



Oversight Assurance Meeting

AGENDA

Date : Monday 14.11.2016

Time : 13:30

Venue: Knollys House; Meeting room 4/5

1. Summary of conclusions from Mods Panel (Cathy)
2. Confirmation of completed assurance
3. Arrangements to comply with USA from RAIB
4. Confirmation of no outstanding police action before resumption
5. Confirmation that RAIB actions are completed or can be ongoing in parallel with service resumption
6. Confirmation of no outstanding ORR action before operation resumes
7. Any remaining risks and how they would be mitigated
8. Comms in place for staff and customers
9. Summary of operational proposal to restart services if appropriate
10. Conclusions and recommendations by the panel and call to MD Surface Transport with the recommendation for ratification

NEXT MEETING: TBC

London Trams: Oversight Assurance meeting: notes

Date	Monday 14 November 2016
Time	15.30 – 18.00
Venue	Knollys House, meeting room 4/5
Present	Jon Fox, Cathy Behan, Tom Breen, Colin Matlock, Will Capps, Jill Collis, Gareth Powell, Martin Collett, Nick Baker, Rory O'Neill, Steve Dickering, John Rymer

No	Item
1	<p>Summary of conclusions from Mods Panel</p> <p>Cathy Behan updated on Mods Panel, used as suitable record of close out of assurance activities.</p> <p>An assurance plan is in place and an associated tracker is being used to deliver the necessary assurance for the works undertaken to repair the infrastructure. All assurance requirements are in hand and will be issued shortly.</p>
2	<p>Confirmation of completed assurance</p> <p>Condition precedent for resumption of service:</p> <p>1) reverse engineering the engineering design. Action: Will Capps/Martin Collett to approve process</p> <p>2) Conclusion of test vehicles results for passing clearances for both types of vehicle. Action: Martin Collett to approve</p> <p>3) Investigation into the kinematic envelope of the Stadlers. Action: Martin Collett to approve</p> <p>Jon Fox asked First Group if they had anything to add to completed assurance, they did not at this stage.</p> <p>Jon Fox asked the meeting to raise any HSE issues, there were none raised.</p> <p>Debate re: TSRs and PSRs: in the absence of any confirmation of the cause of the incident it was agreed it was logical to progress on the basis of temporary measures.</p> <p>Debate re: location of signage, fixing points, positioning of TSRs versus time-out of signalling.</p>

	<p>Jon Fox presented diagram of proposed positioning of signage. Diagram to accompany notes.</p> <p>Jon Fox asked First Group if there would be any other operational mitigation for the first trams when service is resumed eg. supervisors checking with drivers booking on if they were happy to drive solo through the site and were they aware of new operating conditions? First Group confirmed that these conditions and a check with drivers would be undertaken at the signing on point as normal and it was expected that the presence of a supervisor in cab would be on offer.</p>
3	Arrangements to comply with USA from RAIB
	<p>Jill Collis outlined comments/clarifications on the draft USA by RAIB. No comments on draft from First Group. JC will revert to John Cope from DFT/RAIB with comments/clarifications plus our intention to reply with a further response to the RAIB once the USA is issued.</p>
4	Confirmation of no outstanding police action before resumption
	<p>Confirmation received there is no outstanding police action before resumption of service.</p> <p>Note: BTP may join RAIB on tram reconstruction on 15 November.</p>
5	Confirmation that RAIB actions are completed or can be ongoing in parallel with service resumption
	<p>Confirmation received that RAIB actions are completed.</p> <p>Note: safe system of work required for removal of sign and relocation of police officer.</p>
6	Confirmation of no outstanding ORR action before operation resumes
	<p>Confirmation received there is no outstanding ORR action before operation resumes.</p>
7	Any remaining risks and how they should be mitigated
	<p>Further work to be done to assess whether there are any other curves on the network which need to be considered.</p> <p>Possible request for visit to crash site from family of deceased, in conjunction with BTP, provision of site protection, potential site to lay flowers.</p>
8	Comms in place for staff and customers
	<p>Ambassadors to be on site for morning and evening peak on 15 November with up to date information re: resumption of service.</p>

9	Summary of operational proposal to restart services if appropriate
	<p>1) Assurance is still being confirmed regarding the three condition precedents set out in section 2 above.</p> <p>2) A final proposal is needed regarding the TSRs to apply at critical points as agreed across the network.</p> <p>3) Proposal to start service on Beckenham and Elmers End branches earlier than New Addington branch. RAIB confirmed in writing they were happy with this earlier start up if without fanfare and where there is no change to the infrastructure. Any start of service on New Addington branch will only happen after RAIB tram reconstruction. RAIB have to sign over route back to London Trams.</p>
10	Conclusions and recommendations by the panel and call to MD Surface Transport with the recommendation for ratification
	<p>Action: Rory O'Neill: to set-up Further Assurance Oversight Panel on 15 November.</p> <p>Further meeting to be set-up w/c 14 November re: other sites on the tram network and wider risks, tentative date 18 November.</p>



Oversight Assurance Meeting

AGENDA

Date : Tuesday 15.11.2016
Time : 10:00
Venue: Knollys House; Meeting room 4/5

1. Resume of yesterday's Panel discussion, including notes
2. Update on RAIB reports
 - USA status
 - Interim report
3. Conditions precedent on infrastructure acceptance
4. Operational proposals review
5. Independent verification
6. Timelines
7. Conclusions and recommendations.

NEXT MEETING: TBC

London Trams: Oversight Assurance meeting: notes

Date	Tuesday 15 November 2016
Time	10.00 – 11.30
Venue	Knollys House, meeting room 4/5
Present	Jon Fox, Rory O'Neill, Nick Baker, Tom Breen, Cathy Behan, Steve Duckering, John Rymer, Martin Collett, Colin Matlock, Will Capps, Jim Medway by conf call: Jill Collis, Gareth Powell

No	Item
1	Resume of yesterday's Panel discussion, including notes
	Jon Fox gave a resume of yesterday's meeting, noting a number of yesterday's outstanding items are on today's meeting agenda.
2	Update on RAIB reports: USA status/Interim report
	USA status: RAIB formally issued the USA to TfL, TOL, ORR, BTP, with no material changes, on 14 November. Interim report: due to be issued during the afternoon on 16 November on their website. First Group intend to reply with no comments. TfL plan to reply by midday today, 15 November. Interim report will reference publication of the USA.
3	Condition precedent on infrastructure acceptance
	Martin Collett gave an update on the x3 condition precedents: 1) testing of passing clearances: MC confirmed that documentary evidence is in hand to clear this condition. 2) reverse engineering: awaiting final report but early indications are good (Post Meeting Note: report received and issue closed). 3) traction switching arrangements: it was reported that the supplier who had undertaken the repairs had just gone into administration but that alternative measures were being pursued to close this condition. Condition precedent still outstanding. Action: Martin Collett to revert with update on implications of 3) above
4	Operational proposals review
	Focus on temporary arrangements whilst awaiting outcome of report, 4 locations meet the criteria for TSR from 80 kph to 20 kph with a following sharp curve:

	<p>1) New Addington to Sandilands 2) Addiscombe to Sandilands 3) Sandilands to Lloyd Park (Larcombe Close curve) 4) Birkbeck to Harrington Road</p> <p>It was suggested that if there were other sites on the network they should be advised. Action: TOL to consider</p> <p>Colin Matlock updated the meeting on the positioning of TSRs/PSRs/T-boards at the 4 locations based on working principle to achieve a braking overlap.</p> <p>Debate about railhead conditions at this time of year, standard braking procedures, hazard braking application, full emergency braking. A configuration of temporary speed limits was proposed and consensus reached by the group.</p> <p>Positioning of signage: suggestion someone from First Group is in attendance for sighting reasons. Action: First Group</p> <p>A summary of these arrangements to be finalised and confirmed by TfL's engineers. Action: Colin Matlock/Will Capps</p> <p>First Group were asked what written procedure is in place for speed monitoring and would this be enhanced. First Group confirmed there was a procedure in place and this would be enhanced in the light of emerging circumstances. Action: First Group</p> <p>On tram data capture: consider if current capability is still appropriate (not a condition precedent). Action: Rory O'Neill/First Group</p> <p>Line-side advice devices: consider scope and benefit (not a condition precedent in itself but a meeting to be set up was agreed to be a condition precedent). Photo to accompany notes. Action: Rory O'Neill plus small team</p>
5	<p>Independent verification</p>
	<p>Gareth Powell updated the meeting that we have contacted UK Trams to request a peer review.</p> <p>The purpose of the review is to check the arrangements we have made based on the choices/decisions we have taken are appropriate. The scope and timescales of the review were currently under development at the time of the meeting.</p> <p>Jill Collis updated that legal are drafting a confidentiality document. Tom Breen is preparing a document bundle. Aim is for an initial conference call to be set-up. John Rymer to consult with First Group re: their involvement/contribution.</p>

6	Timelines
	<p>Signage: aim for layout activity today, 15 November, possibly tomorrow 16 November.</p> <p>Independent Verification: today, 15 November, and tomorrow 16 November.</p> <p>Resumption of service: forecast to be 17 November, with the possibility of starting services from Beckenham Junction and Elmers End from the start of service and on the New Addington branch some time after that day.</p>
7	Conclusions and recommendations
	<p>Cross-sharing of Terms of Reference for internal reviews was raised.</p> <p>Before return to service can be recommended the above condition precedents will need to be satisfied and it is expected they will be within the next 24 hours.</p> <p>A decision will be made on whether this will require a further meeting of this Oversight Panel or by other means.</p>

YOUR
SPEED

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6.	Timelines	<p>Trams Operations are ready for start of service. Gareth Powell commented on the stage of timing, with the New Addington Branch start of service starting later in the day due to the public marking the start.</p> <p>An empty tram is to be sent round the New Addington branch an hour or so before start of service.</p>			
7.	Conclusions and recommendations	<p>In summary</p> <p>No technical conditions or signage installations outstanding.</p> <p>Arrangements for speed regime monitoring – the wording to enhance regime publically</p> <p>Proposed that service to start at Beckenham junction in the morning and New Addington starting later in the day (after confirmation from the Stakeholder)</p> <p>Tom Breen is informing the ORR and RAIB of what we have done to date and will copy Steve and John into any communications.</p> <p>Nick Baker confirmed that Travel Ambassadors are still required and will be briefed before booking on.</p> <p>Once authorisation has been given to commence TfL staff will be informed.</p>	Tom Breen to liaise with ORR	Tom Breen – 16 th November	Ongoing
8.	AOB	No other business.			

From: Collett Martin
Sent: 16 November 2016 16:05
To: Gardiner Sarah
Subject: FW: Conditions Precedent

For attachment

From: Collett Martin
Sent: 16 November 2016 14:53
To: Fox Jonathan
Cc: Behan Catherine; Capps William; Breen Tom; Matlock Colin
Subject: Conditions Precedent

Following the reconstruction of the Tram incident site it is essential that the affected assets are assured as being fit for purpose for the resumption of Tram Operations.

An ad-hoc Trams 'Mods Panel' was convened on 14 November where the majority of the assets were able to be demonstrated as being fit for purpose for resumption of services. Due to the lag in undertaking site tests/inspections etc and production of appropriate certification/test evidence there were three areas which could not be agreed by the panel. It was agreed that it was essential that these items be appropriately certificated prior to the commencement of Tram Operations and were thereafter referred to as 'Conditions Precedent'.

The three items were:

- Passing Clearances for the Stadler Variobahn Trams
- Confirmation of the as-built track geometry
- Confirmation of any revisions to the High Voltage switching instructions

Taking these in order:

Passing Clearances for the Stadler Variobahn Trams:

On the basis that

1. Passing clearances for the Bombardier CR4000 Trams were measured on site and found to be compliant, and
2. Tables 4.4 and 4.5 of Mott MacDonald Report 'Method for Generating Tram Developed Kinematic Envelopes' clearly demonstrate that due to the configuration of a Stadler Variobahn tram which, whilst wider bodied, have tighter passing clearances than the CR4000 on track of this configuration

There is no requirement to undertake physical passing clearance checks for the Stadler trams.

Additionally tests have been undertaken to ensure the under-run protection fitted to the Stadler trams works correctly with the newly laid track.

Confirmation of the As-Built track Geometry

The as-built track layout has been topographically surveyed. The previous concerns regarding a non-compliant twist fault have been overcome. This survey has been evaluated by London Trams' Track Engineers. These reviews have confirmed that the installed track meets the necessary standards regarding alignment. Evidence to support this includes weld certification, ultra-sonic checks, clearance measurements, void checking etc with Forms A-G available following normal Trams Handback procedure.

In addition London Underground Principal Track Engineer (Sean Tarrant) has surveyed the site and raised no concerns.

As is normal for works of this nature the newly laid ballast is likely to consolidate as trams pass over it. This will be monitored until it has stabilised and resources are on stand-by on a nightly basis to pack the track as necessary. This is normal as poses no risk to the safe passage of trams at the planned line speeds.

The newly agreed temporary speed limit signs have all been installed to the appropriate clearance standards.

Confirmation of any revisions to the High Voltage

Works required to recommence service included the removal of the damaged cabinet and associated equipment, repairs and reconfiguration of cables within the area of the cabinet. This has been achieved such that there is no change to the Operators control of the power switching for day to day use i.e. the Mass Trip and Inter-tripping protection are fully functional as they were before the incident. The only change resulting from the works is the ability to remotely isolate areas should they be required for planned maintenance work. New instructions to facilitate this (should they be required) will be available from Wednesday 16/11/16 (Engineering Hours).

In the event of a power fault (eg sub-station fault) the previous ability to single end feed this section has been diminished. Should such a fault occur services may need to be thinned accordingly. Resolution of this resilience reduction is dependant upon the availability of long lead items and is anticipated to be in place by the end of January 2017.

On this basis I am assured that the assets are safe and fit to allow resumption of normal tram operations.

**Martin Collett BEng (Hons); CEng; FICE; FStructE; FIET; MAPM | Head of Engineering
London Rail | 10th floor (10R 170), Palestra, 197 Blackfriars Road London SE1 8NJ**



London Tramlink

Temporary signage proposals following 9/11/16 derailment

Introduction

At 06:07 on 9 November a tram travelling from New Addington towards East Croydon derailed at Sandilands Junction killing seven passengers and injuring many more.

The incident is the subject of a Rail Accident Investigation Bureau (RAIB) investigation. RAIB have issued an Urgent Safety Advice and an Interim Report. Whilst root cause has yet to be established these two documents are clear that based on the evidence gathered so far excess speed entering a curve was a key contributor.

London Trams (Infrastructure owner, maintainer and Infrastructure Manager under ROGS) have undertaken a review of existing signage and (until root cause is established) proposed additional temporary signage to mitigate the risk of reoccurrence.

Scope

The accident site has an approaching line speed of 80kph reducing to a line speed of 20kph very close to the incident site which was situated on a tight (30m radius) left hand (in the direction of travel) curve. Two factors were considered relevant, the first being a speed transition from 80kph to 20 kph, the other being a track feature which could instigate a derailment – in this case a 30m radius curve.

The network was reviewed for other locations with similar potential derailment features i.e. a 60kph speed reduction followed by a key track feature such as a tight (30m radius) curve.

Initially three further sites have been identified in addition to the incident site. The four sites under consideration are therefore:

- Lloyd Park – Sandilands (the incident site)
- Addiscombe – Sandilands
- Sandilands – Lloyd Park
- Birkbeck – Harrington Road

Sign convention

In accordance with Railway Safety Publication (RSPG) 2, and Traffic Signs Regulations and General Directions 2002 London Trams speed related signage adopts the following convention:

Permanent Speed Restriction: A reflective white diamond with a black border. The speed limit in kilometres per hour, is indicated by black numbering in the centre of the diamond.

Temporary Speed Restriction: A reflective white diamond with a red border. The speed limit in kilometres per hour, is indicated by red numbering in the centre of the diamond. Unlike the Permanent Speed Restriction (PSR) a Temporary Speed Restriction (TSR) is preceded by a Warning Sign and concluded by a Termination Sign.

The Warning Sign is as per the TSR signing but instead of the red bordered sign containing numbers it contains a red letter 'W' and is intended to warn the drivers of a non-standard condition ahead. This sign is ordinarily located on either an OHLE mast, signal post or other suitable post. It is situated sufficiently far in advance that the proposed speed reduction can be comfortably achieved under normal braking.

The Termination Sign is as per the Warning sign but instead of the red bordered sign containing a 'W' in contains a red letter 'T'. This indicates to drivers that whatever temporary speed limit previously applied, this is now no longer in force and normal line conditions apply.

Once the front of the Tram has passed the signage, in this case the Termination Board the driver can begin to accelerate to the full line speed.

Principles

Two key principles have been adopted at the sites deemed to have similar characteristics to those of the crash site

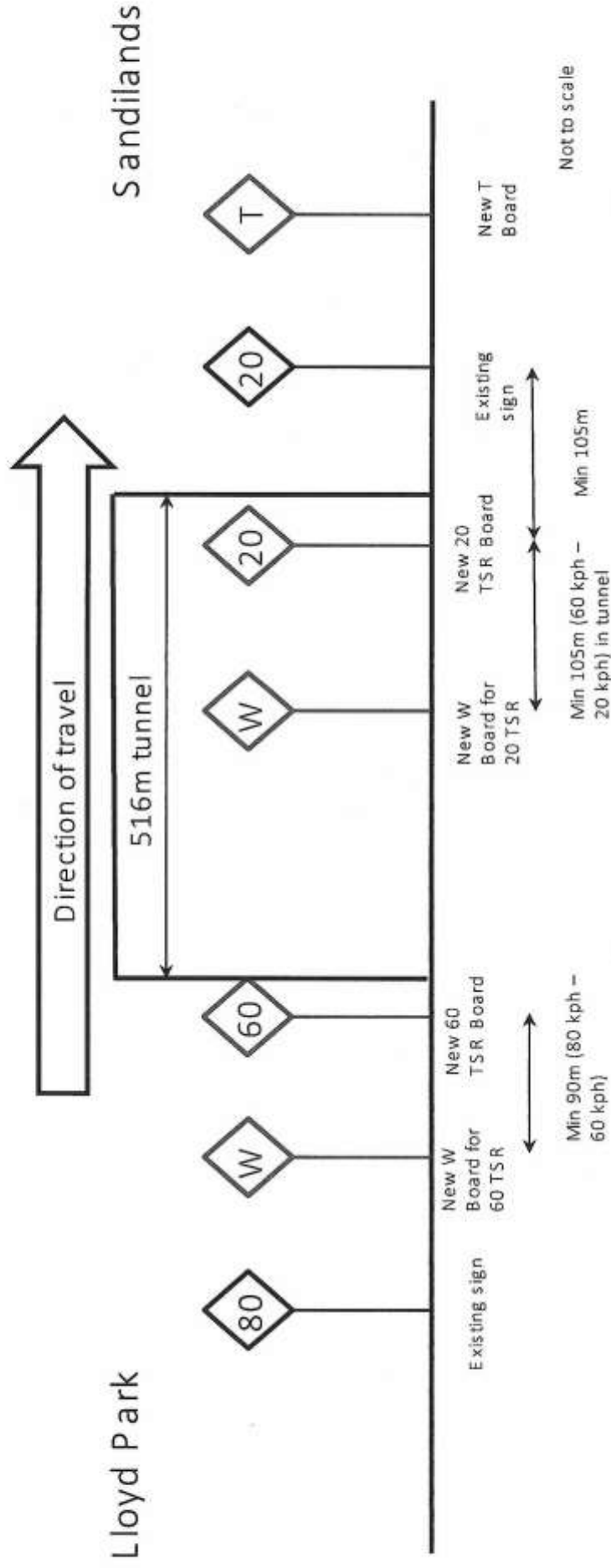
- Reduce the extend of the speed transition on the approach to the feature
- Introduction of a Brake Overlap Zone

Speed transition – At each site the current speed transitions are all of the order of 80kph – 20kph. The proposal is to introduce an intermediate reduction in speed such that the final reduction on the approach to the feature is less 'severe'. Typically this is to be achieved by the introduction of a temporary 40kph speed restriction. This is to some extent dependant upon local site conditions and in the case of the incident site the intermediate speed limit is proposed to be 60kph.

Brake Overlap Zone – In order to reinforce the current speed restrictions (typically 20kph) at the curves a new TSR is proposed on the approach to the existing signage. This will generally be a 'repeat' of the required speed limit at the curves and will be introduced at a distance commensurate with the application of a normal service brake at the new TSR ensuring the correct speed is achieved by the time the tram reaches the currently signed limit.

Proposed site specific layouts are attached below:

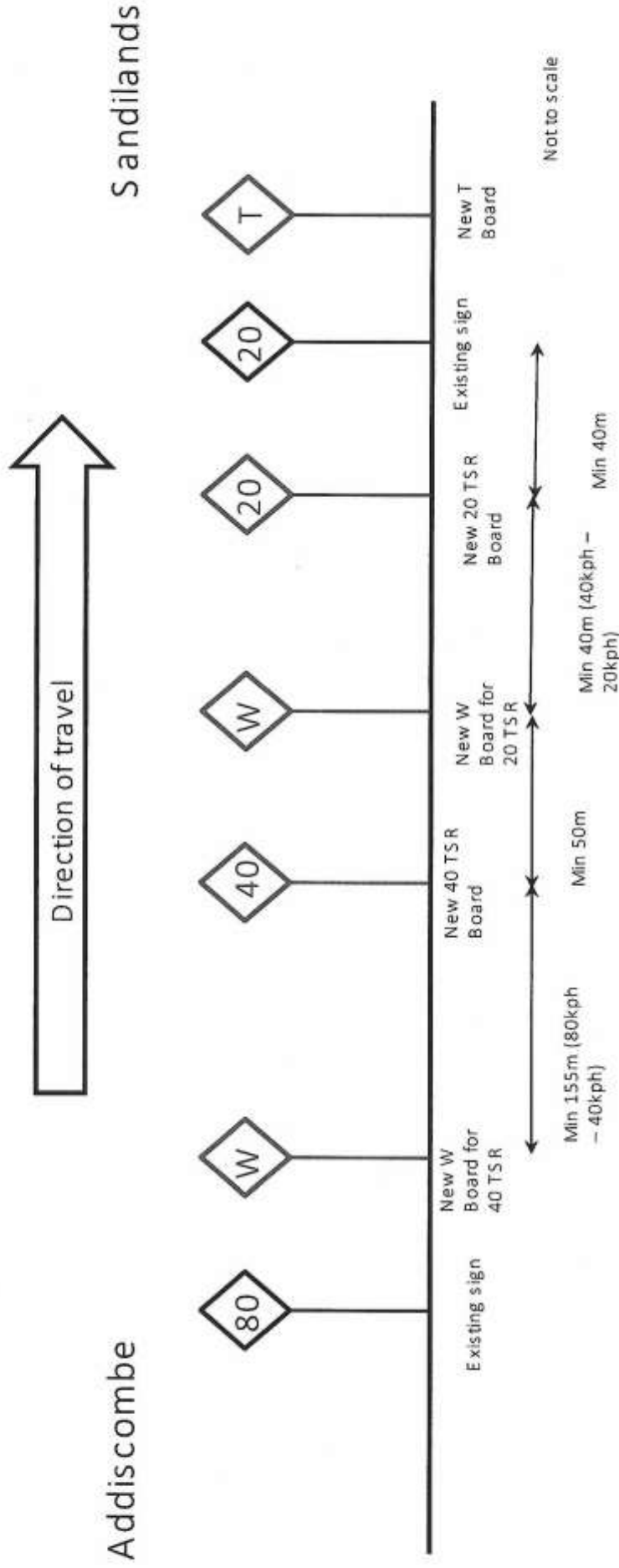
Site 1: Lloyd Park - Sandilands



Proposed changes:

- New 'W' board on tunnel approach to warn of new 60 kph limit
- New 60 kph TSR at tunnel head wall
- New 'W' board (position within tunnel) to warn of new 20 kph TSR
- New 20 kph TSR
- New 'T' board cancelling previous temporary arrangements allowing drivers to revert to normal operations

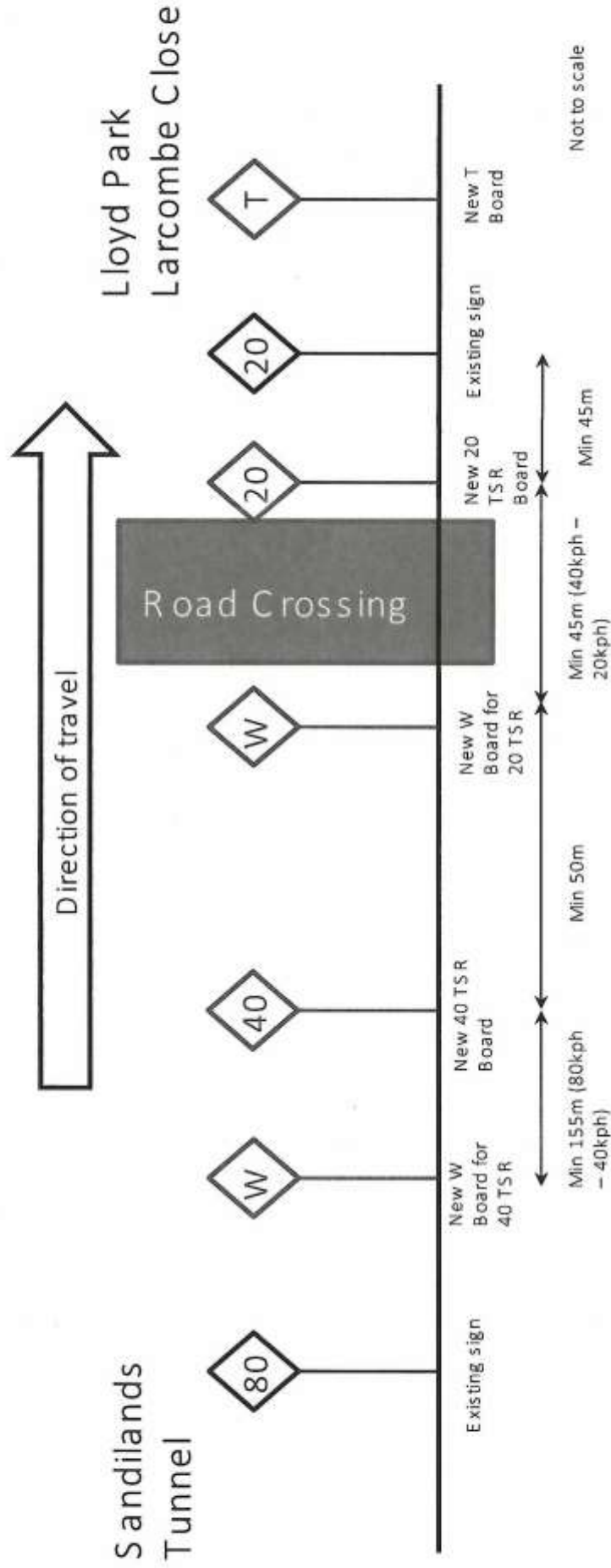
Site 2: Addiscombe - Sandilands



Proposed changes:

- New 'W' board to warn of new 40 kph TSR
- New 40 kph TSR
- New 'W' board to warn of new 20 kph TSR
- New 20 kph TSR
- New 'T' board cancelling previous temporary arrangements allowing drivers to revert to normal operations

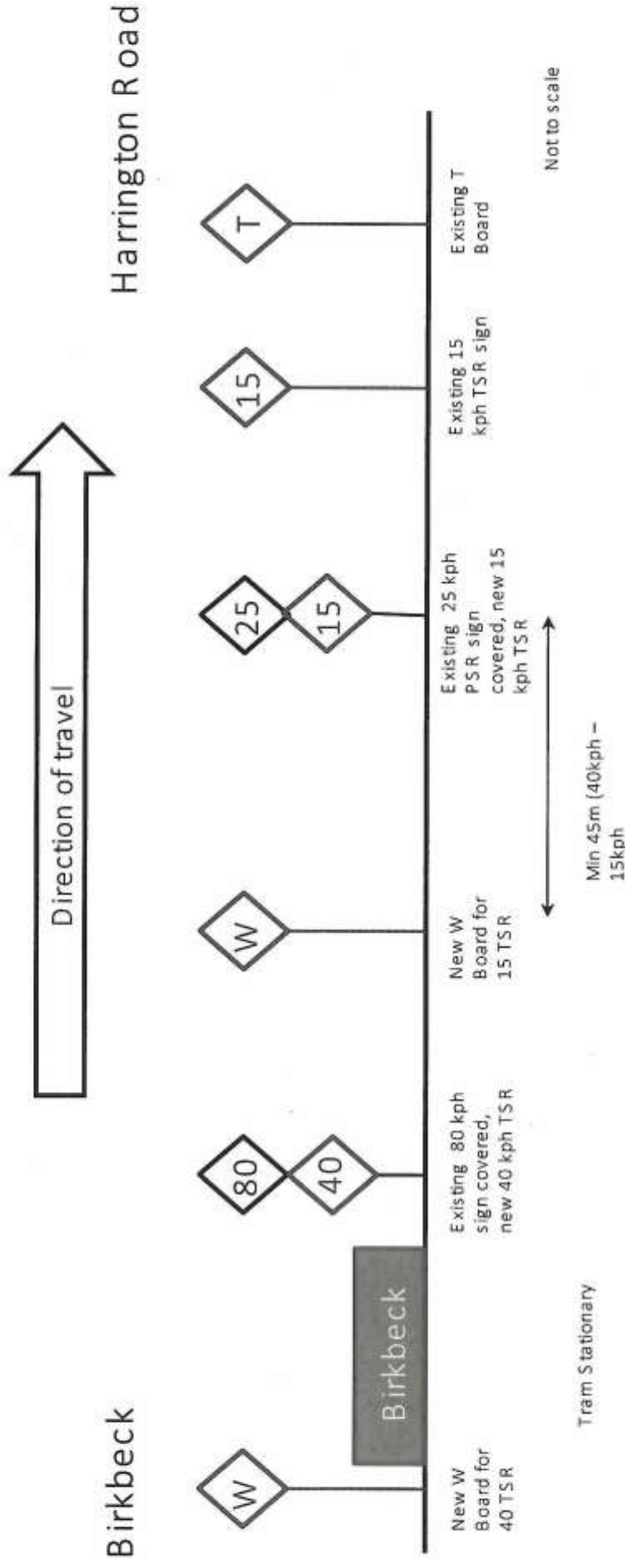
Site 3: Sandilands – Lloyd Park



Proposed changes:

- New 'W' board to warn of new 40 kph TSR
- New 40 kph TSR
- New 'W' board to warn of new 20 kph TSR
- New 20 kph TSR
- New 'T' board cancelling previous temporary arrangements allowing drivers to revert to normal operations

Site 4: Birkbeck – Harrington Road



Proposed changes:

- New 'W' board on approach to Birkbeck Tramstop to warn of new 40 kph TSR
- Existing 80kph sign covered, new 40 kph TSR installed on same post
- New 'W' board to warn of new 15 kph TSR
- Existing 25 kph sign covered, new 15 kph TSR installed on same post
- Existing 'T' board cancelling previous temporary arrangements allowing drivers to revert to normal operations

From: Capps William
Sent: 16 November 2016 17:13
To: Gardiner Sarah
Cc: Matlock Colin
Subject: the suggested 5th site

Assessment of the suggested 5th site for a TSR in line with RAIB USA

The site is located between Fieldway and Addington Village tram stops on the Croydon bound track
The line speed is 80 kph reducing to 25 kph, however the speed is reduced prior to the 25 kph as the driver needs to slow for the Stables Access road and the reversing points
The track beyond the 25kph PSR board is a 81m left hand curve on the approach to Addington village tram stop

The current assessment has not classified this as a high risk site for 2 reasons, firstly the curve is a much lower derailment risk due to the larger radius and secondly the speed is reduced due to other infrastructure.

William

William Capps

Head of Engineering (Acting)

London Trams | London Trams Depot | Coomber Way | Croydon CR0 4TQ

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Conference Call - Wednesday 16th November

Safety Assurance Peer Review

Attendees :-

UK Trams	James Hammett Colin Robey
TfL	Jon Fox (Chair) Jill Collis Rory O'Neill William Capps Colin Matlock Tom Breen Martin Collett

A conference call took place on 16th November and below is a summary of issues raised by UK Trams.

- 1. Greater visibility of speed monitoring regime**
How often will this be done and the frequency of the checks and visibility of the staff under taking the checks..
- 2. Start of service regime with regard to public interest**
Consider the time the service resumption avoiding the incident time
Double check that BTP will be present on trams after start of service

Longer term actions

- 3. Consider lineside technology**
Reflective chevrons and lineside radar speed displays with gatso's
- 4. How we feed into other UK Tram practitioners and other bodies**

UK Trams confirmed they support our approach to safety assurance and the precautions taken as described in the documentation sent to them.

From: Collis Jill
Sent: 16 November 2016 16:41
To: Gardiner Sarah
Subject: FW: Response from UKTram Peer Review Team
Attachments: 161116 UKTram Peer Review Report.pdf

For the minutes

From: James Hammett [REDACTED]
Sent: 16 November 2016 14:58
To: Collis Jill
Subject: Response from UKTram Peer Review Team

Hi Jill,

Please find attached a letter from the UKTram peer review team.

I hope this is sufficient for what you require. Happy to discuss in more detail if required.

We look forward to hearing from you in due course and hope the final meeting of the assurance panel goes well.

Kind regards

James

James Hammett
General Manager UKTram

[REDACTED]
Website: www.uktram.co.uk



16 Summer Lane, Birmingham, B19 3SD

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Sandilands Assurance Peer review report

Following the request and agreement for UKTram to undertake a peer review for Tramtrack Croydon Ltd (TCL) as detailed in the Deed Scope and Confidentiality document, the details and findings of the review group are set out below.

The peer review team were in agreement that the steps taken by TCL to resume service operation are sufficiently robust. The following points were raised for discussion.

The review team supported the implementation of staged speed reduction in the 4 key areas identified in the speed signage proposal paper. The review group raised the question of the additional signage being implemented in the speed restriction zones was already in use on the system and familiar to drivers and staff. TCL confirmed the signage proposed was already used on the system network, the review group were happy with this response.

A question was put to TCL by the review group regarding the monitoring of the implemented speed restrictions, TCL confirmed that First Tram Operations Ltd (TOL) were to implement an enhanced monitoring of speed in these areas. The review group suggested that the frequency and increase be stated, to show how much the monitoring had been enhanced and could be used to help show the public that this was being carried out especially utilising people on the ground. TCL agreed and advised they would report back the frequency when detailed by TOL.

Not as a point of safety or assurance the review group put forwards suggestion of opening the line after the time of the incident and in daylight to help build passenger confidence. TCL confirmed they had discussed a similar proposal.

The review group put forward the suggestion that a trail of current highway technology may be beneficial, the use of illuminated speed triggered detection signs and corner chevron markers were suggested. TCL agreed that this had been discussed and would be looking to maybe trail some examples in the future.

On conclusion the peer review group agreed that until the final investigations by the authorities are complete, the measures put in place by TCL are sufficiently robust to resume operational service. UKTram confirmed they will continue to work with TCL to share best practice in the industry.

Peer Review Team

UKTram, 16 Summer Lane, Birmingham, B19 3SD email: info@uktram.co.uk

Oversight Assurance Meeting – 17th January 2017 – 13.30 Knolly's House

Item	Details	Actions	Owner and date	Status
	<p>Participating:</p> <p>Jon Fox (Chair) Rory O'Neill Jill Collis Cathy Behan Tom Breen Martin Collett William Capps Nick Baker Stephen Duckering John Rymer</p> <p>Apologies: Gareth Powell</p>	<p>Director, London Rail Director, London Trams Director, HSE Head of HSE, Surface Transport HSE Senior Manager, London Trams Head of Engineering, London Rail Head of Engineering, London Trams Head of Operations and Contracts, London Trams Operations Director, Trams Operations Ltd Managing Director, Trams Operations Ltd</p> <p>Director, Strategy & Contracted Services</p>		
1.	<p>Purpose of meeting ongoing</p>	<p>The initial focus of the meeting is to be the Sandilands derailment investigation. In addition, the Trams Summit will take place and there has been assurance activity undertaken by UK Trams. However are not ongoing assurance mechanisms and we need to establish a strategic assurance mechanism. A purpose and distinction between this meeting and the routine assurance meetings such as the Trams Mods Panel is required.</p>	<p>Cathy Behan and Jon Fox</p>	<p>Closed</p>
2.	<p>Investigation Update</p>	<p>A meeting was held with the BTP before Christmas who said they are working with the ORR. There has been no contact until 17th January, when they they raised a question about loop logs. ORR say that BTP have a theory but they need to do more work to prove it and this may be difficult. There is a limited voluntary uptake of drivers willing to be interviewed. ORR are collating their information via the BTP.</p>		
3.	<p>RAIB Interim Report</p>	<p>RAIB requests for information have slowed considerably. The draft interim report is due out next week for review. It is more of an update and unlikely to make recommendations.</p> <p>ORR have said that the RAIB will be interviewing Ian Rackstone</p>		

		and David Key due to the involvement in original infrastructure. RO'N and TB have both received copies of their statements in the post. RAIB have also said they will be happy to meet Tfl and SNC to share info.			
4.	SNC Investigation	The group discussed the extent of the work required in respect of the SNC investigation. It is important that the discussion and interpretation of the role that route knowledge plays in line of sight operation is agreed.	Close out line of sight discussion through the investigation process.	Cathy Behan/ Steve Duckering/ Peter Howarth	Open
5.	AOB	Next meeting will be held in 3 weeks time.			

Oversight Assurance Panel – 7th February 2017 – 11.30 Knolly’s House

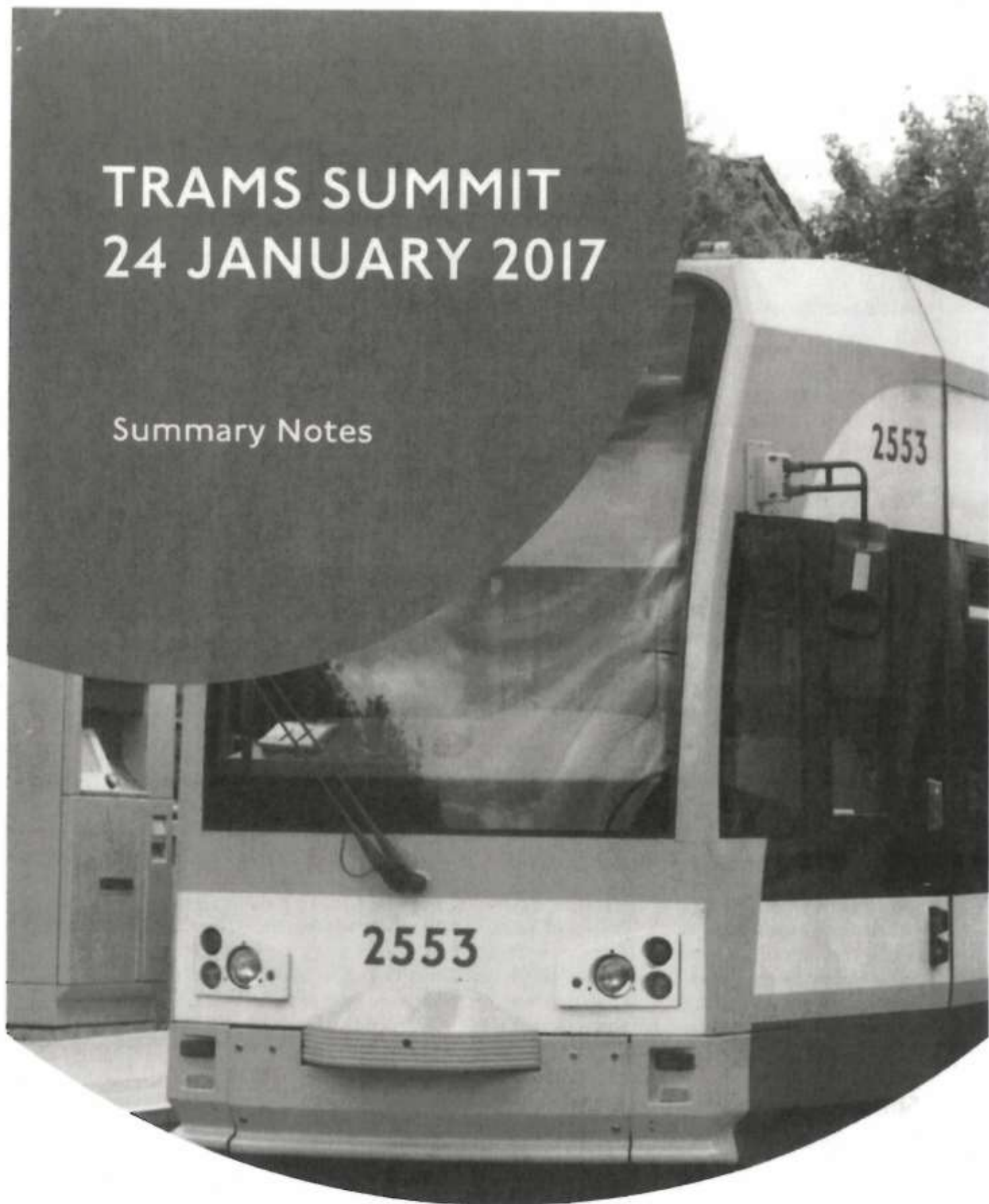
Item	Details	Actions	Owner and date	Status
	<p>Participating:</p> <p>Jon Fox (Chair) (JF) Rory O'Neill (RO'N) Cathy Behan (CB) Martin Collett (MC) William Capps (WC) Nick Baker (NB) Stephen Duckering (SD) John Rymmer (JR)</p> <p>Apologies:</p> <p>Gareth Powell (GP) Jill Collis (JC) Tom Breen (TB)</p> <p>Notes: Sarah Gardiner</p>	<p>Director, London Rail Director, London Trams Head of HSE, Surface Transport Head of Engineering, London Rail Head of Engineering, London Trams Head of Customer Services and Stakeholder Management, London Rail Operations Director, Trams Operations Ltd Managing Director, Trams Operations Ltd</p> <p>Director, Strategy & Contracted Services Director, HSE HSE Senior Manager, London Trams</p>		
1.	<p>Purpose of meeting</p>	<p>Welcome was made round the table. The purpose of this meeting was to review the progress made since the last meeting in January.</p>		
2.	<p>Review of Trams summit dialogue</p>	<p>Notes from the Summit had been circulated and these were more an aide memoir than governance notes.</p> <p>RO'N to take forward the evaluation of options and make recommendations.</p> <p>JF has had a meeting with JR and discussed getting the safety of the system to a higher level than it is at present.</p> <p>With regard to the step down speed signage, ORR have informed the RAIB that they have written to the various operators about this. No one at the Oversight Panel had seen the letter and it had not been issued to TOL or TfL.</p>	<p>RO'N to prepare recommendations</p> <p>To note</p> <p>RO'N to obtain a copy of the letter and speak to UK Trams</p>	<p>Ongoing</p> <p>Mid march</p>

3.	Investigations update	<p>The step down procedures are still in place at Croydon under temporary arrangements. These are to be reviewed when the final RAIB report is issued.</p> <p>It was noted that RAIB had issued a further interim report which is still in consultation (comments were due to Jill Collis by 12.30 9th February).</p> <p>MC and WC commented that they had not seen the latest version.</p>	<p>RO'N to send to MC and WC</p>	<p>RO'N 7th February</p>	<p>10th February</p>	
4.	Update on systems modifications since last meeting					
	i. Chevrons	<p>Works have been done and are being checked for consistency, as it was felt that if there is inconsistency this may concern the RAIB. JR commented that he has seen 3 locations and is happy. Feedback has been provided by drivers in respect of the fourth location, which need to be followed up.</p> <p>A discussion took place as to whether there was a formal (written) process for signal/signage sighting. WC noted that a signal/signage sighting committee had reviewed and approved the design.</p> <p>There should be a record of how signage is completed on the Tram network.</p>	<p>CB to check whether Sighting Committee took place</p> <p>WC to document process. MC to supply a copy of DLR process for reference</p>	<p>CB 7th February</p> <p>WC 7th February</p> <p>MC 7th February</p>	<p>Mid March</p> <p>Mid March</p> <p>Mid March</p>	
	ii. Additional lineside advice	<p>A paper has been drafted identifying a range of options following the earlier discussion between TfL and TOL. Further work is required to formulate a clear recommendation on the functionality and message displayed by the signage.</p>				

		<p>The lineside advice should be in place by the end of March.</p> <p>CB and RO'N to meet to review the current position.</p> <p>A further meeting is to be held with it being agreed through the normal governance arrangements, i.e. Mods Panel by the end of Feb and installation by the end of March.</p> <p>A discussion took place on whether a dialogue of principles of in cab alerts has been had and whether iBus functionalities could be considered.</p> <p>JF proposed waiting for RAI B's report before taking further action on this aspect.</p> <p>Trams Operations are having workshops on wrong side door openings which the drivers are committed to and that there are management tools in place.</p> <p>A further discussion is to be had with Trams Operations as to whether we are looking at human factors in regard to cab set up.</p> <p>It was agreed that this panel is helpful and should be part of the governance to keep having regular meetings.</p> <p>It was agreed that the next Assurance Panel should be held in mid March.</p>	<p>CB, RO'N, SD and JR</p> <p>JF/RO'N/MF to procure a study on this</p> <p>To note</p> <p>RO'N to meet with SD/JR</p> <p>CB to review safety governance arrangements across Rail</p> <p>RO'N to coordinate meetings and papers</p>	<p>CB/RO'N 7th February</p> <p>JF</p> <p>RO'N 7th February</p> <p>CB 7th February</p> <p>RO'N 7th February</p>	<p>End of February</p> <p>End of February</p> <p>End of February</p> <p>Mid March</p> <p>Ongoing</p>
5.	<p>iii. In cab alerts</p> <p>iv. Containment measures</p> <p>v. Human Factors</p> <p>Governance, terms of reference and a regular Strategic Safety Panel</p>				
6.	AOB				

TRAMS SUMMIT 24 JANUARY 2017

Summary Notes



EVERY JOURNEY MATTERS

Summary Notes prepared for circulation to the participants as an aide memoire of the discussion - not intended for publication

Introduction

Jonathan Fox welcomed everyone to the Summit, said that the purpose of the day was about exploring UK and international best practice, ran through the agenda for the day, emphasised the confidential nature of the meeting and stressed the need for an open and honest discussion. High-level summary notes would be made available to attendees. Introductions were then made round the table.

Key Note Speech – Leon Daniels

Leon summarised his view of the incident and its aftermath and wanted to explore two areas:

- challenged the industry to think about the length of contracts and the benefit of regular contract reviews and renewals
- trams are not trains but are road vehicles running on rails. If they have not kept up with rail technology and also not road technology are standards acceptable today?

He summed up the overall TfL approach to responding to the incident and his gratitude for everyone's participation.

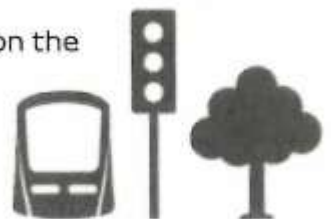
Incident summary – Rory O'Neill

Rory gave a brief overview of the incident covering the magnificent industry support on the day and afterwards; the RAIB Urgent Safety advice and their Interim Report which noted that the speed at which the tram entered the curve as a key factor; and the introduction of new step-down speed restrictions, warning signs and chevrons (based on Manchester good practice) at the incident site and three similar curves. He concluded by re-counting a personal experience story from the Croydon Advertiser, which made real the need to do all we can to avoid repetition.

Summary of current TfL thinking – Jonathan Fox

There were four main areas. Jon noted that the fact these were being considered did not mean something was deficient in the network.

- Lineside advice – e.g. chevron signs, digital speed signs as used on the UK road network (generic, low cost)



- In-cab alerts – in advance of speed limits, bends, etc., e.g. smartphone technology via an app (some issues with acceptance, reliability, telecoms), some systems may require changes to vehicles, alerts not control – the driver remains in control
- Some form of vehicle control – need to explore even if conclusion is that it is not the right solution
- Infrastructure / fleet changes – e.g. hardware, containment, check rail on curves, etc., need to ensure appropriate response

Tenerife SIMOVE speed control by GPS system – Andres Munos de Dios Rodriguez

Andres explained the regulatory system in Spain and the introduction of the system in 2013 as a response to a high-speed derailment in Valencia in 2006 as a means of reducing risk in the Tenerife system.

The system is a combination of GPS positioning and the on-board odometer, dashboard display of actual and permitted speed with alerts if the permitted speed is exceeded, and processes for data recording and downloads. Six months ago, once reliability had been proved, emergency brake application was added.

Data analysis has been very useful in identifying and managing driver behaviour as well as identifying where issues in the system might arise (e.g. hot spots for emergency brake application). Other benefits have accrued, e.g. giving maintenance staff much better information on wheel wear from the data used for odometer re-calibration.

The system is not SIL rated. Any changes to system speed limits which are set in the system specification e.g. TSRs must be signed-off by the Operations and Safety Managers and are uploaded overnight.

The system is independent of the Alstom control systems on the tram. Cost was <10k euros/tram (25 trams, 15km network). It is to be introduced on the Madrid light rail system.

Measures taken by STIB-MIVB to reduce derailment – Raf Van Genechten

The 1970s ATP system was updated in 2005 and includes constant speed monitoring. It uses on-board and ground beacons, which specify the speed limit applying to the next beacon. Beacon non-detection applies a 25kph driving on sight speed limit until the next beacon. If a tram over-speeds by more than 3kph, the brakes are applied. There is a system viewer for over-speeding and passing of red lights, but it is not used for driver monitoring. Extra beacons can be installed for TSRs.



Virtual track circuits are used to protect older switches using switch command and release beacons. If any of the programmed actions are not done, the switch locks and must be manually released by the next tram.

There are curve sensors on the trams which detect when the tram has entered a curve. No acceleration above 15kph is possible while in the curve.

Depots have road books (one for each direction) with pictures of switches en route, etc. for use by drivers new to a route. There is a training centre where drivers have full training days where information and experience is exchanged on key items such as derailments.

Driving linear on sight in Germany and DAS for collision avoidance in Frankfurt – Michael Ruffer

German regulations place full responsibility on the driver for speed control and obeying signals, etc. without technical supervision and the driver must be able to override any technical devices. Driving by line of sight is not permitted in (underground systems or trams >70-kph or in tunnels. The Operations Manager is responsible for infrastructure and approvals.

DAS was introduced after some rear-end collisions in Frankfurt and Hanover. The technology was adapted from cars and comprises front of tram radar sensors and camera and a control box. The driver has two seconds to react otherwise the brakes are applied. Detection on curves needs software development as the camera doesn't currently predict the tram's pathway.

Most accidents occur between 6am and 7am so there may be issues around driver alertness, early shift starts, etc. Driving by line of sight has a long history and the principle should not be questioned.

iBus functionality and options – Simon Reed

The application of iBus was not just about technology but about how well operators work with each other and provision of one common base of data. iBus plays a key part in TfL's role in monitoring of service quality and standards and to ensure the bus network meets the needs of Londoners.

Schedules are loaded to a real-time system so as to see operator and street performance. iBus is on all 9,500 vehicles and also on river boats. It can be readily seen how the system is running and use the outputs for future planning.

The system shows buses ahead of, on or behind schedule and hence how headways are working. In the peak 8,700 vehicles are monitored via 42 control centres owned by the operators. Controllers can intervene to fill gaps. The system calculates actual and predicted arrival times, updated every 30 seconds. Real-time data is provided to the open market and many apps have been developed off it.



There are some issues re GPS tracking, how buses are operated and dealing with operational failures and traffic accidents.

Bowmonk T5 event recorder – David Hitchings

T5 is a retro-fit device widely used in the automotive industry (bus / coach) and rail sector across the world. The speed limit DAS has only been applied to rail maintenance vehicles. It uses on-board logic which stores data locally for transmission to a back office function. Driver identification enables use for access control, i.e. restricting access to only drivers authorised for the vehicle.

The system does not as yet cover vigilance / speed control and could not as yet be implemented on trams as it would first need commercial (rather than technical) barriers to be overcome.

Mike Brown, Commissioner

Mike briefly joined the meeting. He reiterated that Croydon had been a very sobering experience, that his and TfL's thoughts were with all those affected and that the only glimmer of hope was the ability of the industry to come together to share practices and learn from each other. He thanked all for participating.

UKTram industry response – James Hammett

James outlined the actions taken by UKTram in response to the incident including setting up a sub-committee to co-ordinate the response. It met 5 & 6 January including TfL representatives.

An initial response involving members examining any areas where staged speed reduction might be beneficial and driver monitoring has been made. The sub-committee has prepared a questionnaire to be circulated by 27 January for response in February and consideration of initial results at the next sub-committee meeting on 1 April.

The sub-committee received a presentation on changing driver behaviour, culture, human factors, etc. The questionnaire will give a baseline of what exists by mid-2017. Any best practice document depends on the timescale for issue of the RAIB report. The Sub-committee has committed to meet 3-monthly until the process is complete.

There were a number of observations: covering, the existence of technology for in-cab speed warnings and driver alerts; operator visibility of manufacturer data re critical speeds around curves; differences between car and tram driver response to entering a curve at too high a speed; update of RSP2 and whether any guidance therein would need to go into standards; and the large variance in the ease of data downloads from vehicles which should be taken into account in any guidance document



Tram Operations Ltd perspective – John Rymer

John summarised the response of TOL to the incident, the support received and TfL, and that he would be somewhat limited in what he could say as several investigations as several investigations were underway. As well as the infrastructure modifications by TfL described earlier, drivers had been reminded to adhere to speed limits and the rules of line of sight driving and to report any wheel slip on newly laid track. They had also been asked to report any concerns about driving through the incident site and many had taken advantage of the counselling services provided at depots.

An operator's perspective – Mike Mabey

Mike noted that the impact had resounded across the industry. He covered the response to customers looking for re-assurance, the impact of social media and resulting look at communications strategies; the need for confidence building with clients who wanted to know if it could happen again and what was being done to reduce the probability or mitigate; and that operators had to explain to staff as there was a significant impact on them.

Discussion

There was extensive discussion of what had been heard so far, covering the advantages of embedded track as a means of reducing damage in curve derailments; desirability in new build of not locating infrastructure on curves; the implications of increasing crashworthiness; the issues that would need to be address in the application of automotive technology; that SIMOVE was worthy of exploring; the disparity in how tram and road accidents are addressed and how this might change as societal tolerance of road accidents reduces; the benefits and issues with direct customer feedback; and the importance of managing drivers taking into account the need for proper management engagement and recognition of factors outside work that could affect performance.

Michael Liebreich, TfL Board Member

Michael, Chair TfL Safety, Sustainability and HR Panel, noted that the response needed to cover the whole spectrum of technology, standards and people, all of which the meeting had covered. The Panel considered that human factors, training, safety culture, whistle blowing and getting customer input / feedback was very important.

Trams sit between the road and rail sectors and their different safety approaches and shouldn't be ring-fenced but should take and apply lessons from across the board, especially as there is a trend to being things together – road will be more like rail in ten years time, tolerance will reduce re not controlling drivers as technology advances. From the top of TfL there is commitment to taking and applying learning.



Further discussion

Discussion covered the questions Leon raised in the morning. The key points were the safety of trams and that the first consideration should be human factors – what caused the driver to speed round the curve?; that safety recommendations don't take away responsibility for the safety of people travelling in our care; that Tenerife had looked at an accident on another system and how they could innovate to prevent it on their system; that new trams generally have better technology; the need to ensure manufacturers engage in what the industry is doing so they are aware and can contribute; and that heritage trams have no technology, not even speedometers but rely on motivated staff.

There were benefits to both long and short concessions. Short concessions make it difficult to develop a culture of "this is the way we do things" and to attain the settled workforce needed to enable introduction of new technology. The priority has to be culture – how people think and behave as without the right culture technology will fail.

There was a need to look at how people operate the system and to invest time in them – training, rostering of P&D in a driver's time for example

There was a view that authorities letting franchises to run tramways should take the lead in defining a set of KPIs that can be used across the industry, which would give a good baseline of data. The UKTram Owners and Authorities Committee is considering this.

Closing comments – Jonathan Fox

The seriousness of the incident generated a lot of interest and is a prompt to take action. The morning had focussed on technology but the afternoon discussion had pushed getting the balance with people right. The human factors aspect will be added to the TfL list. There is a need to think more about customer feedback and a need to hear what industry thinks in this area. The RAIB are being more transparent – the industry needs to be likewise. Jon closed by thanking everyone for participating and their valuable contributions.



Participants

Transport for London	Mike Brown MVO, Commissioner (part) Michael Liebreich, Board Member (pm only) Leon Daniels, Managing Director, Surface Transport Gareth Powell, Director of Contracted Services Jonathan Fox, Director, London Rail Rory O'Neill, Director, London Trams Jill Collis, Director of Health, Safety & Environment Catherine Behan, Head of Health & Safety, Surface Transport Simon Reed, Head of Bus Systems & Technology (part) Martin Collett, Head of Engineering, London Rail Tom Breen, HSE Senior Manager, London Trams Nathan Griffiths, Concession Procurement Manager Dave Bird, Senior Project Manager, Benchmarking (notes) Peter Howarth, Associate Director, SNC Lavalin (observer)
First	John Rymer, Managing Director, Tram Operations Ltd Steve Duckering, Operations Director, Tram Operations Ltd Adrian Jones, Safety Director, First Group
UKTram (see below also)	James Hammett, General Manager Andrew Braddock, Chairman of Promotions Group Geoffrey Claydon, Chairman of Heritage Group Andy Steel, Consultant to UKTram (observer) Daniel Hill, Low Impact Light Rail Co-ordination Officer



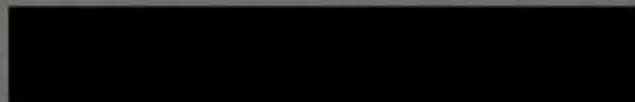
Participants continued

Blackpool	Ian Middlemiss, Tramway Safety and Infrastructure Manager, Blackpool Transport Services
Edinburgh	Colin Kerr, Engineering Manager, Edinburgh Trams & Chairman of Engineering Group, UKTram
Manchester	Peter Cushing, Metrolink Director, Transport for Greater Manchester & Chairman of Owners/Authorities Group, UKTram Chris Thorpe, Safety and Compliance Manager, TfGM Dave Skirrow, Senior Operations Expansion Manager, Metrolink RATP Dev
Midland Metro	Carl Williams, Midlands Metro Alliance Program Manager, National Express
Nottingham	Mike Mabey, Head of Operations, Nottingham Express Transit & Chairman of Operators Group, UKTram
Sheffield	Chris Hopkinson, Tram and Train Contract Manager, South Yorkshire Passenger Transport Executive Margaret Kay, Managing Director, Sheffield Supertram
Keolis	David Toolan, Project Director, Keolis Amey Docklands
Arriva	John Rimmington, Development Executive
Brussels	Raf Van Genechten, Chief Engineer, Tram Operations STIB-MIVB
Dublin	Carl Philips, Operations Director, Transdev Dublin Light Rail (LUAS)
Frankfurt	Michael Ruffer, Head of Operations, Verkehrsgesellschaft Frankfurt
Tenerife	Andres Munos de Dios Rodriguez, Director Gerente, Metropolitano de Tenerife
Bowmonk Ltd	David Hitchings, General Manager



Contact

David Bird, Senior Project Manager,
Benchmarking



London Trams Oversight Assurance Panel

AGENDA

21st April 2017 09.30 – 11.00

Knollys House Meeting Room 1

- | | |
|--|---------|
| 1. Welcome and apologies for absence | Chair |
| 2. Agreement of terms of reference | All |
| 3. Sandilands Review (incl. info for SNCL report) | Chair |
| 4. HSE performance summary | TOL |
| a. HSE targets | |
| b. Moving annual trends | |
| c. Significant issues / concerns | |
| d. Corrective actions | |
| 5. HSE improvement plans | TOL |
| a. Targets / objectives | |
| b. Progress update | |
| 6. Assurance activities | TOL |
| a. Planned activities | |
| b. Findings / corrective actions | |
| 7. Review of HSE governance arrangements | TOL/TfL |
| a. Effectiveness of meetings | |
| b. HSE support arrangements | |
| 8. Benchmarking / Review of external incident investigations | TOL/TfL |
| 9. Review of previous minutes and actions | Chair |
| 10. Agreement of new actions | Chair |
| 11. AOB | |



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Oversight Assurance Panel – 21st April 2017 – 09.30 Knolly's House

Item	Details	Notes:	Actions	Owner and date	Status
	<p>Participating: Jon Fox (Chair) (JF) Rory O'Neill (RO'N) Cathy Behan (CB) Rob Mair (RM) Martin Collett (MC) William Capps (WC) Nick Baker (NB) Stephen Duckering (SD) John Rymmer (JR)</p> <p>Apologies: Gareth Powell (GP) Jill Collis (JC)</p>	<p>Sarah Gardiner</p>			
1.	<p>Purpose of this meeting and going forward</p>	<p>There have been three meetings post Sandilands and this meeting was held to agree the format going forward. For this to be a regular Strategic Safety Forum, the agenda and required attendance needs to be correct.</p>	<p>Agenda and attendance to be formatted going forward</p>	<p>RM/CB 21st April</p>	<p>Before next meeting</p>
2.	<p>Agreement of Terms of Reference</p>	<p>The wording on the Terms of Reference in regard to Safety Management Maturity (RM3) model needs to be more generic. CB asked JR and SD if they used the ORR's RM3 model, they were familiar with this but do not use. TOL's version of 'everyone home safe and healthy every day' has to be kept in line with First Group's branding. JF's commented that the Terms of Reference, from a TfL perspective should have more collaborative wording.</p>	<p>To note</p>	<p>RM/CB 21st April</p>	<p>Updated Terms of Reference to be formatted and</p>

		<p>RO'N commented that the well being of staff be it physical or mental should be reflected. It was noted that staff well being from TfL and TOL can be brought up at this meeting.</p> <p>All agreed that this was a safe forum to raise any issues.</p>	circulated		
3.	Sandilands Review (including information for SNCL report)	<p>The measures that were considered at the last meeting have now been implemented e.g. drivers briefings, chevrons in place and line side signs.</p> <p>RO'N has had a discussion with the RAIB about other things done across the network such as implementing step down speeds. Atkins are now working on a commission of studies. This report is then to be discussed at the next Forum and is also to be endorsed.</p> <p>Undertaking this planning for improvement is sensible ahead of the RAIB's recommendations which are due to be published in November. This will then give a clear audit trail. CB noted that there is parallel work stream being done in bus safety which can then be shared with TOL.</p> <p>SNC and wider reports</p> <p>WC gave an update on RAIB's position in that there are SDM's on site all the time. Work is being done with ERU to lift A & B cars. The sign is to be re-instated, although the 20mph sign was an original from 1992, so the replacement may not be the same.</p> <p>RAIB are seeking to meet with SNCL to compare investigations and Jonathan Morris (Head of Commercial Disputes Resolution) is giving clear guidance.</p> <p>TfL are to take the SNC report to the Board in June. JF is to follow up with Peter Howarth to get this concluded and in a final state. It was noted that external bodies will want to</p>	<p>To note</p> <p>Discuss report and endorse</p> <p>To note</p> <p>To note</p> <p>To note</p> <p>JF to work with Peter Howarth</p>	<p>All 21st April</p> <p>JF 21st April</p>	<p>Before next meeting</p> <p>Ongoing</p>

4. 5. 6.	HSE Performance Summary/ HSE Improvement Plans / Assurance Activities	<p>extract from this report so the wording needs to be correct.</p> <p>On the agenda going forward, these items need to be shown as TfL not TOL. TOL would also like Interface issues to be shown on the agenda.</p> <p>R/M/RO'N, with support from WC and TOL are to have a procedure for handover written down to get Tram into daily operation, a review of standards and fit for purpose activities are to be reviewed.</p>	<p>Agenda to be amended</p> <p>Review of standards and activities</p>	<p>RM 21st April</p> <p>R M/RO'M 21st April</p>	<p>Before next meeting</p> <p>Before next meeting</p>
7.	Review of HSE Governance arrangements	<p>A discussion was held about London Borough of Croydon and whether they should sit on this Forum. RO'N is to meet with the Head of LBC.</p>	<p>RO'N to arrange a meeting with LBC</p>	<p>RO'N 21st April</p>	<p>Ongoing</p>
8.	<p>Review of previous minutes and actions</p> <p>Review of Trams summit dialogue</p>	<p>With regard to the step down speed signage, ORR have informed the RAIB that they have written to the various operators about this. No one at the Oversight Panel had seen the letter and it had not been issued to TOL or TfL.</p>	<p>RO'N obtained a copy of the letter and was satisfied with content of the letter.</p>	<p>RO'N 7th February</p>	<p>CLOSED</p>
	<p>Update on systems modifications since last meeting</p> <p>i. Human Factors</p>	<p>A further discussion is to be had with Trams Operations as to whether we are looking at human factors in regard to cab set up and do we meet the ergonomics.</p>	<p>MC/WC to circulate the remit</p>	<p>MC/WC 21st April</p>	<p>Before next meeting</p>
9.	AOB	<p>The temporary speed restriction at Birkbeck was discussed and this is to go back to the Mods panel as it was felt that if we are changing it to permanent at one location it should</p>	<p>To note</p>		

London Trams Strategic Health and Safety Forum

Terms of Reference

Chair: Director of Trams/Director of London Rail

Members: London Trams Senior Management Team, TOL Operations Director.

H&S Team support to meeting: TfL HSE Senior Manager, senior manager First Group Health and Safety team

Frequency: Quarterly, with additional ad hoc meetings if required.

Through the Strategic Health and Safety Meeting, as a leadership team we will ensure that:

- our own house is in order
- our Operator and suppliers are performing
- we comply with our HS&E Policy
- we achieve the excellence in health and safety performance that will deliver our Vision of "Everyone home safe and healthy every day".

We will:

- Direct and co-ordinate activities to deliver improved safety culture and meet our Safety Management Maturity (RM3) targets,
- Develop and agree health and safety Leadership messages and communications for delivery across London Trams and its associated supply chain,
- Establish and deliver progressive objectives, targets and measures to improve health and safety management and performance, informed by the health and safety performance of London Trams and its supply chain,
- Agree and implement appropriate short and long term management actions to respond to trends and underlying causes of concern and monitor their implementation,
- Share information and review learning from across TfL and other sources (eg RAIB reports), to drive improved health and safety performance,
- Co-ordinate the communication of our health and safety related programmes, business as usual activities and performance internally and externally,
- Undertake management reviews of the suitability and effectiveness of the health and safety arrangements operated by London Trams, including benchmarking our performance.



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London Trams Oversight Assurance Panel

AGENDA

9th June 10.00 – 12.00

Knollys House Meeting Room 4

- | | |
|--|---------|
| 1. Welcome and apologies for absence | Chair |
| 2. HSE performance summary | TOL/TfL |
| a. HSE targets | |
| b. Moving annual trends | |
| c. Significant issues / concerns | |
| d. Corrective actions | |
| 3. HSE improvement plans | TOL/TfL |
| a. Targets / objectives | |
| b. Progress update | |
| 4. Assurance activities | TOL/TfL |
| a. Planned activities | |
| b. Findings / corrective actions | |
| 5. Review of HSE governance arrangements | TOL/TfL |
| a. Effectiveness of meetings | |
| b. HSE support arrangements | |
| 6. Benchmarking / Review of external incident investigations | TOL/TfL |
| 7. Review of previous minutes and actions | Chair |
| 8. Agreement of new actions | Chair |
| 9. AOB | |



Everyone home safe and healthy every day

London Trams Strategic Health and Safety Forum

9th June 2017 – 10.00 Knolly's House

Item	Details	Notes:	Actions	Owner and date	Status
	<p>Participating: Jon Fox (Chair) (JF) Rory O'Neill (RON) Cathy Behan (CB) Rob Mair (RM) William Capps (WC) Stephen Duckering (SD) John Rymmer (JR)</p> <p>Apologies: Gareth Powell (GP) Jill Collis (JC) Martin Collett (MC) Nick Baker (NB) Andrew Wallace (AW)</p>	<p>Director, London Rail Director, London Trams Head of HSE, Surface Transport Senior HSE Manager, London Rail & London Trams Head of Engineering, London Trams Operations Director, Trams Operations Ltd Managing Director, Trams Operations Ltd</p> <p>Director, Strategy & Contracted Services Director, HSE Head of Engineering, London Rail Head of Customer Services and Stakeholder Management, London Rail Head of Safety, Trams Operations Ltd</p>			
1.	Welcome and apologies for absence	Sarah Gardiner	The Chair welcomed all and gave apologies. A brief discussion was held around the table and all agreed to the structure of the agenda.	To note	
2.	HSE Performance Summary		<p>RM handed out the Executive Summary from the Safety Performance Index (SPI) for Period 2 which aligns the safety performance and corrective actions. It is a precursor identifier/number orientated device. SD and JR are familiar with the SPI (but not the mechanics).</p> <p>All agreed that they would like the production of the SPI to be a jointly owned activity.</p>	To note	JR/SD 9 th June
			JR/SD to advise of any measures they want included and any weightings to be adjusted		Open

	<p>It was agreed to keep positive and negative SPIs separate.</p> <p>The trend line needs to be looked at.</p> <p>There were concerns over wrong side door openings which is a big risk factor. The accidental removal of TfL street signalling at Wellesley Road needs to be escalated (as 35% of wrong side door openings last year happened at this location).</p>	<p>To note</p> <p>RM to meet with AW to address trend lines and feed back to 4 weekly Exec.</p> <p>Escalate to JF who will then escalate to change manager</p>	<p>RM 9th June</p> <p>All 9th June</p>	<p>Open</p> <p>Open</p>
3.	<p>HSE Improvement Plans</p>	<p>RM has discussed these with AW and there is an equal focus on safety improvement programmes between LT and TOL. There is no joint plan with TOL as yet, but TOL report on the same timeframe.</p> <p>The tactical work to bring both plans together is to be reported at the 4 weekly Exec and only the improvement plans headlines are to be tabled at this meeting.</p>	<p>To note</p> <p>RM to bring to next meeting</p>	<p>RM 9th June</p> <p>Open</p>
4.	<p>Assurance activities</p>	<p>RM updated that there are two planned activities with an audit plan on fatigue management. TOL are going through their own internal process with two planned activities coming up. TOL raised concerns over the dates of reporting where the quality of information would be better moving it from a Friday to a Monday.</p>	<p>RO'N/SD/JR to discuss</p>	<p>RO'N 9th June</p> <p>Open</p>
5.	<p>Review of HSE Governance arrangements</p>	<p>a) Effectiveness of meetings As previously discussed, Governance is work in progress and there is a progress proposal in place.</p> <p>b) HSE arrangements The Terms of Reference were agreed.</p>	<p>RO'N to circulate draft version</p> <p>SG to circulate</p>	<p>RO'N 9th June</p> <p>SG 9th June</p> <p>Open</p> <p>Closed</p>

6.	Benchmarking/Review of external incident investigations	<p>There have been no RAIB investigations since the last meeting held in April. RM gave a brief update on UKTram Guidance, Standards, Safety and Assurance Meeting (GSSA) held in Blackpool on 8th June.</p> <p>RO'N is to meet with SD/JR to discuss the 12 initiatives arising from the Sandilands incident.</p> <p>RO'N noted that a conclusion for a driver's vigilance device will be communicated soon.</p>	<p>To note</p> <p>RO'N to send list that goes to JF also to SD/JR and to include them on the weekly circulations</p> <p>RO'N writing up a summary</p>	<p>RO'N 9th June</p> <p>RO'N 9th June</p>	<p>Open</p> <p>Open</p>
7.	Any Other Business	No further business.			

Actions from previous meeting carried over

	Review of HSE Governance arrangements	A discussion was held about London Borough of Croydon and whether they should sit on this Forum. RO'N is to meet with the Head of LBC.	RO'N to arrange a meeting with LBC	RO'N 21 st April	Open
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Date of next meeting – 15th September, Knolly's House

London Trams Period End Report

Period Two of 2017/18
(30 April to 27 May)



Larcombe Close Speed Sign

London Trams keeps London moving, working and growing and makes life in our city better



EVERY JOURNEY MATTERS



Safety, Health & Environment

The Safety Performance Index (SPI) score for Period 2 is 80.9 and is once again above the target score of 80. The Moving Annual Average (MAA) is 81.2 which is above the target of 80 for the fifteenth consecutive period.

There were no major injuries to customers, MOPs or staff this period. However, there was one significant hazardous event where a passenger took a video of an unresponsive driver in the cabin of a stationary tram. This is currently being investigated by the Operator (TOL). LT are working with TOL in the assessment of driver vigilance devices and producing a comprehensive weekly driver fatigue report. This report will look at the precursors of fatigue for drivers. TfL internal audit will also conduct an audit on TOLs fatigue management system.

Operations (98.37 per cent of Scheduled Kilometrage operated, MAA 96.99 per cent)

Performance in Period 2 decreased from 99.14 per cent in Period 1 to 98.37percent.

The Period 2 operations had six over 20 minutes incident report.

Customer Satisfaction

We received 53 complaints, equivalent to 2.35 complaints per 100,000 customer journeys. These included 14 service complaints, 14 staff complaints and 11 safety complaints.

There were a further 25 general enquiries, five 'inform' cases (customers' observations, reports or opinions on safety), and one commendation.

Engineering

Infrastructure and Fleet continue to meet availability targets and both the 28 day and 84 day MDBF continues to increase for both fleets of vehicles. The switchgear fault remains at Belgrave Walk substation. UKPNs are engaged to undertake a number of three and six monthly maintenance activities and a contract has been awarded to undertake Trackside isolator maintenance. POs have been issued this period for both items of work.

During this period ERU completed the work to remove the bogies from under vehicle 2551 at Farnborough with the RAIB and ORR. We continue to support the investigations by the RAIB and ORR at Farnborough, but this work should be completed by the end of this period. The Loss Adjustors have issued their first revision of the indicative repair cost for 2551, this needs further discussion to understand the direction the business want to go with regards to this activity.

Recruitment continues for a number of key roles; the new Infrastructure Manager will start w/c 5 June and the new Works Manager will start w/c 26 June. We continue to recruit for Power Asset Engineer; Competency and Training Manager; Fleet Manager and Fleet Technicians. The new Track Asset Engineer started with London tram w/c 8 May.

London Trams have been formally notified by the owner of 5 Cairo New Road of their intention to demolish and rebuild the building. This will require LT, at our own cost, to relocate the OHLE support currently attached to this building. We have until the end of November 2017 to undertake this work. A Project will be started to progress this issue but it is unfunded in the current budget.

The advance demand loop was reinstated this period for traffic signal WLR02S, this will improve the flow of trams along Wellesley Road. Principal Inspections of structures has commenced across the tram way.

Projects and Development

Blackhorse Lane Bridge – interim works: Removal of the dead weight load on the bridge was completed ahead of programme during the 52hr possession on 13 and 14 May. The temporary scaffold footbridge with access ramps has been completed.

Tram Mid-Life Refurbishment: five upstands have been successfully completed. The permanent cover solution is being developed meaning that the first six upstand replacements will have the temporary cover panel solution installed.

Stadler Trams: boost mode test successfully completed on 12 May. Further depot testing and roll out across all Stadler vehicles now planned.

On Tram CCTV DVR Replacement: Synetics have completed the DVR equipment updates and are now in a two week fault free monitoring period which is due to complete on 6 June. The camera replacement works are due to commence on 14 June, subject to the successful completion of DVR fault free monitoring period.

Recruitment: a permanent planner will be starting on 26 June.

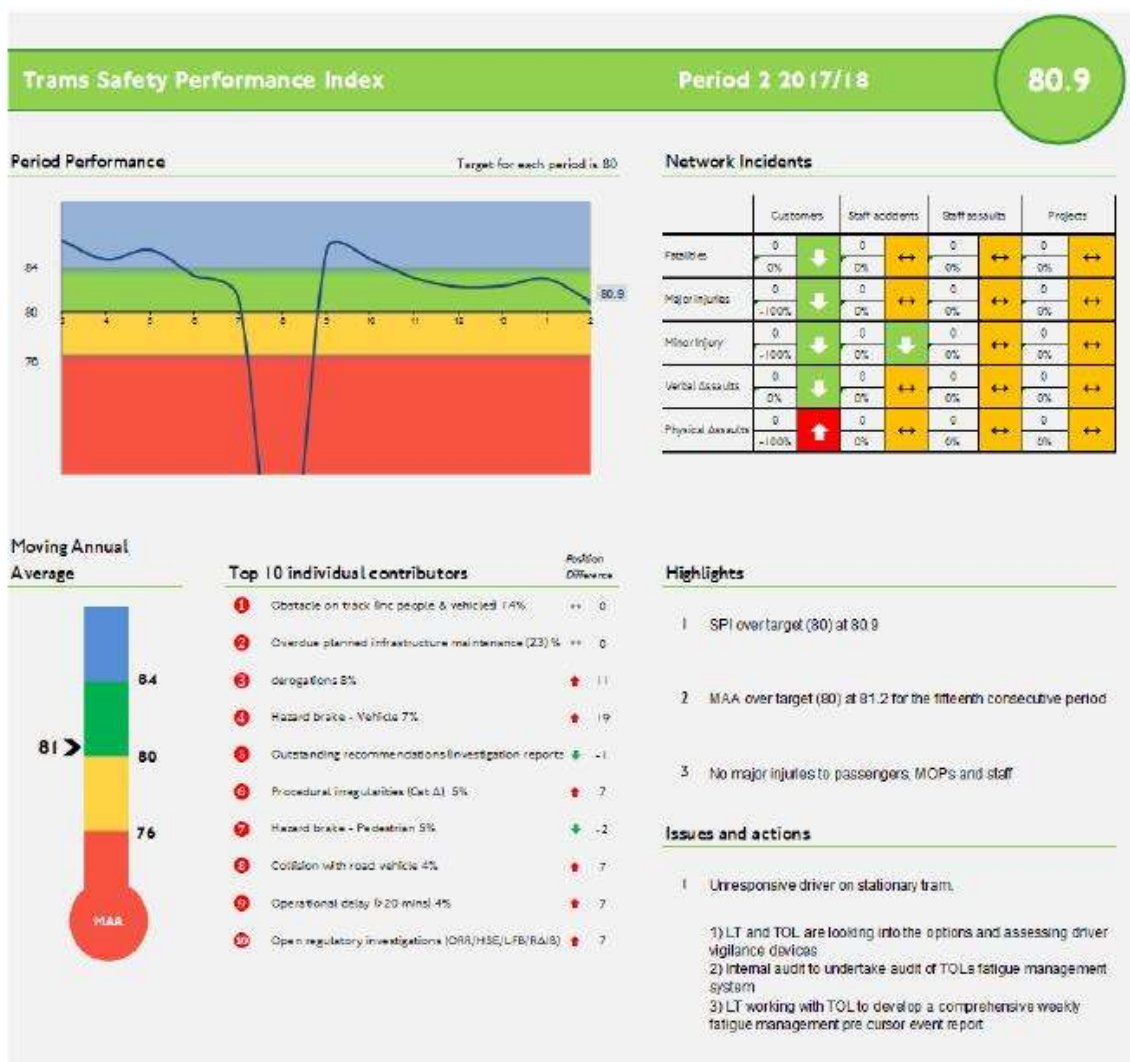
One project closed in the period: Depot Additional Stabling.

I. HSE

Key Achievements and concerns that affected our SPI result

Customer safety	Achievements: No incidents (assaults or injuries) involving customers this period Concerns: No concerns this period
Member of Public safety	Achievements: No incidents (assaults or injuries) involving members of the public this period Concerns: No concerns this period
Operational staff safety	Achievements: No major injuries to operational staff this period Concerns: Two minor injuries to drivers this period, four verbal assaults on RPI and one physical (spitting). No injury or assault for LT staff this period
Operational incidents	Achievements: No report this period Concerns: A record number of hazard brakes this period. Two minor road traffic collisions
Network incidents	Achievements: No report this period Concerns: Unresponsive driver in cab of stationary tram
Rolling stock	Achievements: 100% planned maintenance completed for the 7 th consecutive period Concerns: No concerns this period
Infrastructure	Achievements: No report this period Concerns: Planned maintenance not complete is one of top indicators for the SPI for three consecutive periods
Issue Management	Achievements: Late work request remaining consistently low Concerns: A record number of derogations this period. Further work to take place to close out recommendations from investigation reports

Safety Performance Indicator Dashboard



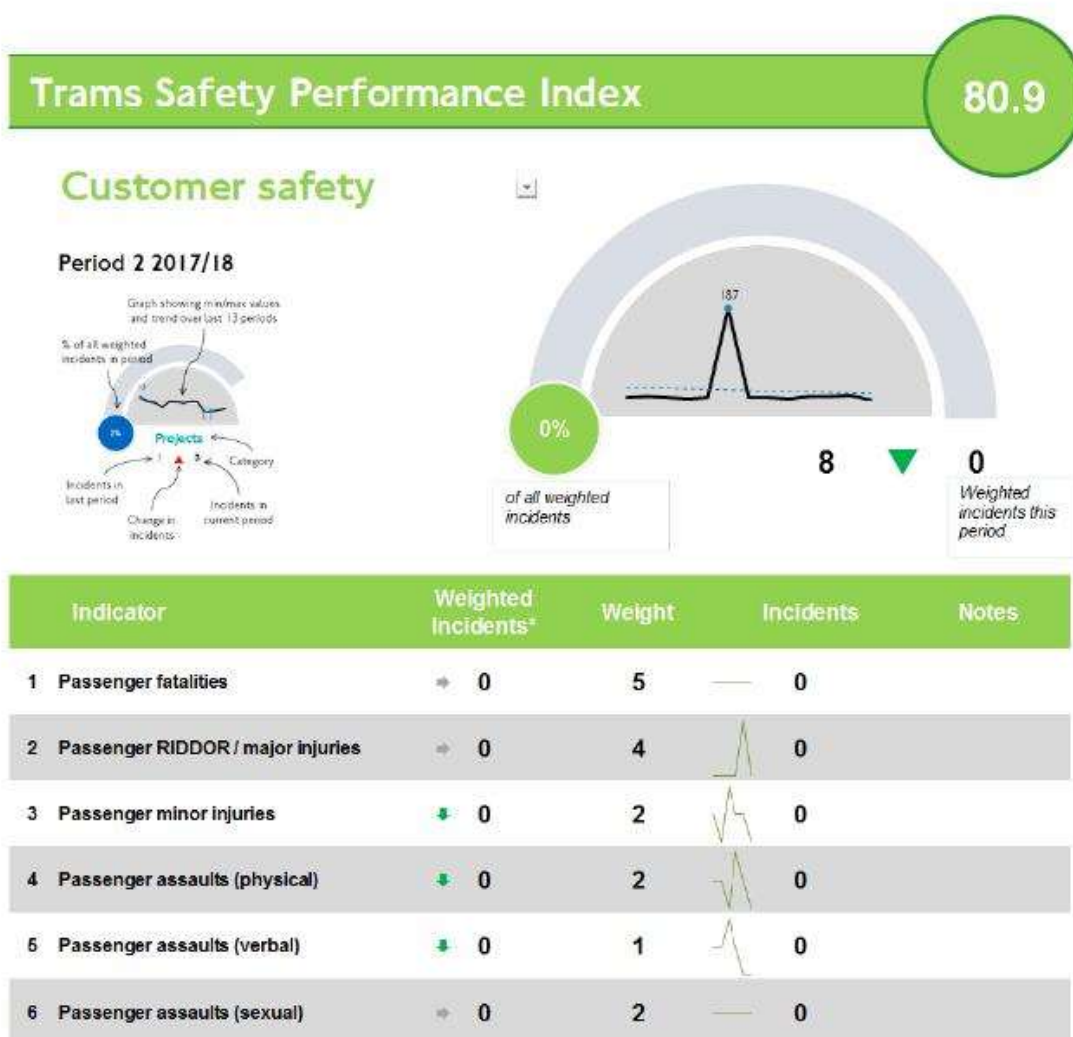
HSE team update

- Draft HSE objectives have been developed to include all the Surface Transport executive team, line manager and support functions annual objectives; these will be reviewed by the LT Executive team and will be embedded into individual performance objectives via line managers.
- The London Rail safety, health & environmental improvement programme for 2017/18 is currently under review and once agreed will be communicated more broadly throughout the London Rail business areas
- London Trams SPI report has been improved this period to enable better engagement and understanding of how each individual can contribute towards 'Everyone home safe and healthy every day'.

Risk Management

- That as a result of the Sandilands derailment there is some regulatory enforcement action against London Trams.
- That as a result of the Sandilands derailment relations between the TOL and LT are damaged and this hampers the effective management of safety.
- That the revised HSE support arrangements to London Trams fail to deliver expected benefits.

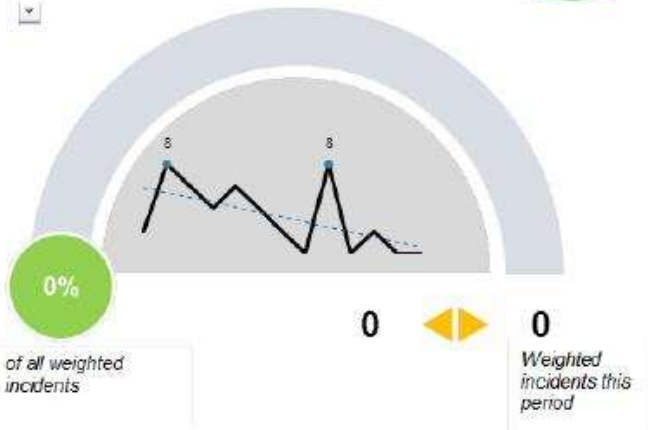
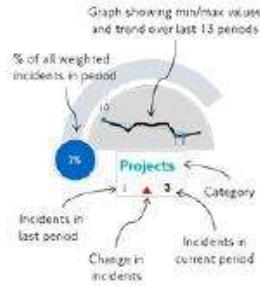
SAFETY, HEALTH & ENVIRONMENTAL PERFORMANCE



There were no injuries or assaults involving passengers this period. This is compared to a weighted score of 8 for last period.

MOP

Period 2 2017/18

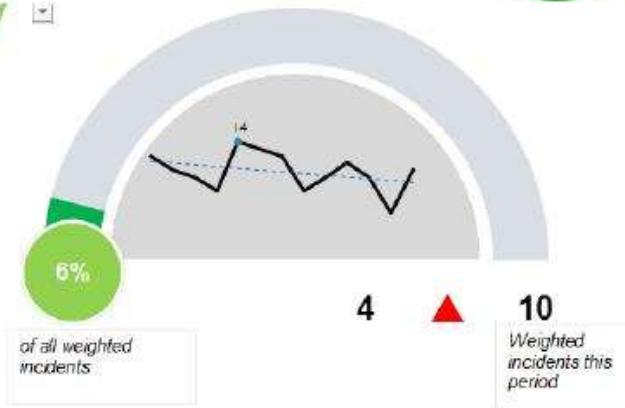


Indicator	Weighted Incidents*	Weight	Incidents	Notes
1 MOP fatalities	0	5	0	
2 MOP RIDDOR / major injuries	0	4	0	
3 MOP minor injuries	0	2	0	
4 MOP assaults	0	2	0	

There were no injuries or assaults involving members of the public this period, for the second consecutive period.

Operational staff safety ▾

Period 2 2017/18



Indicator	Weighted Incidents*	Weight	Incidents	Notes
1 TOL / contractor minor injuries	↑ 4	2	2	
2 TOL staff assaults (verbal)	↑ 4	1	4	
3 TOL staff assaults (physical)	↓ 2	2	1	
4 TOL / contractor fatalities	⇒ 0	5	0	
5 TOL / contractor RIDDOR / major injuries	⇒ 0	4	0	
6 LT staff fatalities	⇒ 0	5	0	
7 LT staff RIDDOR / major injuries	⇒ 0	4	0	
8 LT staff minor injuries	⇒ 0	2	0	
9 LT staff assaults (all)	↓ 0	2	0	

There were two minor injuries this period (drivers) and one physical assault (RPI).

A driver hurt his finger when a gate securing pin jolted, from a locked position. An X-ray confirmed that the finger was not broken. Depot Manager inspected and applied lubricant to gate fitting.

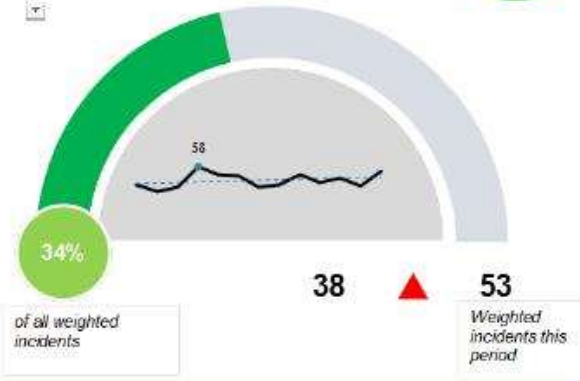
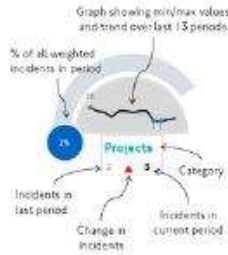
A driver reported that he felt irritation by what he described as grit in his eye. Driver was relieved from duty, applied eye wash and advised to attend the walk in clinic. No further problems reported.

An RPI when issuing a penalty fare was spat at by one of four youths as they left a tramstop. This was reported to BTP and a 'spit kit' was used to preserve DNA sample.

There were 10 weighted incidents this period compared to four in the last. This basket forms 7 per cent of the total weighted incidents of the SPI.

Operational incidents

Period 2 2017/18



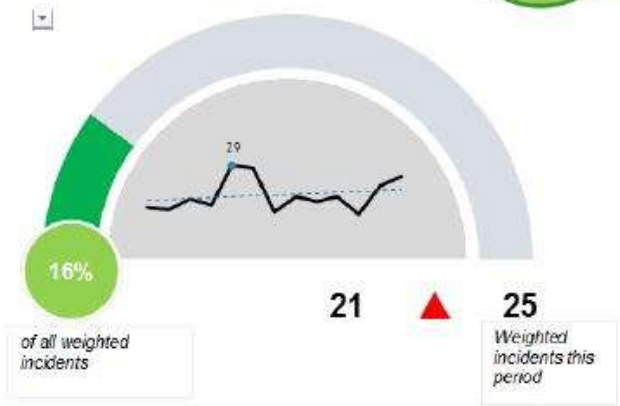
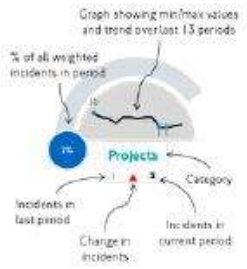
Indicator	Weighted Incidents*	Weight	Incidents	Notes
1 Hazard brake - Vehicle	↑ 11	1	11	
2 Hazard brake - Pedestrian	↑ 7	1	7	
3 Collision with road vehicle	↑ 6	3	2	
4 Operational delay (>20 mins)	↑ 6	1	6	
5 Hazard brake - Other	↑ 5	1	5	
6 Signal passed at stop - technical	↓ 4	2	2	
7 Trackside graffiti reported	↑ 4	1	4	
8 RTC incidents minor	↑ 2	1	2	
9 Wrong side door opening (no alighting)	↑ 2	1	2	
10 Hazard brake - Cyclist	↑ 2	1	2	
11 Surfing on trams	↑ 2	1	2	
12 Asset vandalism	↓ 2	1	2	
13 Collision between trams	⇒ 0	4	0	
14 Collision with pedestrian	⇒ 0	3	0	
15 Collision with cyclist	⇒ 0	3	0	
16 RTC incidents major	⇒ 0	2	0	
17 Signal passed at stop - driver	⇒ 0	1	0	
18 Wrong side door opening and alighting	↓ 0	2	0	
19 Hazard brake (all)	⇒ 0	0	25	

The total number of hazard brake occurrences this period is 25; this is the highest it has been since 2012. There was 11 hazard brakes due to other vehicles, seven due to pedestrians, two due to cyclists and five due to other circumstances i.e. signals, dog running on track. Hazard braking is an operational reality on the tramway, and in part is a positive indicator of driver awareness and defensive driving. This indicator will be monitored closely and any trends highlighted. There were two minor road traffic collisions this period. The first incident was when a tram driver noticed a car foul of the swept path, the tram slowed as the car reversed clear of the swept path as the tram slowly passed. There was minor damage to side of the tram and car front bumper. CCTV showed car had emerged from side road but then reverse clear of swept path. Car not seen by camera moving forward as at this point it had left the camera view. The second incident was when a van (which jumped a red light) scraped across the front of the tram. There was no damage to the tram. There were 53 weighted incidents this period compared to 38 last period. The increase is due in a large part on the number of hazard brake applications this period. This basket represents 37 per cent of all the weighted incidents in the SPI.

Trams Safety Performance Index 80.9

Network incidents

Period 2 2017/18



Indicator	Weighted Incidents*	Weight	Incidents	Notes
1 Obstacle on track (inc people & vehicles)	↑ 21	1	21	
2 Hazardous events (other)	↑ 4	4	1	
3 Dangerous occurrences (RIDDOR)	→ 0	2	0	
4 Collision with infrastructure	→ 0	3	0	
5 Confirmed fire (trackside and tram stop)	→ 0	3	0	

Obstacles (including people and vehicles) on or near the track, along with hazard braking is an operational reality for the tramway. We have had 21 incidents this period. 14 were for people on or near track, 3 were objects on the track and 4 were vehicles on or blocking the track.

This indicator will be reviewed with the Operator to identify any trends. There was one incident this period classed as a hazardous event. On 17/05/17 at 09:30 a passenger took video footage of an unresponsive driver in a cab of a stationary tram. The footage was taken at the junction of George St and Wellesley Rd.

The driver was advised of the incident on 18/05/17 (rest day). He came into the Depot on 19/05/17 for a D&A test and interviews with the RAIB and his Manager. This incident is being investigated by the Operator. LT are working with TOL in the assessment of driver vigilance devices and producing a comprehensive weekly driver fatigue report. This report will look at the pre cursors of fatigue for drivers. TfL internal audit will also conduct an audit on TOLs fatigue management system.



Of the 1682 radar speed readings taken place in P2, there was a total number of 20 instances of over speed. However, all of these instances were within tolerance and therefore not recorded as a hazardous event in the SPI. In the 20 cases of over speed, appropriate action was taken by the Operator.

The tolerance or infringement levels are as below:

5-25 KMH – over 5 KMH

30 – 50 KMH – no greater than 6 KMH

55 – 70 KMH – no greater than 7 KMH

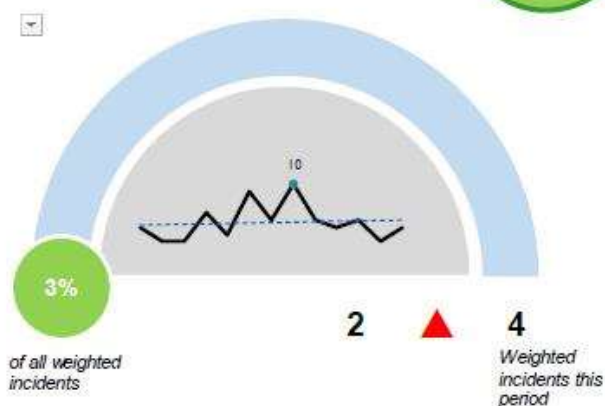
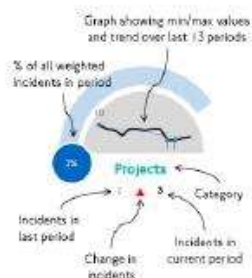
75 – 80 KMH – no greater than 8 KMH

Where a driver is within 3KMH of the tolerance level, the incidents are addressed through competence management procedures by the Operator, where they are over the tolerance level the incident will be dealt with as part of the Operators disciplinary procedure.

This basket has 25 weighted incidents this period an increase from 21 in the last period. It forms 18 per cent of all the weighted incidents this period.

Rolling stock

Period 2 2017/18

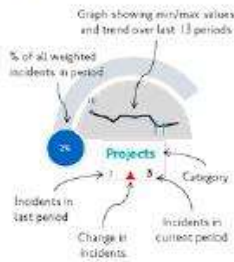


Indicator	Weighted Incidents*	Weight	Incidents	Notes
1 Fractured component	↑ 2	2	1	
2 Tram radio faults	↓ 1	1	1	
3 Tram CCTV faults	↓ 1	1	1	
4 Item detached	→ 0	2	0	
5 Alleged door irregularity	→ 0	2	0	
6 Alleged brake irregularity	→ 0	2	0	
7 UNUC	→ 0	1	0	
8 Fire or smoke on tram	→ 0	2	0	
9 Locked or seized wheels	→ 0	2	0	
10 Electric shock	→ 0	2	0	
11 Tram earth fault	→ 0	2	0	
12 In service door isolations	→ 0	1	0	
13 Overdue tram maintenance %	→ 0	1	0	

Only one incident of note. A CR4000 upper articulation link arm detached. A Technical Notice was issued by Technical Services Group. There were 4 weighted incidents this period compared to 2 in the last. This basket represents 3 per cent of all weighted incidents in the SPI

Infrastructure

Period 2 2017/18



Indicator	Weighted Incidents*	Weight	Incidents	Notes
1 Overdue planned infrastructure maintenance (Z3) %	↑ 17	1	17	
2 Engineering TSRs in place at the end of a period	↓ 3	1	3	
3 Tram stop CCTV faults	↑ 3	1	3	
4 Signalling / loop faults	→ 1.3	1	1.25	
6 Points failures	↓ 0.3	1	0.25	
6 Power (HV) faults (substation)	→ 0	2	0	
7 Points moving	→ 0	3	0	
8 PEEK traffic light faults	→ 0	1	0	
9 Track faults	→ 0	2	0	
10 Rail defects not fixed by required time	→ 0	1	0	
11 Derailment	→ 0	4	0	
12 Broken rail	→ 0	4	0	
13 Damage to OLE (dewirement)	↓ 0	4	0	
14 Tram stop lighting faults	→ 0	1	0	
15 Power (LV) faults	→ 0	2	0	

For the third consecutive period, overdue planned maintenance not completed has severely impacted this basket. Sixteen percent not completed in previous periods and seventeen percent in this period. This period rain and plant issues hindered the OLE maintenance inspections coupled with the issue to have to make some big adjustments to balance weights. On the HV power side talks continues with UKPN regarding the routine sub maintenance and fault rectification with a view to start late June.

Power asset inspections are still open due to not having a Power contactor able to carry out our routine inspections. This is planned to start by the end of June.

The 4 outstanding Maintenance Schedule Task (MST) are the track geometry surveys for each section of the network. Static surveys have been completed with data provided for the three ballasted sections; we are awaiting a more detailed analysis of this data to be provided before closing the MSTs.

The overdue maintenance civils items are predominately made up from crossing inspections and are planned for completion during the first half of P3.

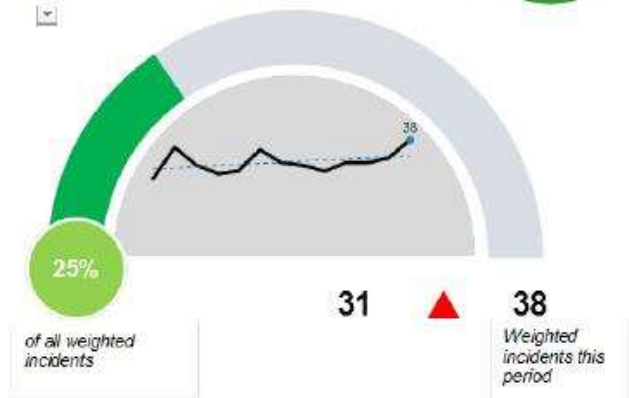
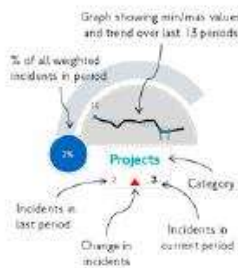
There were 24 weighted incidents this period compared to 34 in the last. This basket represents 17 per cent of all the weighted incidents in the SPI this period.

Trams Safety Performance Index

80.9

Issue management

Period 2 2017/18



Indicator	Weighted Incidents*	Weight	Incidents	Notes
1 derogations	▲ 13	1	13	
2 Outstanding recommendations (investigation reports)	→ 10	1	10	
3 Procedural irregularities (Cat A)	▲ 8	2	4	
4 Open regulatory investigations (ORR/HSE/LFB/RAIB)	→ 6	2	3	
5 Late work requests	▼ 1	1	1	
6 Drugs and Alcohol tests failed	→ 0	2	0	
7 Investigations not done by due date	▼ 0	1	0	
8 Procedural irregularities (Cat B)	→ 0	1	0	
9 Senior management tours not carried out	▼ 0	1	0	
10 Outstanding RAIB recommendations (investigation reports)	→ 0	2	0	
11 Open prosecutions (ORR/HSE/LFB)	→ 0	2	0	
12 Open regulatory enforcement actions (ORR/HSE/LFB)	→ 0	2	0	

There were a record number of derogations this period, these were issued for:

- Sandilands survivors group visit
- Wheel gauging during exam owing to no wheel gauge X5
- 2534 Fitting of temporary battery switch.
- Access for Unipart (RADAR s/w update)
- Door pressure measurement on exam owing to no pressure gauge on depot X5

Outstanding recommendations from investigation reports still remains an issue. Further work will be completed to reduce this figure and close out actions.

There were four Cat A irregularities this period.

- 1) A contractor working for the London Borough of Croydon accessed the network with incomplete paperwork. The same contractor was let onto the network by Control without being named on the paperwork. This is being investigated by the Access and HSE teams. Any findings of interest to the Operator will be passed onto them.
- 2) A driver allegedly falling asleep in the cab – as previously mentioned
- 3) A UKPN operative entering a substation without contacting Control room first. The operative was briefed on the correct procedure.
- 4) A TfL signal engineer working with a ladder which had the potential to foul the swept path. This is being worked through by the Access and HSE team.

London Trams Oversight Assurance Panel
15 September 2017 – 11:30 – 13:00 Knollys House

Present: Jon Fox (Chair) (JF) Director, London Rail
 Rory O'Neill (RON) Director, London Trams
 Jill Collis (JC) Director, HSE
 Cathy Behan (CB) Head of HSE, Surface Transport for London
 Martin Collett (MC) Director, HSE
 Rob Mair (RM) Senior HSE Manager, London Rail and London Trams
 William Capps (WC) Head of Engineering, London Trams
 Nick Baker (NB) Head of Customer Services and Stakeholder Management, London Trams
 Jackie Townsend (JT) Interim Managing Director, Tram Operations Limited
 John Rymer (JR) Tram Operations Limited
 Stephen Duckering (SD) Operations Director, Tram Operations Limited

Apologies: Gareth Powell (GP) Director of Surface Public Transport and TfL Strategy
 Andrew Wallace (AW) Head of Safety, Tram Operations Limited

Notes: Kathy Pates London Trams

	Details	Actions	Owner & date	Status
1.	Welcome and apologies for absence	The Chair welcomed all and apologies were noted. J F said this meeting had to date been looking at all the issues under the Terms of Reference but going forward he believes it should be a forum for looking into future plans and improvements.	To note	
2.	Update on proposed new governance structure	<p>RON said the detail is in the pack and is for information. Slide 3 is most important and sets out the structure. JT, JR and RON are leading proposed new governance. This meeting can fall away under this proposal. Series of meetings due to start on 2nd October and will be on a rolling cycle:</p> <ul style="list-style-type: none"> • Safety and Risk • Customer and Operations • Infrastructure and Fleet <p>H&S Meeting will continue as an operational risk based meeting. JF asked for clarification on Stakeholder Collaboration Board. RON said it will be to create a forum to go to Stakeholders and discuss staff and safety issues Mods will fall under Level 3 meetings. It was agreed that we should invite ORR to at least one Level 2</p>	Will fall under series of meetings going forward	RON 15/09/17 Closed

Item	Details	Actions	Owner and date	Status
		meeting once the new arrangements have settled.		
3.	SNCL Report – progress update	JF said we are expecting to receive draft recommendations and reports either today or early next week.		
4.	Sandilands Modification Programme	<p>Driver Protection System has been subject to discussion. RON said 'Lessons Learned' is the need to have early discussion with TOL on what we are doing. JT said it is advisable to have a Workshop for all staff to discuss what is proposed. The result of the ballot on the driver protection device will be known on Monday.</p> <p>JF asked whether speed readings taken from line side is collated and shared. RON said the speed signs are to remind drivers that they should be slowing down at this location. It was agreed that both parties should have access to the data and ensure that the readings are correct and decide how we will use the data going forward.</p> <p>Progress of RAIB recommendations document was in the pack. Once issued publicly we should be able to say what we are already doing.</p> <p>RON believed that the proposed recommendation answers for 1,7,9 are weak.</p> <p>Item 1 - Response should be we believe this applies to the whole industry but we will try to help all we can.</p> <p>Item 7 - J T said that Keith Wilkins is used by the rest of the industry and could assist</p> <p>Item 9 - Under independent review. CB said we have already started but needs further work.</p> <p>Item 11 - SD said there is no model for us to capture. CB said we could use the laboratory model. SD said we could survey the drivers and could do a 'You said we did' and could be reinforced in newsletters. RON believes a plan is required to take off line.</p> <p>RM said there have been a lot of requests regarding Risk Assessment and Risk Management. RM/AW will be attending a meeting with ORR immediately following this meeting today. RM believes here will be improvement notices as a result.</p> <p>JT said she was disappointed that all the suggestions regarding wording made by TOL sent to audit have not been accepted by TFL. TOL lawyers are writing a letter which will be sent to TFL. RO said internal audit will issue a report to him. He will look at this but will not send to TOL. AW said that everything that they have tried to clarify</p>	<p>Note</p> <p>All to look at data and how this will be used</p> <p>All 15/09/17</p>	
5.	Progress of RAIB recommendations	<p>Progress of RAIB recommendations document was in the pack. Once issued publicly we should be able to say what we are already doing.</p> <p>RON believed that the proposed recommendation answers for 1,7,9 are weak.</p> <p>Item 1 - Response should be we believe this applies to the whole industry but we will try to help all we can.</p> <p>Item 7 - J T said that Keith Wilkins is used by the rest of the industry and could assist</p> <p>Item 9 - Under independent review. CB said we have already started but needs further work.</p> <p>Item 11 - SD said there is no model for us to capture. CB said we could use the laboratory model. SD said we could survey the drivers and could do a 'You said we did' and could be reinforced in newsletters. RON believes a plan is required to take off line.</p> <p>RM said there have been a lot of requests regarding Risk Assessment and Risk Management. RM/AW will be attending a meeting with ORR immediately following this meeting today. RM believes here will be improvement notices as a result.</p> <p>JT said she was disappointed that all the suggestions regarding wording made by TOL sent to audit have not been accepted by TFL. TOL lawyers are writing a letter which will be sent to TFL. RO said internal audit will issue a report to him. He will look at this but will not send to TOL. AW said that everything that they have tried to clarify</p>	<p>R 15/09/17</p>	
6	Update on ORR Investigation	Plan required	<p>R 15/09/17</p>	
7.	Fatigue Audit Report			

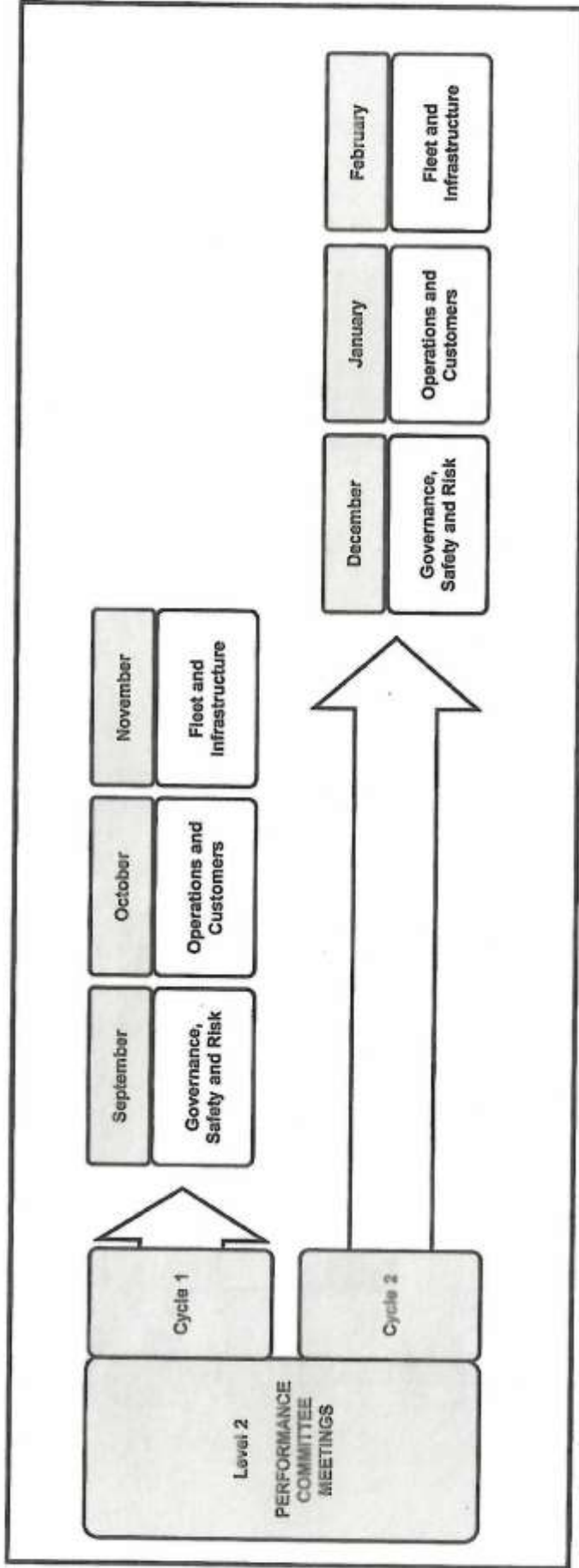
Item	Details	Actions	Owner and date	Status
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	with evidence has been ignored.			
8.	Incorrect door Operations SD said that the capability of i-tram was misunderstood in that it is advisory but will not control door operation. He believes it should be taken off the agenda for safety assurance as it needs a technical fix. LT/TOL to look at options for implementation.			

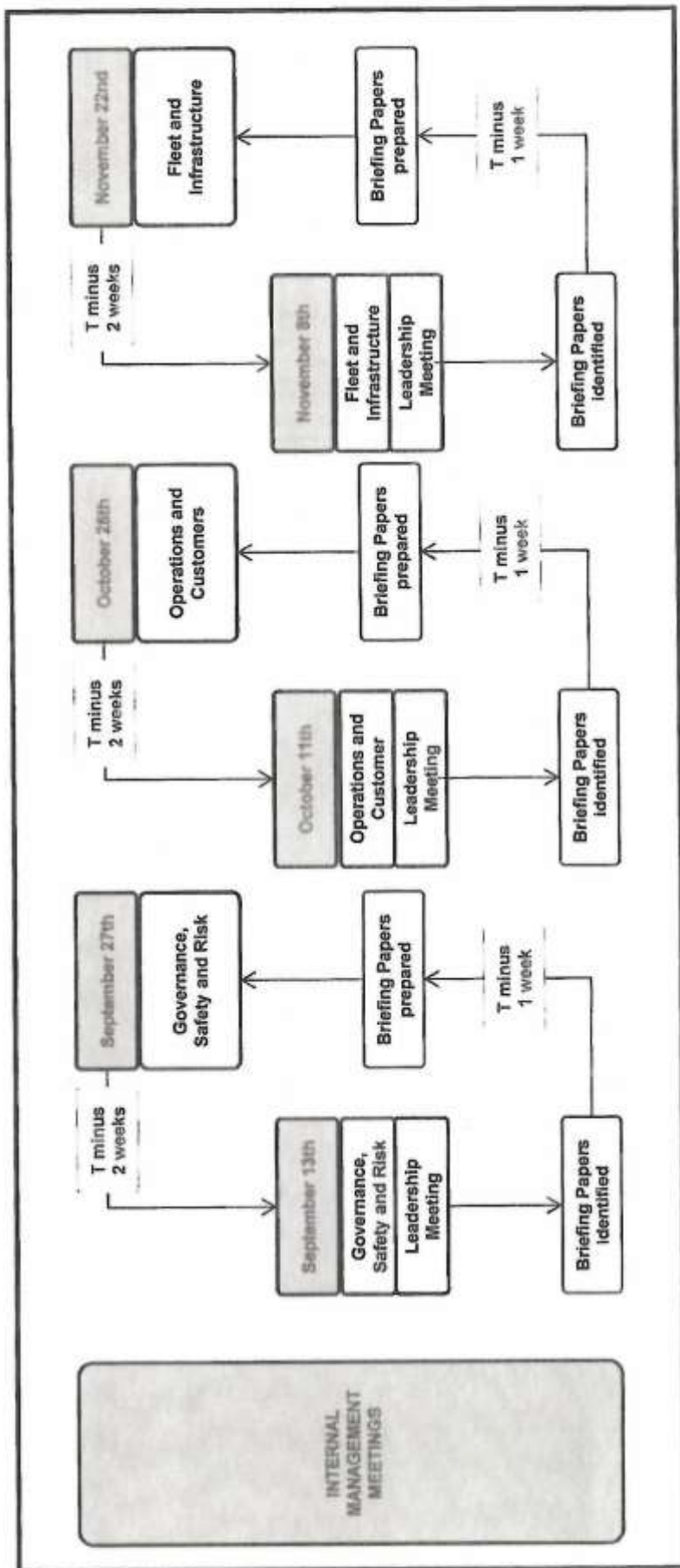
Actions from previous minutes

2.	HSE Performance Summary There were concerns over wrong side door openings. The modification to street signalling at Wellesley Road needs to be escalated (as 35% of wrong side door openings last year happened at this location). WGC confirmed that Wellesley Road loop has been reinstated so trams are no longer being halted at this location. WC liaising with TfL streets who are looking a pedestrian crossing and signal change in front of tram driver	WGC liaising with S streets	WC 15/09/17	Open
6.	Benchmarking/Review of external incident investigations Dealt with through A Kill report every Friday afternoon			Closed
7.	Any Other Business JT said we need a forum to discuss operations when we are planning possession/closures. Need to discuss how trams will operate during the period of work.	All	15/09/17	Open

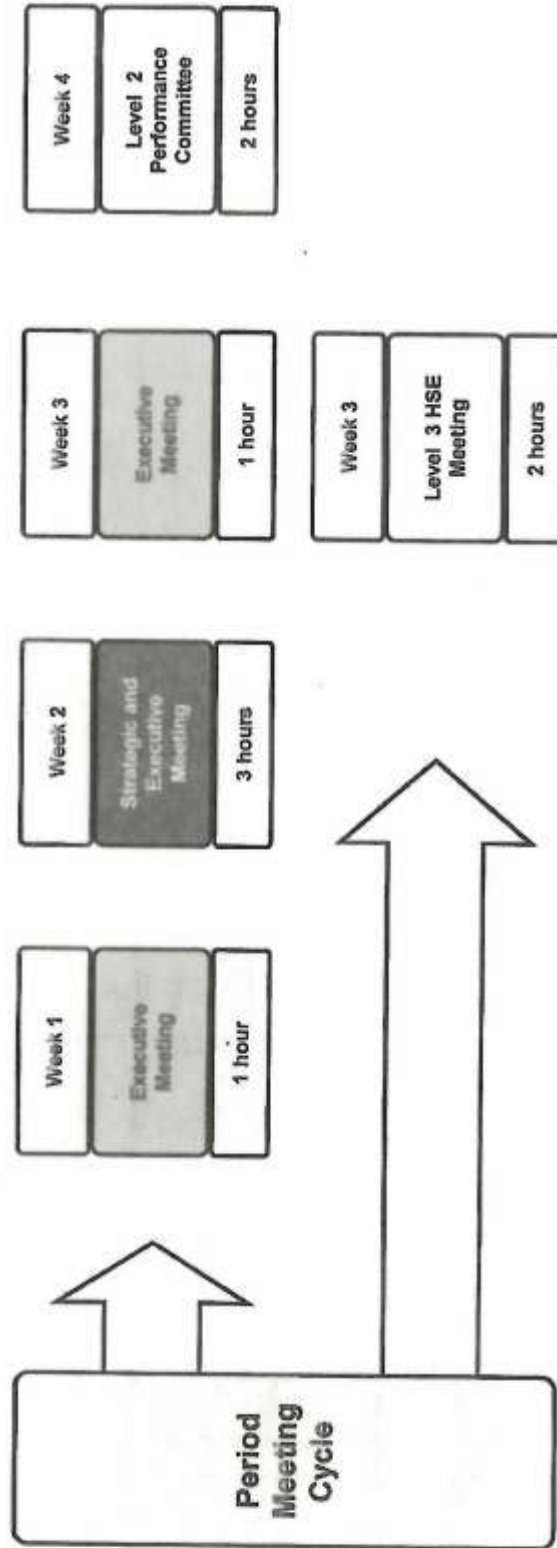
JOINT GOVERNANCE MEETING SCHEDULE



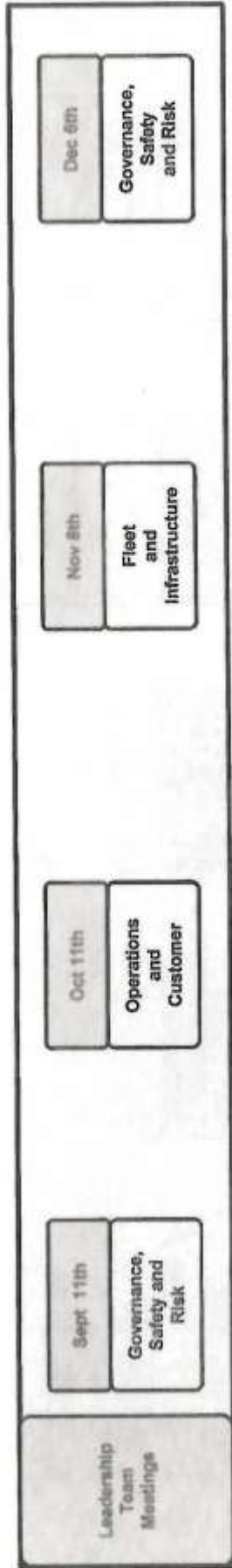
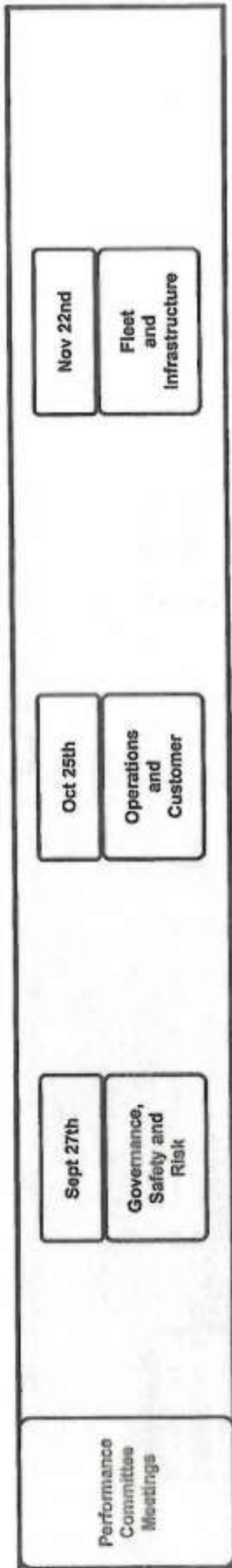
PROPOSED INTERNAL GOVERNANCE MEETING SCHEDULE (post introduction of joint governance arrangements)



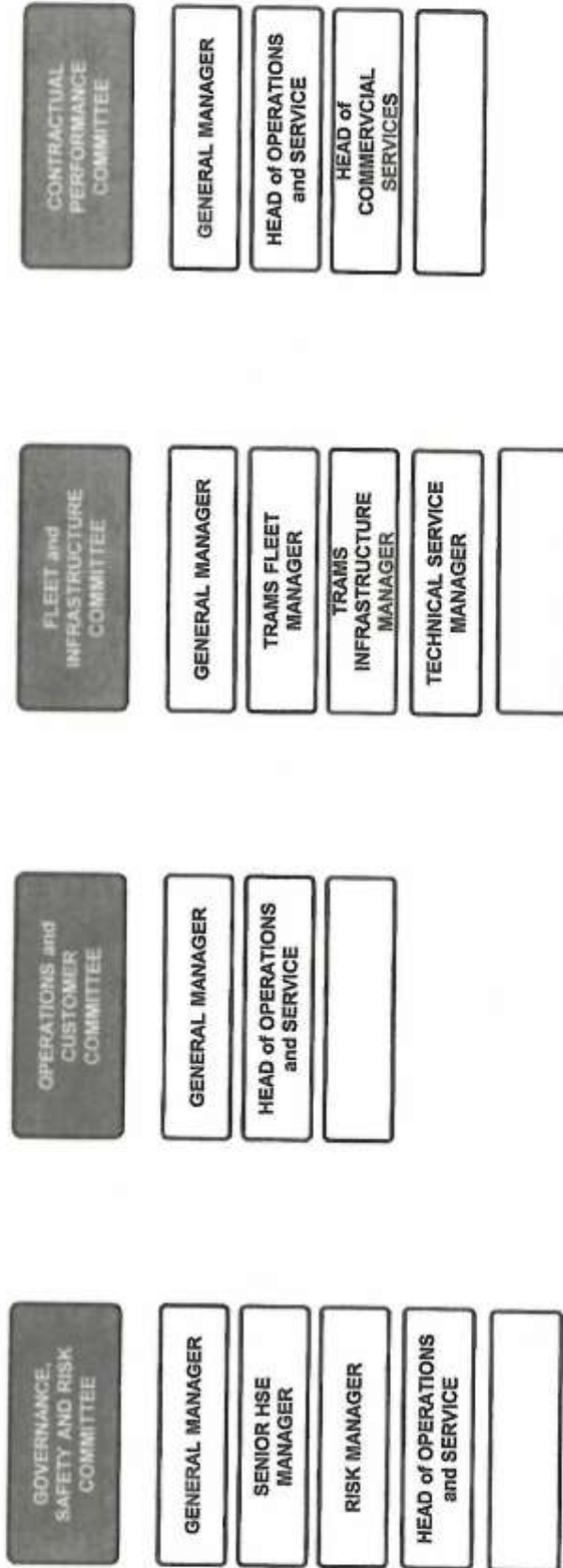
INTEGRATION of INTERNAL and JOINT GOVERNANCE ARRANGEMENTS



INTEGRATION of INTERNAL and JOINT GOVERNANCE ARRANGEMENTS



LONDON TRAMS - LEVEL 2 COMMITTEE MEMBERSHIP



Note1: - Position titles are post transformation

Note 2:

By agreement between the Director LT and Managing Director TOL, committee's are do not make decisions – only appropriately authorised persons do

In that context, the decision makers at Level 2 joint governance forums are the Director LT and Managing Director TOL (or empowered deputy / nominee)

The role of managers attending such meetings and identified above is to provide specialist expertise and knowledge that will inform such decisions and the effective operation of the committee more generally

This expertise and knowledge will be delivered through discussion of relevant matters and of that contained within L2 performance reports and briefing papers