

UK
Tram



Department
for Transport

High Level Light Rail Summit 2015



The Trade Body for All British Isles
Light Rail & Other Guided Transport
Systems

Our Members

- Tramways, Light Railways, Metros, Subways, Heritage, ULRs & PRT Systems from all parts of the British Isles including, England, Scotland, Wales, Ireland, Northern Ireland, Channel Isles and the Isle of Man.



- System Operators



•Maintainers of Infrastructure & Rolling Stock



•Passenger Transport Executives, City, Town, County Councils



•Concessionaires

•Manufacturers & Trade Suppliers

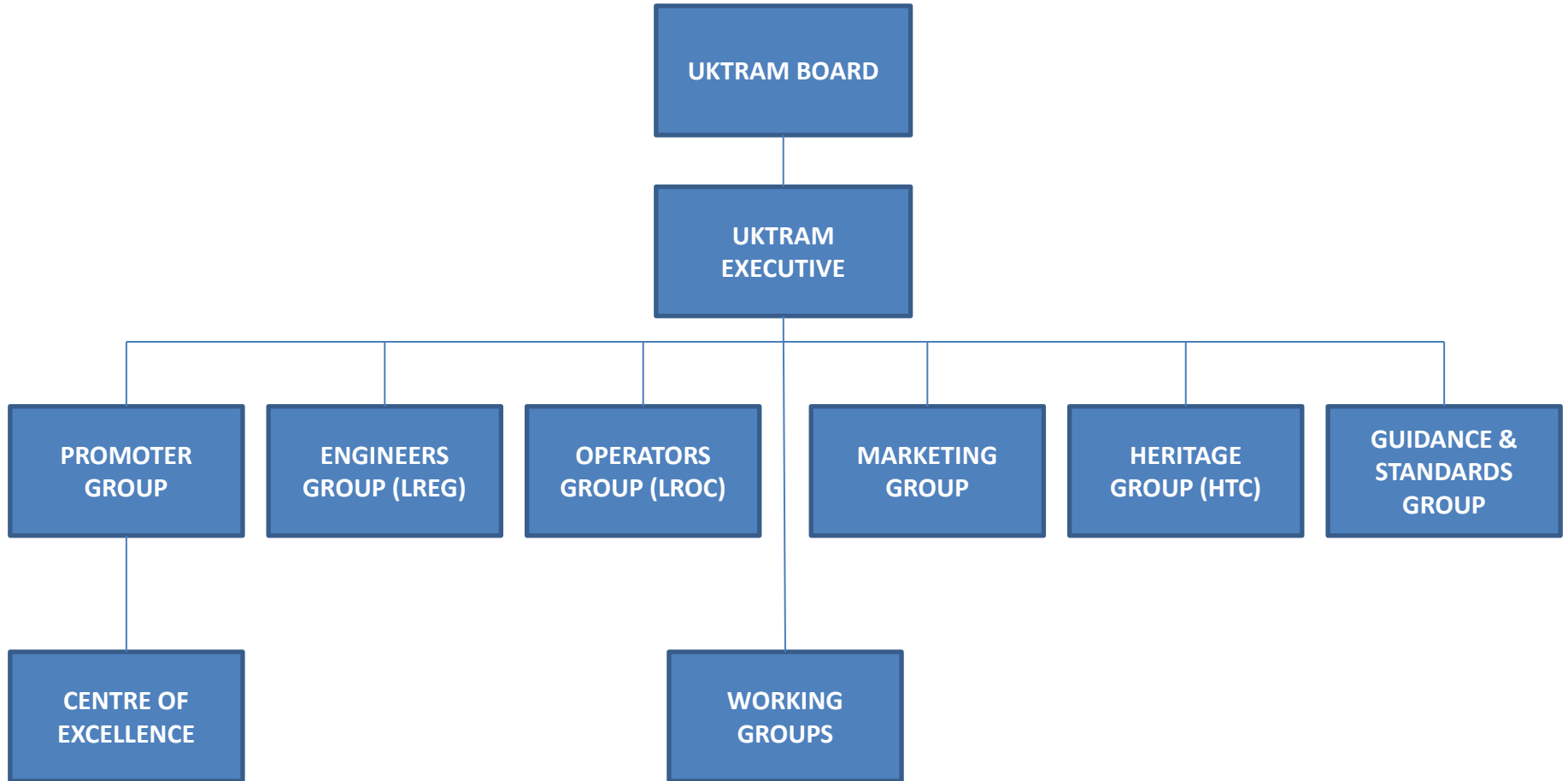


•Industry Advisors & Experts

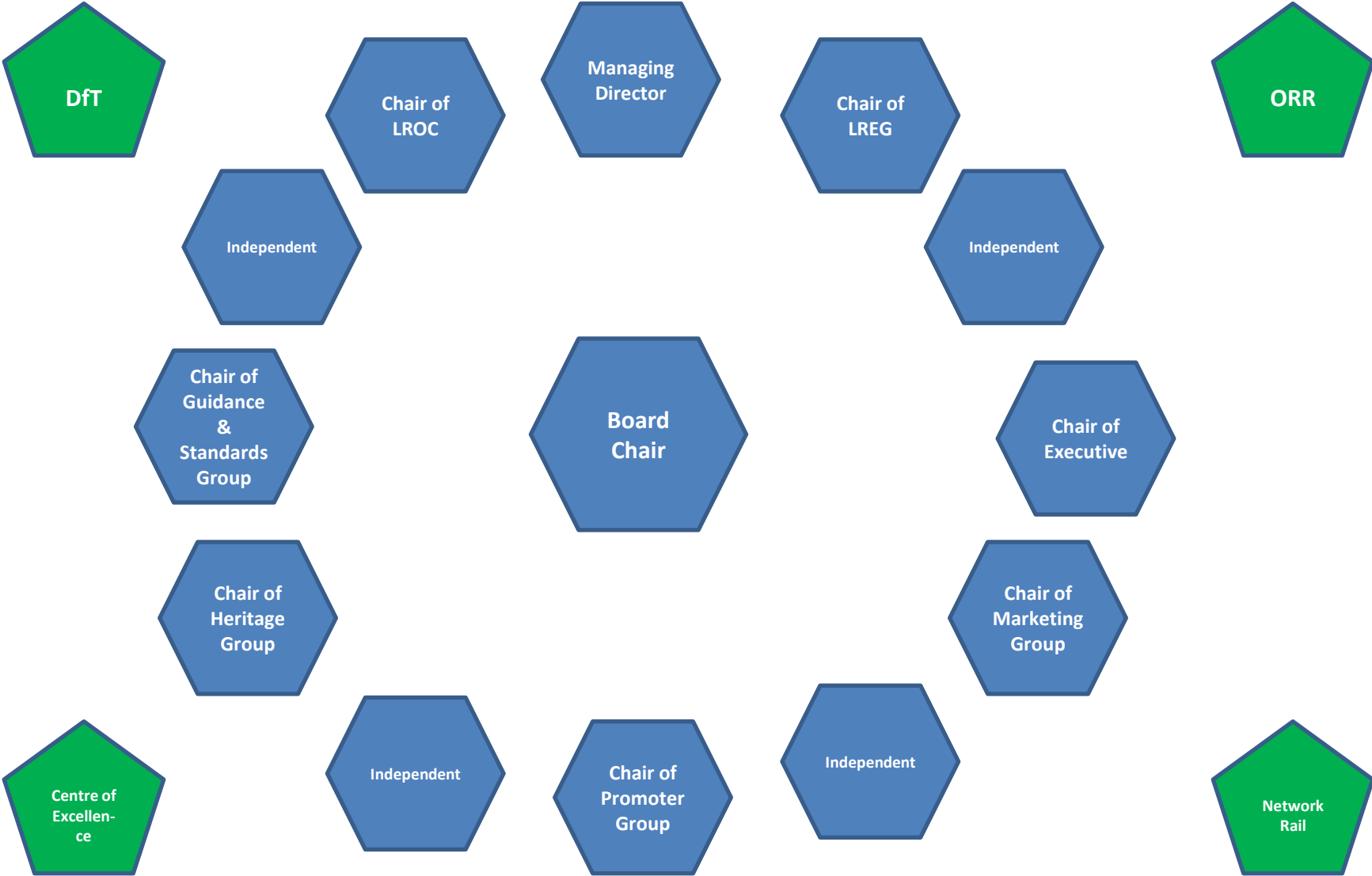
Taking the lead role for the industry in all matters, including:

- Promoting Trams, Light Rail, Metro's, ULR & Other Guided Transport Systems
- Technical Standards
- Government Lobbying & Liaison
- Group and Industry Best Practice
- Centre of Procurement Excellence
- Keeper of RSP2 including all Associated Guidance & Standards
- Knowledge & Experience transfer & sharing
- Academic Development & Training
- European & International Liaison
- Innovation & Development

UKTram Structure



UKTram Board



Executive Members

Managing Directors/Company Directors/Senior Managers From:

- Operators
- Concessionaires
- Passenger Transport Executives
- Suppliers/Manufactures/Advisors & Experts

Group Members

Promoters Group:

Representatives From:

- Passenger Transport Executives
- County Councils
- City Councils
- District Councils

Guidance & Standards Group:

Industry Experts from:

- Any UKTram members
- UKTram's Associate Members

Marketing Group:

Representatives From:

- Manufacturers
- Industry Advisors
- Industry Suppliers
- Industry Experts

Heritage Group:

representatives from:

- Heritage Tramways Committee
- Heritage Operators, Duty Holders & Representatives

Group Members Continued:

Light Rail Operators Committee:

Operations/Customer Service/
Safety & Standards Managers
From:

- Second Generation Tramways
- Light Railways
- Metro's
- Subways
- Ultra Light Railways
- Passenger Rapid Transit Systems
- Heritage Systems

Light Rail Engineers Group:

Engineering/Rolling
Stock/Infrastructure Managers
From:

- Second Generation Tramways
- Light Railways
- Metro's
- Subways
- Ultra Light Railways
- Passenger Rapid Transit Systems
- Heritage Systems

Group Assignment & Selection

- All UKTram members will be asked to select Group membership on Application – UKTram to confirm requests.
- Attendance to all other Group meetings as observers fully welcome.
- Any Group vote only includes members of the group and not observers.
- Meeting minutes available to all members

UKTram Board Set Up 2015



Chairman
Geoff Inskip
Centro



Managing Director
Colin Robey
Guidance & Standards Chair



Chris Coleman
Executive Chair
RATP Dev
Metrolink



Peter Cushing
Promoter
Group Chair
TfGM



Dean Watkins
LREG Chair
NX Midland
Metro



Claire Ansley
LROC Chair
Stagecoach
Supertram
Sheffield



Geoffrey Claydon
Heritage Group Chair
HRA/HTC



4 x TBC
Independent Candidates
To be Elected



TBC
Marketing Group Chair
To be Elected

Observers from Centre of Excellence, *Network Rail*, *ORR* & *DfT*

Board Member Elections

- Executive Chair, & Vice Chair elected by Executive members & approved by Board of Directors on a 2 year term.
- Group Chair's & Vice Chairs elected by individual Groups members on a 2 year term.
- Staggered Elections to keep continuity of the board
- Individual Candidate Elections voted on by ALL UKTram members.
- Managing Director Elected by Board members
- Chair of the Board Elected by Board members on a 2 year term.
- Members informed of all Board, Executive & Group changes.

UKTram Team

The UKTram Team – At your service.



Colin Robey
Managing Director
1 day per week



James Hammett
General Manager
Full Time



Julie Bates
Coordination Officer
Full Time

Meetings & Events

Quarterly meetings for each Group Best Practice Days (Planned for 2 per Year) High Level Summits

- **Meeting Group, Date, Location & Host**
- **Executive:**
 - 18/03/15 – EGM – Birmingham – UKTram
 - 02/04/15 – Birmingham – UKTram
 - 02/07/15 – Birmingham – UKTram
 - 01/10/15 – Birmingham – UKTram
- **LROC :**
 - 12/03/15 – Edinburgh – Edinburgh Trams
 - 11/06.15 – Sheffield – Stagecoach Supertram
 - 17/09/15 – TBC
 - 03/12/15 - TBC
- **LREG:**
 - 12/02/15 – Sheffield – Stagecoach Supertram
 - 14/05.15 – Glasgow – SPT Subway
 - 13/08/15 – Blackpool – Blackpool Transport
 - 12/11/15 – TBC
- **Promoter Group:**
 - 14/04/15 –
 - 14/07/15 -
 - 13/10/15 -
- **Marketing Group**
 - 05/03/15
 - w/c 08/06/15
 - w/c 07/09/15
 - w/c/ 07/12/15
- **Heritage Group**
 - 13/03/15 Seaton, Seaton Tramway
 - 11/06/15 Sheffield
 - w/c 21/09/15 – Birkenhead – MTPS
 - 03/12/15
- **Guidance & Standards Group**
 - 27/02/15 – Birmingham - UKTram
 - 27/05/15 – Birmingham - UKTram
 - 27/08/15 – Birmingham - UKTram
 - 27/11/15 – Birmingham – UKTram
- **Other Events**
 - 04/02/15 – High Level Summit – London
 - 13/03/15 Best Practice Day - Edinburgh
 - 17-18/06/15 – Light Rail Conference – Nottingham

External Associations, Memberships & Partners



- As members of the Rail Alliance, and our association with the RIA, UKTram and its members have access to events, conferences and workshops held by these groups.
- UKTram is represented within RSSB, VDV, CEN/CENELEC and UITP, updates and developments & working groups for their activities will be circulated to relevant member groups and can be found on our website.

Plans & Focus Areas

- UKTram plans to Focus on Areas and topics, chosen by its *members* for the benefit of the whole Industry.
- Our philosophy is the more we work together the more we will achieve.
- We want all our members to value their membership as much as we value theirs.

Thank You.



UKTram Executive Update

James Hammett

Executive Update

- Evolved from CPT Fixed Track Section & Delivery Group
- New Chair & Vice Chair appointed
- Executive members canvassed
- Working Groups reviewed
- Working Groups reactivated, parked or progressed
- Working Group Terms of reference drawn up
- Reporting format set
- EGM called for focus group meeting 18th March 2015 to set targets & aims for 2015



Guidance & Standards Group Update

Colin Robey – Group Chair



Promoter Group Update

Peter Cushing -Group Chair



Engineers Group Update

Colin Kerr - LREG Vice Chair

Light Rail Engineers Group – (LREG)

- High Risk Defect Information Sharing
- Low Impact Light Rail Information
- DC Equipment Protection & testing
- Outstabling Vehicles
- Derailment awareness courses
- Shared apprenticeships and training
- OLE movement detection
- Shared plant and equipment
- Under-run protection
- Shared spares & obsolete equipment



Operators Group Update

James Hammett

Light Rail Operators Committee – (LROC)

- New Chair & Vice Chair appointed
- Customer Service focus
- Safety Initiatives & Standards
- Drive Safe
- Social Media
- Training and development of staff
- Incident reviews
- New format & agenda items
- Safety management
- Lessons learnt
- Revenue Strategy
- Smart Ticketing Developments
- Disruption handling & response
- Event handling & Control



Marketing Group Update

James Hammett

Marketing Group

- First Marketing Group meeting 5th March 2015
Birmingham
- Members welcome
- Appoint Chair & Vice Chair of Group
- Set Focus areas for Group
- Review Studies – Economic Impact of Light Rail
- Expand on Government Lobbying – Fringe Group with APPLRG
- Strengthen and Promote the knowledge & reputation of Light Rail in the UK
- Promote UKTram & the UK Industry Internationally
- Industry Days



Heritage Group Update

Geoffrey Claydon – Group Chair



**Low Impact Light Rail
Update**

Paul Griffiths



Ultra Light Rail Update

Bob Chard – ULR Group

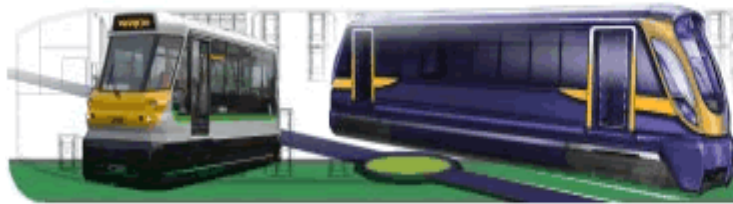
Introduction

There are currently seven companies in the Ultra Light Rail (ULR) Group. The group is open for new applications for membership from companies working within the definition of ultra light rail.

The ULR Group members are:-

- Lightweight Community Transport Ltd.
- Sustainable Transport Company Ltd (Sustraco).
- Trampower Ltd.
- Parry People Movers Ltd.
- Trelleborg ppL Ltd.
- Pre Metro Operations Ltd.
- GO-OP Co-operative (ULR) Ltd.

The Group has produced a guide to Ultra Light Rail which can be made available to prospective ULR project promoters.



PARRY PEOPLE MOVERS

Affordable, low carbon light rail

01384 569553

Pre Metro Operations

Pre Metro Operations Ltd
Operator of the Stourbridge Shuttle
Under Contract from London Midland



Trampower



Vehicles

Several ULR companies are developing new vehicles with improved specifications.

- Two class 139 vehicles are operational in a permanent public transport service at Stourbridge.



- Two different types of vehicle operate permanent leisure services at tourist venues; (Southport pier and a cave system in Oman).

The Stourbridge vehicles demonstrate:-

- Excellent reliability now at 99.7%
- Potential for exceptionally low operating costs
- Impressive customer acceptability
- Commercially exciting revenues growth with the systems having carried in the region of 500,000 passengers last year and 3.4 million since operations began.



Vehicle Development

Five new vehicle types are under development / construction

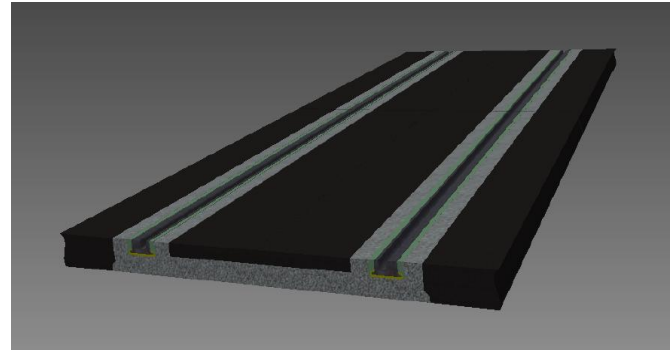
- The Trampower 200 city class tram and the Lightweight Community Transport class 139 tram are available for demonstrations in 2015.
- New bogie vehicles are at the design stage
- Alternative fuel options to diesel and grid electricity are at the research stage; including:-
- Hydrogen fuel cells
- Biomethane made from waste



Track Systems

Different track systems are required for different applications:-

- In street
- For green-field sites such as eco towns
- For extant railway formations with ballast
- Level crossings
- Elevated ULR structures



Several different innovative, low cost and patented track systems are under development by Telleborg and Trampower.

- In order to achieve cost effective solutions a combination of different track types will normally be required for a new ULR system.
- LR55 track has been tested and proven at Sheffield tram depot
- Other innovative track systems could be delivered with manufacturers guarantees.



Market & Future Opportunities

All ULR companies are actively investigating new market opportunities to develop ULR systems.

At the present time the easiest and most profitable route to rapidly achieve fully commercialised ULR in service should be with new services on existing peripheral railways.

On going evaluations for specific projects suggest that if anything our estimate of 500 commercially viable ULR systems in UK could be an under estimate.

Desktop studies suggest that for many airports with below about 10 m.p.p.a. throughput a ULR link could be the most cost effective way to achieve their Surface Access Strategy targets to reduce GHG emissions.

ULR should have a role in big city pedestrian priority streets where air quality improvements and bus decongestion are required.

If all ULR slow speed railway and tram proposals are given political and funding support, similar to high speed rail, then they could achieve greater passenger numbers and greater passenger kms. p.a. than high speed; and with a Zero Carbon footprint.

ULR Group is working closely y with UKTram on potential sites, systems and developments

Delivery Mechanism

The ULR companies are co-operating to collectively make their consultancy and financial expertise available to all clients.

- Trampower have developed a computer software passenger forecasting tool designed specifically for ULR applications.
- Lightweight Community Transport have developed community fundraising mechanisms, which are capable of funding all types of ULR vehicles for leasing.
- It has been demonstrated that major energy supply companies will be prepared to substantially fund ULR systems (subject to DfT endorsement and consents and approvals being in place).
- Sustraco, Lightweight Community Transport and Trampower collectively have consultant experts in all aspects of benefit / cost analysis value for money econometrics, as well as a wide range of consents and approvals expertise.
- Pre Metro operating expertise can be made available to prospective ULR project developers.
- There is scope to significantly increase contributions towards the initial capital costs of ULR systems from Local Transport Authorities, Developers and all Railway Undertakers; with corresponding benefits to both the contributors and the travelling public.



Working Group 3A
Pedestrian Crossings

Phil Hewitt – WG Group Chair



ORR Update

David Keay



Keynote Speech

Baroness Kramer



Department
for Transport

Progress report

Green Light for Light Rail



R.A.I.B. Update

Carolyn Griffiths



Rail Accident Investigation Branch

The Rail Accident Investigation Branch

04 February 2015
DfT/UKTram Summit

Summary

- Introduction
- Overview of how we work
- Example broad lessons from accidents
- Working with tramways and UKTram
 - General liaison
 - Accredited agents
 - Training of RAIB Inspectors
 - Passive safety
- Edinburgh tramway update
- Conclusions

Introduction

- All UK tramways that cross a carriageway fall within RAIB's scope (except Edinburgh-covered later)

- At least one investigation on each of the major tramways;
 - Birmingham,
 - Blackpool,
 - Croydon,
 - Manchester,
 - Nottingham,
 - Sheffield.

- Apart from investigations, the RAIB work with tramways in other ways (see later)

The story so far, 9 years on.....(2014)



Deployed to 454*
incidents



Rail Accident Report



Derailed in Summit tunnel, near Todmorden,
West Yorkshire
28 December 2010

Published 252*
investigation reports
and 40* bulletins

Average 4-5
recommendations
per report

Over 90%* have
accepted or been
implemented

7%* awaiting
response

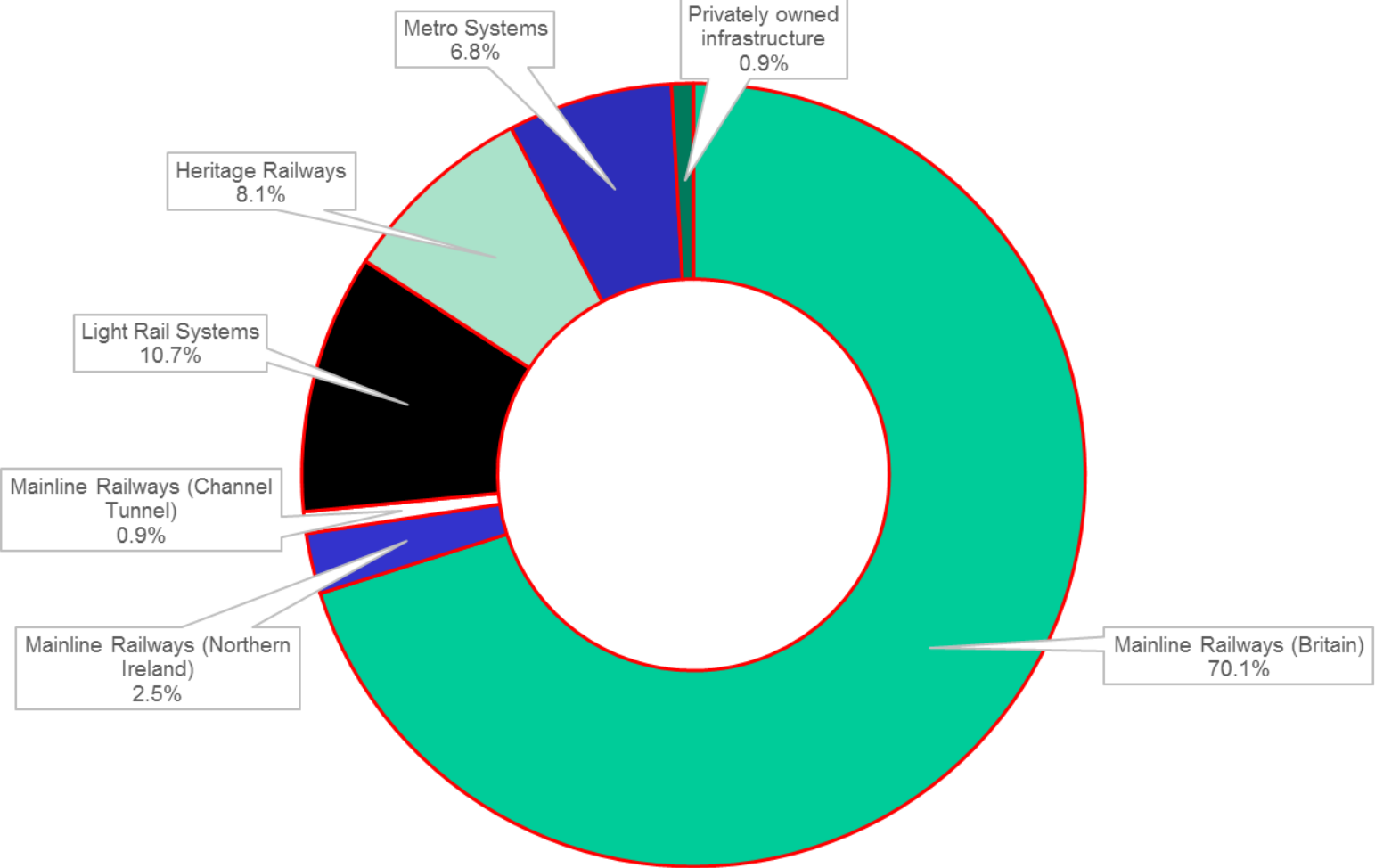
3%* not
implemented

* As at August 2014

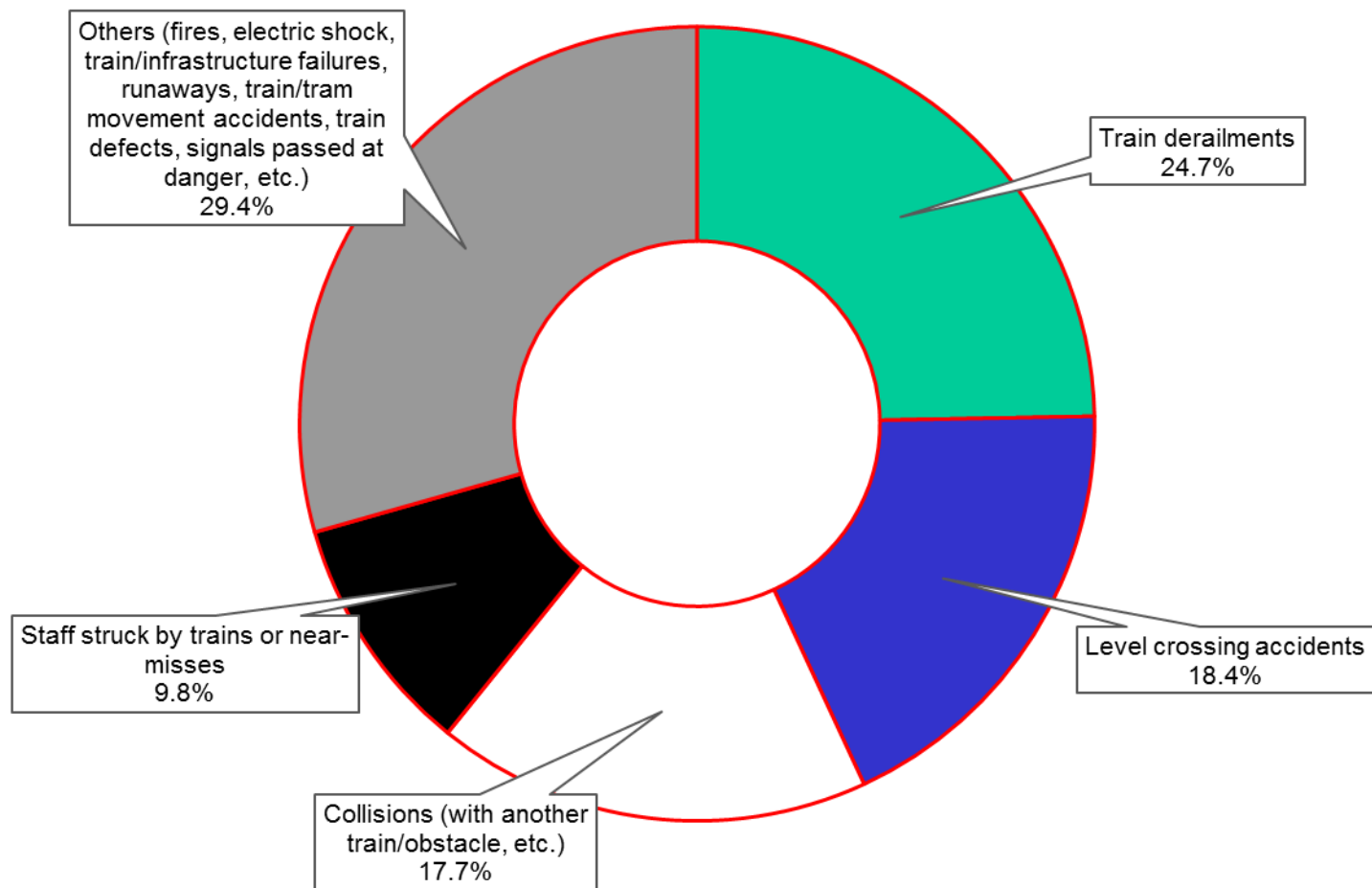
- RAIB selects investigations based on potential for improving safety.
- Not on industry risk model
- Investigations inform industry view of risk.



RAIB investigations by railway sector



RAIB investigations by principal causes



- **Circa 10% of our work relates to tramways**
- Most common accidents we investigate are tram/pedestrian collision and derailments
- Tram/road vehicle collisions (also common) but rarely result in serious injury and often Road Traffic Accidents

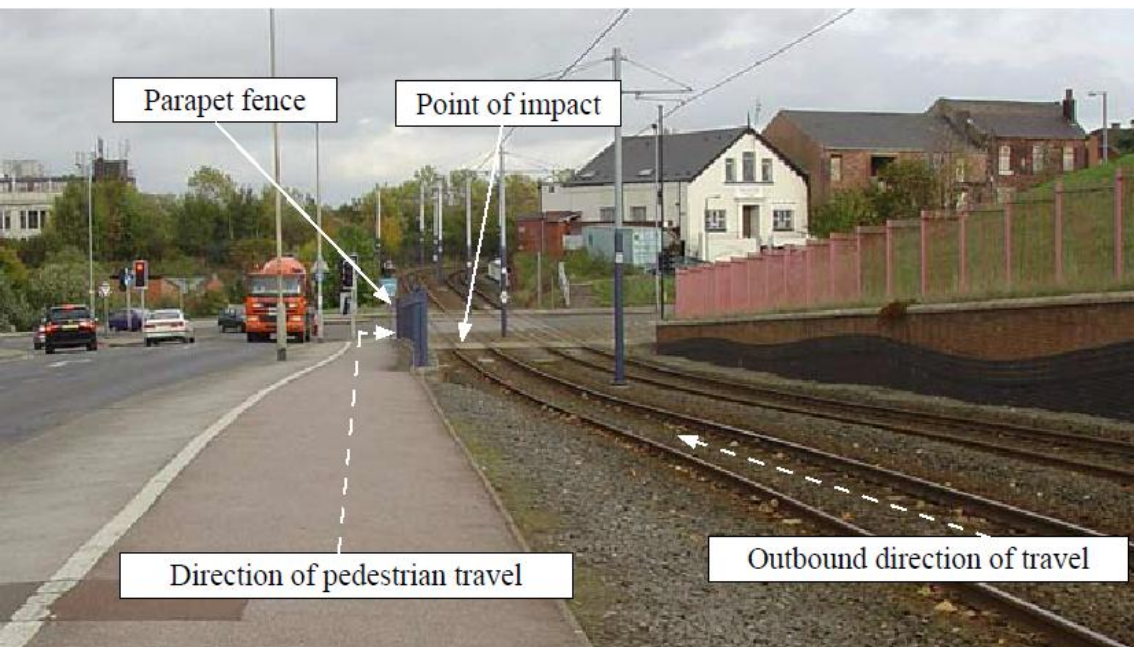
- Derailments 10
 - LX 6
 - Collision with another tram 4
 - Pedestrian hit by tram 2
-
- Fire 1
 - Runaway 1
 - Staff hit by tram 1
 - Door incident 1
 - OHLE collapse 1



Example broad lessons

- Staniforth Road, Sheffield: tram/pedestrian collision
- Sandilands tram/pedestrian collision
- Piccadilly Gardens, Manchester: tram/pedestrian collision

Staniforth Road – 27 Oct 2005



- Tram struck and seriously injured a pedestrian on the foot/cycle crossing adjacent to the Staniforth/Woodbourn road junction
- Design and positioning of the parapet fence separating the foot and cycleways from the tramway on the approach to the crossing may have been a contributory factor

Staniforth Road

- Design of fence;
 - pedestrians become invisible to the driver until immediately prior to impact
- HMRI tramway design guidance at the time, referred to the pedestrian's view of trams, but not the other way round
- The guidance was amended as a result of an RAIB recommendation to additionally include consideration of the driver's view of pedestrians

Sandilands – 16 May 2012

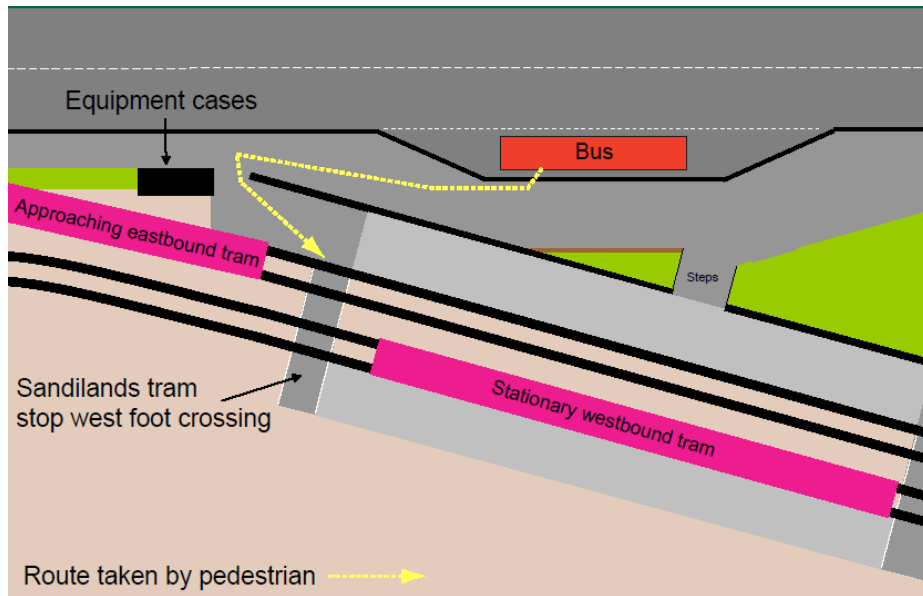


Figure 4: The pedestrian's route from a bus to the westbound platform at Sandilands



Figure 5: The obstruction to the pedestrian's view of approaching eastbound trams at Sandilands tram stop

- Pedestrian struck by tram on foot crossing, resulting in serious injuries

Sandilands

- She did not look for eastbound trams. The approach had not been configured to encourage or make it easy to look both ways

- Recommendations include ORR to re-evaluate and revise its guidance (now intended that industry-wide guidance falls to UK Tram) relating to
 - sight lines at crossings,
 - pedestrian approach angles and
 - under-platform recesses

Piccadilly Gardens – 5 June 2011

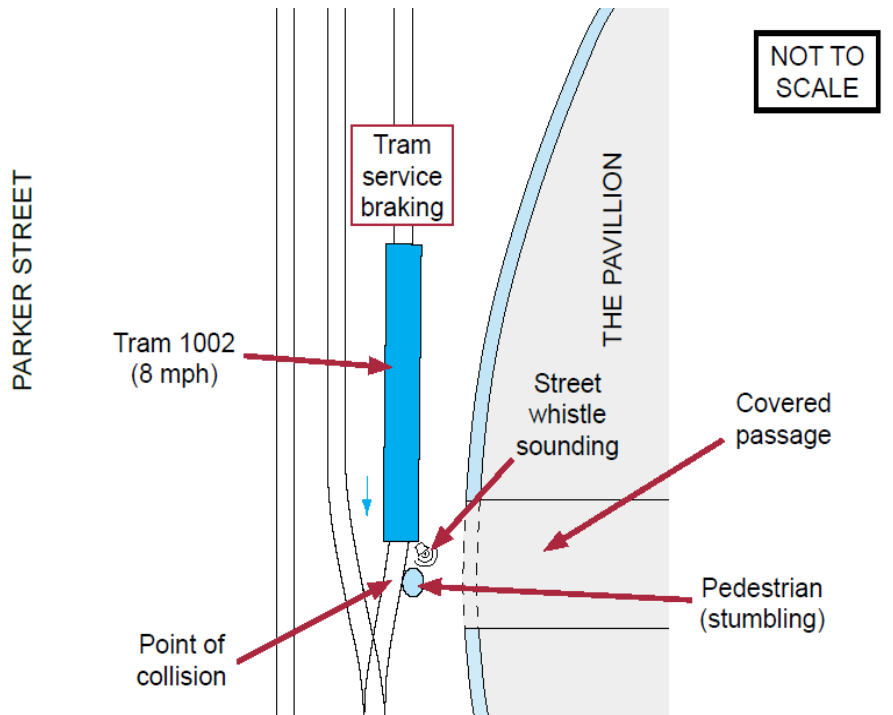


Figure 7: Positions of tram and pedestrian approximately 1 second before the accident

- Tram struck and fatally injured a pedestrian
- Pedestrian ran from covered passageway and couldn't stop in time, falling in front of the tram.

Piccadilly Gardens



- Tram speed was around 8 mph at initial impact
- Pedestrian initially sustained 'survivable' injuries from the impact with the front of the tram, but the underrun protector caused fatal injury

Piccadilly Gardens

- This design of tram has since been replaced as part of the upgrading of Manchester Metrolink
- RAIB (who commissioned MIRA to assist) reconstructed the incident to determine how a very low speed accident could lead to fatal injury
- Recommendations made to UK tram industry
 - data collection and research into improved tram front-end design
- Industry are in process of data collection and UK Tram and ORR are working to find a way of addressing the second via European standards

General Liaison with the tram Community

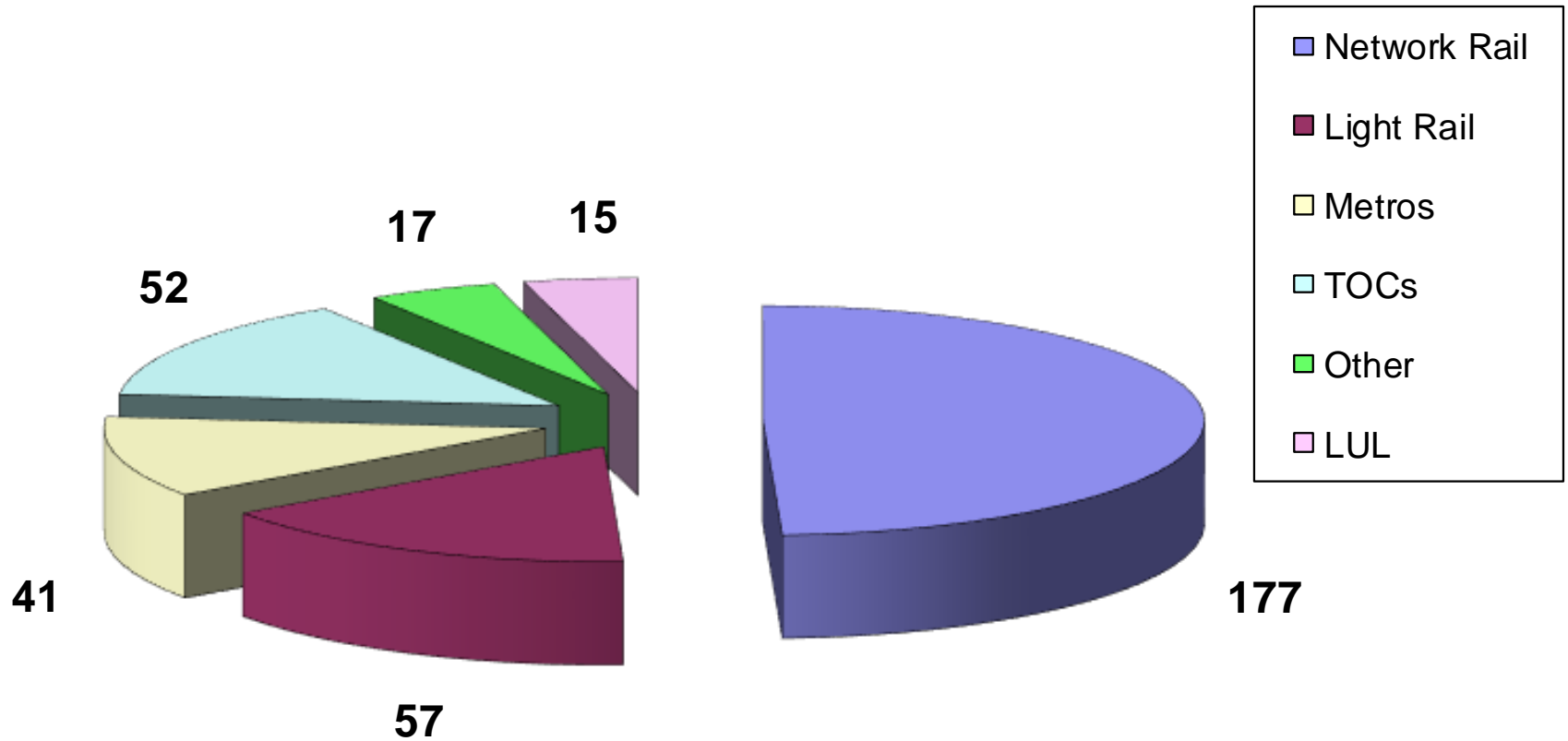
- Light Rail Operators Committee & Light Rail Engineers Group both meet quarterly
Previously RAIB attended and briefed each group once per year
- Now both groups are part of UK Tram,
 - RAIB will attend and brief UK Tram Executive group once per year
- This year that is scheduled for 2 July

Accredited Agents

- RAIB run scheme for whole rail and tramway industry
- Industry employees record or preserve evidence prior to arrival of RAIB inspector
- Trained and certificated by RAIB on a 2 yearly basis
- All tramways have AAs

Accredited Agent distribution

01 January 2015 - 359 Active Agents



Training

- RAIB inspector initial training includes a 1 week course on Light Rail
- It includes visits to tramways and other elements provided by the industry
- RAIB have 3 new inspectors currently under training
- Their LRT training is scheduled for June
- RAIB and UK Tram are in discussion over the provision of elements of this

Passive Safety

- As a result of lessons from Piccadilly Gardens, UK Tram and ORR are seeking to influence EU standards
- To assist, RAIB have proposed a joint RAIB/ORR paper to the Passive Safety Conference, Berlin in May. UK Tram positive

Edinburgh Tramway

- Edinburgh tramway currently out of Rail Accident Investigation Regulations scope, but Transport Scotland wish them included
- Amendment to Regulations currently with House of Lords – Royal Assent estimated as March, coming into force in May
- An interim MOU to enable RAIB to assist Transport Scotland, in the event of a serious accident, has been negotiated.

Conclusions

- Tramways constitute about 10% of RAIB's work although recently our involvement in tram accidents has been lower
- While most lessons are specific to the tramway concerned, there are plenty examples of more widely applicable lessons
- Generally relations are good and we value the support the Light Rail industry give us
- As contact with each Tram system not that frequent; contact during investigation welcomed.

Thank you



UKTram Achievements Update

Colin Robey – Managing Director



UKTram Forward Action Plan

James Hammett – General Manager

2015 Work Streams & Aims

- Formation of Marketing Group
- *Marketing Group, Chair & Vice Chair selection by March 2015*
- New Board members from Groups & Individual Candidates by April 2015
- *Working Group Activity Review*
- New Working Groups set-up
- *Review RSP2 and associated Documents on transferral from ORR*
- Assignment of Centre of Excellence members
- *Best Practice Days in March 2015 & September 2015*
- High Level Summit in February 2015
- Sponsored Hall at Light Rail Conference
- *Newsletter & website updates*
- Tram Train Learning Report
- *HS2 Connectivity Plan*
- National Tram Accident & Incident Reporting Database (T.A.I.R.),
- *New Tramcar Safety Verification Document,*
- Trailing Bogie Derailment Detection,
- *Economic Impact of Light Rail Study review,*
- CEN/CENELEC EN Standards,
- Light Rail Test Fleet,
- *Lightweight Bogie Development,*
- DC Protection Testing Best Practice,
- *Door Trap Incident Analysis,*
- Low Impact Light Rail Competition: [www.uktram.co.uk/News/Low Impact Light Rail.aspx](http://www.uktram.co.uk/News/Low_Impact_Light_Rail.aspx)

Plans & Focus Areas

- UKTram plans to Focus on Areas and topics, chosen by its *members* for the benefit of the whole Industry.
- Our philosophy is the more we work together the more we will achieve.
- We want all our members to value their membership as much as we value theirs.

Summary & Questions?

*Roger Harrison – Tramlink
Nottingham/LRTF*



Department
for Transport

Thank You.