transport

ORR  
OFFICE OF  
RAIL AND ROAD

RAIB  
Rail Accident Investigation Branch

LUAS



Transport for  
Greater Manchester

keolis amey  
Metrolink



Transport  
for London

SOUTH YORKSHIRE  
SYMCA  
MAYORAL  
COMBINED  
AUTHORITY



Nottingham  
City Council

keolis  
NOTTINGHAM

SUPERTRAM  
SOUTH YORKSHIRE'S TRANSPORT