National Highways Principal Designer Working Group Meeting No.26

Thursday, 31st March 2022 9.15 am – 12.30 pm. (Teams Call)

Attendees

Name Initials		Position	Organisation		
Richard Wilson (Chair)	RW	H&S Director C&P	National Highways		
Doug Potter (Secretary)	DP	TA HSW Lead - Principal Designer Manager	Arcadis		
Nina Warminger	NW	H&S Manager SWAD	National Highways		
Mark Lamport	MLa	Technical Director / Principal Designer Manager	Arcadis		
Pav Singh	PSi	Technical Director / Principal Designer Manager	Arcadis		
Tim Bowes	ТВ	Principal Designer Manager	Atkins		
Darren Allen	DA		Tellent		
Paul Brown	PB	Technical Manager	WSP Group		
Roger Swainston	RS	PD / CDM Advisor	Jacobs		
Tim Goddard	TG	Principal Designer Manager	Arcadis		
Toria Thomas	TT	Principal Designer	Arup		
Euan McRobie	ER		Capita		
Abbey Featherstone	AF	Technical Lead	Connect+		
Mark Lawton	MLo	Head of Engineering Surveying and GIS	Skanska		
Ali Chaudry	AC	Principal Designer	Galliford Try		
Sam Allin	SA	CDM Manager	LTC		
Jonathon Giles	JG	Principal Designer Manager	Rambolt		
Dave Avery	DA	H&S Manager	Arcadis		
Tony Lewis	TL	P Designer Man. YNE	Costain		
Dave Olorenshaw	DO	Area Manager	Keir		
Natalie Mansell	NM	Head of Safety – SR, H<	Atkins		
Jon Webster	JWe	Safety Lead	Kier		

Malcolm Shaw	MS	Principal Designer Manager	Arup		
Samuel Hogan	SH	Principal Engineering Man.	Balfour Beatty		
Jim Gallagher	JG	Prin Struct. Advisor (SES)	National Highways		
Josh Hicks	JH		Mott Macdonald		
David Riley	DR	H&S Business Partner	Amey		
Oliver McMann	OM		Atkins		
Liam Burns	LB		National Highways		
Robert Butcher	RB	Technical Director CDM	Jacobs		
Beverley Mears	BM		National Highways		
Elizabeth Bennett	EB	Director	Safety in Design		
Andrew Finch	AF	Director of Operations	Jacobs		
Ed French	EF	Principal Designer Manager	Arcadis		
Katie Harman	KH	YNE Safety Lead	National Highways		
Martin Partington	MP	Principal Engineering Man.	Jacobs		
Philip Farrar	PF	Highways Safety Hub Website	Galliford Try		
Robert Legg	RL	Highways Safety Co.	Motts		
Helen Richardson	HR	NH Regional Lead	National Highways		
Steve Willoughby	SW	Technical Director	Pell Frischmann		
Tom Bolton	ТВ		Amey		
Stephen Pettifer	SP		Volker Fitzpatrick		
Andrew Koutsouki	AK		Arup		
Stephen Larkin	SL		Aecom		
Tony Wallis	TW		Tetra Tech		
Sophie Gwynne	SG	Graduate Highway Engineer	Arcadis		
Charlotte Cook	CC	WHS Lead	Arcadis		
Simon Hawley	SH		Rambol		
Guests:		<u> </u>	l		
Nicola Tweedie	NT	SA – Road User Safety	National Highways		
Mark Sturdy Bullock	MSB	Safety Lead	Balfour Beatty		
James Leeming	JL		National Highways		

Chris Gee	CGe	Head of Utility Diversions	National Highways		
Karl Hinds	KH	Project Manager (TTM Design)	H.W. Martin		
Alistair Cooper AC		Senior Psychologist	FUTRAN (TRL)		
Apologies:					
Paul Boddy	РВ	Director	Interserve		
Stephanie Goldsmith	SG	Senior H&S Advisor	Skanska Infrastr.		
Katie Swanick	KS	Contracts Manager	Motts		
Aimee Blay	AB	Design Manager	Galliford Try		
Thomas Merry	TM	H&S Lead	National Highways		
Ronan Finch	RF	Principal Designer	WSP		
Shaun Pidcock	SP	Director LTC	National Highways		
Paul Claydon	PC	H&S Manager	WSP Group		
Phil Samms	PS	Engineering Man. (Area 3)	Kier		
Kevin Morgan	KM	PD / CDM Advisor	Jacobs		
Mark Riordan	MoR	Principal Engineering Man.	Amey		
Paul Wilkins	PW	Ass. Tec. Director Structures	Arcadis		
Dave Townsend	DT	H&S Team Standards	National Highways		
Jon Horrill	JH	Principal Designer / H & S	WSP Group		
John Migoski	JM	Technical Manager	Network Rail		
Suryakant Patel	SP	Principal Designer Manager	Costain		
Steve Ristow	SR		Transport for London		
Sean Connon	SC	Principal Designer Manager	Costain		
Ben Moult	BM	Safety Lead	Balfour Beatty		
David Lumb	DL	Health and Safety Business Partner – RIP North	National Highways		
Steve Yates	SY	PD / CDM Advisor	Jacobs		
Mark Bridges	MBr	Former H&S Hub Lead	Galliford Try		
Jordan Flint	JF		Kier		
Lawrence Weller	LW	Safety Manager	TfL		
James Washington	JWa	Safety Lead	Kier		
Owaiz Khan	OK	Technical Manager	MGF		

Richard Horan	RH		Telent
Glen Matthews	GM		Kier
Robert Mullen	RM	Asset Information Group	National Highways
Marcus Anning	MA		National Highways
Nick Boyle	NB	Technical Manager	Balfour Beatty
Jim Tod	JT	Temp Works Designer	Tony Gee/Twf
Jason Glasson	JG	Asset Information Manager	National Highways
Tarandeep Atwal	TW	Associate Director	Arcadis
Rob Eagles	RE	Temp Works Designer	MGF
Charlotte Taylor	СТ		Morgan Sindall
David Owens	DO	Data Manager	Costain
Russell Brookes	RB		National Highways
Paul Dennis	PD		Arup
Chris Griffin	CG	Design Innovation Manager	National Highways
Greig Houghton	GH	Design HSE Lead	Jacobs
Saskia Lear	SL	Principal Designer Manager	Arup
Terry Meadows	TM	Safety Lead	Kier
Paul Watson	PW		Amey
Steve Haviland	SH	Partnership Lead	Farrans
Simon Wilkinson	SWi	Technical Director	AECOM
Richard Delaney	RD	Senior H&S Consultant	Capita
John Quarless	JQ	Safety Manager	Kier
Tom Bolton	ТВ	Principal Designer Manager	Amey
Ken Harrison	KH	Principal Engineer	Amey Consulting
Ian Nixon	IN	Hub Lead	Costain
Liz Brathwaite	LBr	H&S Lead	Skanska
Craig Simmonds	CS	Managing Director	Macleod Simmonds
Elliot Galvin	EG		Mott Macdonald
Sulagna Ghosh	SG	Ass. H&S Rep Leeds	WSP Group
Adrian Shawcross	AS	Rail Associate	Ramboll

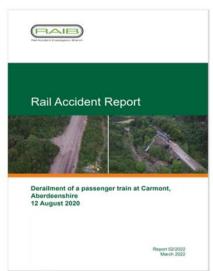
Clare Brown	СВ	Safety Lead	Link Connex (Bam
			Nuttall)

1.0 (9.15 – 9.30) Welcome and Introductions (Doug Potter)

Wellbeing, Health and Safety Moment



- Carmount Rail Accident (12/8/20)
 - Train derailed due to debris being washed on to the line
 - 3 Passengers killed/6 injured
 - Report published 10/03/22
 - Findings
 - Drainage trench failed due to installation not being in accordance with the design
 - Gravel in drainage trench vulnerable to washout
 - · Project team not aware of change
 - Safety related information not transferred in accordance with process
 - · Early erosion issues not dealt with





R022022_220310_Carmont_Synopsis.pdf (publishing.service.gov.uk)

https://www.youtube.com/watch?v=6iP0PJMu 8s

Key Actions and matters arising from PDWG 25 - 27/01/22.

1.0 Minutes

1.1 Design Close calls – Katie H noted there has been initial discussions with colleagues within NH SMP quality team. Feedback from Major Projects had been that current vehicles are in place to publish Design Close Calls and they felt it unnecessary to create something new. NH is therefore not going forward with a separate forum for Design Close Calls at this time and will utilise the various forums / databases that are in existence for knowledge transfer. Does PDWG wish to have a Hub point of contact for Design Close calls?

RW

- 1.2 Keeping Pace with Change Working Group -. AF provided a brief update on the work of the Group. They will present at the next Working Group.
- 1.3 AF thanked Natalie Mansell for noting refresh of Network Rail safety documentation / case studies – Links are attached below:

Recent Network Rail Design Close Calls guidance and case studies: https://safety.networkrail.co.uk/wp-content/uploads/2019/05/Design-Close-Call-guidance-2021-final.pdf

Shared Learning: https://www.southernshield.co.uk/filedownload.php?a=1384-611d053e96c65

1.4 Incursions Working Group - Liz B had suggested that a rep from Major Projects senior leadership group and Road User Group attended the Incursions Working Group - Richard W has confirmed this will be the case.

- 1.5 Eliminating Risk from the Outset (SP&TS work) Toria will provide an update on this later in the meeting.
- 1.6 Utilities avoidance Group Feedback later from Chris Gee
- 1.7 National Highways Predictive Indictors for utilities Mark L to chase this up with Helen Richardson from National Highways.

ML

- 1.8 A63 Incursion Presentation to be provided within this meeting.
- 1.9 A63 Safety Shares Capture of Lessons Learned MP to discuss this further with Phil Leng of Balfour Beatty.

MP

1.10 SCSLG 2 Year Strategy - RW had indicated this was still in development and he will share next

RW

- 1.11 NUWAR PDWG contact details passed to the NUAR Team.
- 1.12 Passport Scheme Designer Module T&F Group formed. OM to feed back.

ОМ

- 1.13 Suicide Prevention / Design Tool Workshop held and update to be provided later in the meeting.
- 1.14 Hazard Management / Linear hazards Mark L to discuss this further with Paul Brown to review the capture of linear hazards within a GIS environment.

ML

1.15 Safe Gantry Access - David Riley to give update within the meeting. Paul Brown noted that an SMP Alliance task and finish group has been created and had produced a draft report on the topic. There is currently no date for the formal issue of this report. PB to update.

РΒ

- 1.16 DP noted that feedback from the Chat Room had been issued with the previous minutes.
- 2.0 (10.00 11.00) Presentations for Learning Opportunities
- 2.1 A63 TTM Lessons Learned (30 min inc. Q&A) James Leeming + Katie Harman



A63 Castle Street, Hull - Pedestrian Management challenges

Mark Sturdy-Bullock, Balfour Beatty James Leeming, NH Karl Hinds, HW Martin

A63 Pedestrian management challenges

- Pre construction assumptions
- What happened in reality
- Pedestrian Management/ communication
- Further improvements
- Monitoring of works
- Lessons learnt / takeaways





Pre construction assumptions



To allow works to progress of the construction of a city centre underpass we were required to permanently close a number of existing pedestrian crossing points (marked in red) and establish pedestrian diversion routes. This approach was extensively consulted & agreed on during the ECI phase

This planned management of pedestrians was communicated to the General Public in advance of the works through the NH website, newsletter drops and webinars.



Pre construction assumptions



Consulted & agreed on during the ECI phase with -

- Hull City Council
- National Highways teams
- Arup
- HAIG (local access group)
- The General Public (through Public Consultation)

We assumed that pedestrians would adhere to the routes and follow the diversions signs, after all this was a construction site!

We even considered a temporary footbridge or full prohibition of pedestrians – all ruled out on practical grounds



What happened?

Although fenced off and marked as closed, a significant number of members of the public continued to cross live traffic. This was noticed particularly around Mytongate and Humber Dock Street. We had a **fatality** around this time as well shortly after main TM went out.

Issues were exacerbated by both the locality as well as anti-social issues. It was becoming a



What happened?





Pedestrian Management - Actions taken

- Installation of 900 metres central reservation barrier fencing
- Installation of 50 new floor signs plus 20 specifically designed for the retail park
- Installation of approximately 90 pedestrian direction signs
- Independent Road Safety Audit of TM and pedestrian routes installed undertaken – no significant issues raised in relation to provision for pedestrian management. Enhanced signage with estimated times for diversion route recommended and installed.
- Solid hoarding installed at Humber Dock Street to remove sight light across the A63. Further hoarding installed at Porter Street, William Booth House and the Whittington and Cat public house.
- Engagement with BB Living Places and HCC lessons learnt for urban TM.
- Site walk round completed with Humberside Police casualty reduction officer & traffic management officer
- Pedestrian diversion route walked with Hull Access Improvement Group and Access Association members
- Feedback survey (via a QR code) included on the NH webpage
- Google Maps updated with all pedestrian routes











Pedestrian Management - Further improvements

- Regular checks of all pedestrian signage installed. Additional HW Martin project manager brought into the team to increase audits and plan enhancement of pedestrian signage.
- Site review by Balfour Beatty Highways H&S Director
- Site walk undertaken with BB Project Team, HW Martins, BB Customer Lead and HE Regional Customer Lead to further develop enhanced pedestrian signage strategy
- Engagement with staff at William Booth House (short-term supported accommodation) – PHE now prescribes methadone collections from pharmacies on the north of the A63 (negates need for residents to cross the A63)
- Coverage of temporary CCTV being increased with more cameras deployed.
- Spotters in place to obtain as accurate as possible record of numbers of people attempting to cross and identify 'hot spots'

76% drop in pedestrian incursions overnight between April 2021 and September 2021 and an 80% drop during the day.







Communication was key

- Working with National Highways communication team to develop posters and coasters that can be produced and distributed to pubs, restaurants etc.
- Meeting held with Humberside Police regarding ongoing pedestrian management. Agreed with the approach being taken to protect the central reserve rather than rely on verges. Scheme praised for its enhanced measures
- Engagement planned with Humber Safer Roads
- Six social media posts issued
- One newsletter to 5.900 residents, one MP and three ward councillors
- Two news releases to news outlets including an incursion video
- Issued 2,500 postcards to local businesses such as hotels and hairdressers
- 2,500 drinks coasters were issued to local bars and restaurants and 200 posters were sent to local events venues
- Pedestrian diversion map included on the National Highways webpage
- Around 65 articles run by the press (online, TV, radio or print)
- Issue featured ten times on BBC Radio Humberside, either in bulletins, interviews or debate
- Five radio and TV interviews carried out project manager and Safer
 Roads Humber in partnership approach















Monitoring of works

- Monitoring of pedestrian incursions completed utilising recovery CCTV cameras.
- Trends and hotspots reviewed on a daily basis
- Weekly incursions recorded on Airsweb (heat map produced to identify hotspots)
- Data analysed to identify potential causation (i.e. public events)







Lessons Learnt

- Understand social issues related to the locality need to consider as part of design, not just the road layout
- Don't overreact to individual incidents, gather the data / info first
- Get key communications out as far and wide as possible, also ensuring the full use of social networking platforms.
- Consider the requirement for a full physical barrier/ deterrent, especially in urban areas. The central reservation fencing provided a visual deterrent making it clear to members of the public that access was not available.
- Ensure all access groups are involved as early as possible in the process, pre DCO if applicable.
- Engage with the local authority as much as possible before, during and post project review stage

national highways

 NM commented that this was great work and that it would be good to link to the RtBs and Common Intents (if not already in progress following previous communications) Mark Sturdy Bullock to review.

MSB

 PS asked if the Principal Designer could have improved the preconstruction information by the inclusion of a social risk assessment? DP to take up with JL.

DP

 Could the DMRB GG142 WCHAR assessment process be widened to include the construction stage of a project, as part of the pre-construction design process? RW to consider.

RW

- KH referenced the need to take care that the barrier installation didn't create additional hazards.
 A lot of careful consideration was made during the barrier design development.
 - A. Featherstone felt this was great learning. She had successfully used the M.A.S.S barrier for preventing pedestrian incursion, it is designed to take a variety of panels on the top. https://www.hardstaffbarriers.com/wp-content/uploads/2020/05/MASS-website-brochure.pd
- PS asked if NH provided a budget for public education or is this the responsibility of the Principal Contractor. DP to take up with JL.

DP

EB noted that there are many reports from LA highways teams of violence to staff setting out TM
in response to Covid pedestrian segregation. Have these been collected, collated and could they
have informed? She would expect people to want to cross the works if the works interrupts their
habitual route. She felt as though this needed to be a standard PCI hazard/risk to consider.

ΑII

• KH noted that in regard to the habitual desire lines - looking at the slides, people still crossed at the point where the crossing was removed. Despite Murdoch's Connection being open. Blocking the line of sight with hoarding did help at this location.

2.2 Keeping Pace with Change Working Group (Introduction) – (10 min) (Andy F) (Jacobs)

- AF appraised that an outcome from the 2016 Helping Britain Work Well publication was the theme of Keeping Pace with Change and to anticipate new H & S challenges.
- Construction Industry Council have created this group in 2019 They had produced the report From Compliance to Consultation and Collaboration Early adoption of CDM 2015.
- The Group had also recently produced a publication CDM 2020 Changing the Culture.
- They are currently working on guidance documentation / checklists for items to be considered whilst producing Pre-Construction Information.
- This is reviewing the need for a CDM strategy within our work.
- They are to present at the May PDWG by Gary Meas (Architectural Technologists) and Tony Putsnun (ICE).
- Keeping Pace with Change working group links below:
- HSE's 2016 Helping Great Britain work well:

https://www.hse.gov.uk/strategy/assets/docs/hse-helping-great-britain-work-well-strategy-2016.pdf

- Construction Industry Council (CIC) background to KPWC: https://cic.org.uk/news/article.php?s=2021-04-27-cdm-20-20-vision-changing-the-culture-report-launched
- Also find the CDM Differently website with links to download the two KPWC WG reports CDM 2020 Vision - Changing the Culture and CDM 2015 - From Compliance to Consultation and Collaboration: https://www.cdmdifferently.com/resources

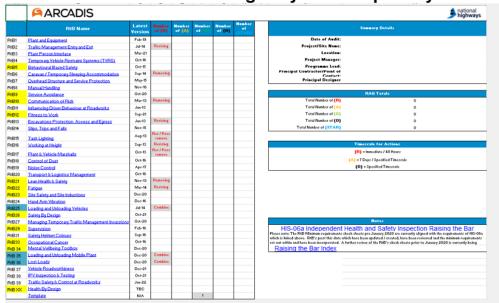
Common Intent and Raising the Bar Check Sheets - (10 min) Tim G (Arcadis)



Raising the Bar Review / Gap Analysis

Supporting Home Safe and Well

National Highways RtB Gap Analysis



TG has undertaken a review of the current RtB documents and developed Check Sheets to support gap analysis work. These have already been shared out through the Safety Hub. RW confirmed that compliance with the minimum requirements set out in the RtB's, was an Annex 15 contractual requirement. TG also provided a brief update on the current status of the RtB's following discussions at the Safety Hub as set out below:

National Highways RtB Gap Analysis

Highways Safety Hub – RtB Status

Proposal to Remove:

RtlB6 Caravan / Temporary Sleeping Accommodation RtB10 Communication of Risk

RtB21 Lean Health & Safety

Proposal to Combine:

RtB25 Loading & Unloading Vehicles / RtB35 Loading & Unloading Mobile Plant / RtB36 Lost Loads

Proposal to Review / Update:

RtB2 Traffic Management Entry and Exit RtB13 Excavations Protection, Access and Egress

RtB16 Working at Height

RtB22 Fatigue

Proposal to Review / Possibly Delete:

RtB15 Task Lighting

RtB17 Plant and Vehicle Marshalls



In undertaking the review of the recently published RtB's TG highlighted the following PD related requirements as a refresher to all.

National Highways RtB Gap Analysis

RtB3 - Plant Person Interface

Refresher Points:

- Vehicle Routes
 - Single track haul roads should be 1½ times the width of the largest vehicle
 - · Two-way roads should be 3 times the width of the largest vehicle

Engineering Controls Applied via Safe Working Practices

• Where physical segregation cannot be installed or the activity cannot take place without an individual entering the Amber or Red Risk zones, then a director of appropriate seniority (Managing/Sector/Operations Director or equivalent Level) will need to sign off a safe system of work identifying the strict controls to be followed when working around plant and vehicles that focuses heavily on robust engineering controls



National Highways RtB Gap Analysis

RtB9 - Service Avoidance

Refresher Points

- Where designers identify a requirement for excavation GPR surveys must be undertaken prior to completion of detailed design
- · Designers must undertake clash detection workshops during preliminary and detailed design phases
- Interpretation of survey data must be undertaken by experienced qualified personnel in accordance with PAS128 and HSG47
- Vacuum excavators should be the default method when excavating around utilities and Insulated hand digging tools must be used
- Efforts must be made and works considered to eliminate or reduce this activity wherever practical.
 Early engagement with utility companies and the client to collate data and information on utilities must be undertaken, together with commissioning of relevant surveys.
- Agreement must also be reached with the utility owner about what methods and techniques that can
 be utilised within the proximity of their asset. The responsibility for works (who is principal contractor
 under the Construction (Design and Management) Regulations) should be clearly recorded for each
 element of the works as this may change depending on the location of the works.



National Highways RtB Gap Analysis

RtB9 - Service Avoidance (cont.)

Refresher Points:

- It is essential that the design of works has been allocated sufficient funding, time and resources to check that utilities have been identified, confirmed and risks laminated - or that residual risk is clearly identified when work is handed to the Principal Contractor and a practicable mitigation is proposed.
- As a general principle any utility that does NOT need to be within the works should be removed from the work either by re-planning the works – or by altering the utility outside the works where practicable.
- · Note that the presence of that utility must be considered in the maintenance and repair statement.
- During the design phase designers should challenge the need for excavation. The extent and depth
 of any excavations required should be minimised to reduce the overall footprint of the area affected.
- Where excavations cannot be avoided, these should be located in areas least likely to be affected by utilities. It is critical that early design surveys are completed to confirm the location of utilities. Any decision to locate excavations adjacent to an existing service should be substantiated by a GG104 risk assessment demonstrating why the proposed option is the optimum from a health and safety point of view.



National Highways RtB Gap Analysis

RtB26 - Safety by Design

Refresher Points:

- Ensure Safety by Design Plan identifies the pre-construction information being provided by the client to the design team
- The Safety by Design Plan should set out how hazards will be identified and managed during the preconstruction phase of the works
- Early engagement with stakeholders via Safety by Design workshops with designers providing early information to stakeholders.
- Off-site manufacture and on site assembly supported by Design for Manufacture and Assembly (DfMA) should be the default position, thus allowing more work to be undertake in controlled conditions away from the roadside
- Designers should record an assessment of opportunities for DfMA as part of the design process.
 When reviewing opportunities for DfMA, it is recommended that the key components which make up the infrastructure being installed as part of the works are identified and recorded. Each element should then be challenged to determine if elements of in-situ construction can be undertaken off-site and ready made products delivered ready for assembly on site.



National Highways RtB Gap Analysis

RtB26 - Safety by Design (cont.)

Refresher Points:

- To drive continuous improvement and development of early project hazard elimination, designers and principal designer lead representatives should be involved in on site incident investigations to determine if the design could have been prevented.
- Designers should be engaged in regular workplace inspections of site during construction. This should be included within designers personal development plans to further their understanding of construction
- Lessons learnt reviews should not be restricted to the start and end of the design phase. Designers should maintain a live lessons learnt log, which on major projects should comply with the PCF product Lessons Learnt Log.



National Highways RtB Gap Analysis

RtB35 - Loading and Unloading of Mobile Plant

Refresher Points:

- A project specific traffic management plan or Plant, Vehicle and Pedestrian Management Plan (PVPMP) should be in place prior to commencement of work which sets out the safe loading and unloading of mobile plant.
- A sufficient number of Loadmasters must be appointed, based on project size/complexity and different shifts
- During the detailed design phase of works as part of the regular constructability reviews (see RTB26 Design for Safety (now Safety by Design) Principal Designers and Principal Contractors need to fully understand what plant is required and just importantly how the plant is getting to the point of works.
- A risk assessment must be in place to identify the segregation and separation methods of people and vehicles / plant.



National Highways RtB Gap Analysis

RtB36 - Lost Loads

Refresher Points:

- Projects/schemes will capture and analyse Highways load transportation data including the need to transport loads, their types, along with common vehicles and applicable competency provisions to ensure elimination controls are reflective of real-life risk and enable focused embedment from the outset.
- At Design Stage the appointed Principal Designer must ensure the following considerations are taken into account to eliminate the need for LCV (Light Commercial Vehicles)
 - > Defining within the design if off site manufacturing or alternative build/maintenance processes can be incorporated to remove the need for load transportation.
 - > Introduction of solutions on new schemes that do not require ongoing vegetation maintenance
 - > Undertake an assessment of the working space required to construct/maintain project/scheme whilst ensuring suitable space is available for storage of materials, tools and equipment to eliminate the need for local distribution of loads.
 - > Ensure key residual load risks are recorded within the scheme risk register, along with suitable & sufficient control measures.
- Ensure designing and planning processes fully capture lost load risk and ensure transportation is embodied at all risk review stages (Design /Construction/Maintenance).



National Highways RtB Gap Analysis

RtB36 - Lost Loads (cont.)

Refresher Points:

- At the construction/maintenance planning stages the movement of Loads all projects/schemes must ensure the following considerations are in place to eliminate need to transport loads and mitigation of lost load risk from the outset: -
 - > Challenging designs or process methodology to eliminate the need for load transportation.
 - > Adopting digital technology to enable visibility of works to further highlight issue areas and define additional technological solutions
 - > Identifying if loads can be distributed to work locations as bulk/consolidated loads via HGV's.
 - > Introduction of a competent Transport and Logistics coordinator to plan and organise load movements.



RTB9 – RB flagged that it is worth noting that the C2/C3/C4 etc notice processes set out within the NRSWA involve a long-term campaign, even on modest projects, to request information and update back through the engineering feedback loop as diversions are identified, agreed and adopted. The **Whole** team has a role in this, including an enabling role for NH as Client in providing the PCI data (this should be as early as possible) especially when diversions involve large capacity / strategic supplies and conversations at senior level are required.

RW provided a copy of the Annex 15 clause requiring compliance with National Highways RtB.

S1100.22. The Contractor compares the "Common Intent" and "Raising the Bar" initiative guidance their own health safety and wellbeing practices and provides a report to the Project

Manager [by DATE/ prior to the end of the Mobilisation Period/ prior to the access date] [CD1] detailing: where the "Common Intent" or "Raising the Bar" guidance is more comprehensive than the Contractor's, the Contractor produces a remedial plan for

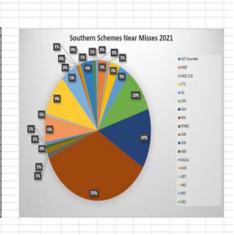
bringing their working practices up to this minimum standard and updates/amends the Contractor's management systems as identified by gap analysis where the Contractor's

working practices surpass those set out in the guidance, the Contractor provides details of these to allow the Client to update the guidance for the benefit of all road workers.

2.4 Incident and Near Miss Information (Supporting HART) (Doug Potter / Arcadis)

Incident and Near Miss Recording – RDP CoP

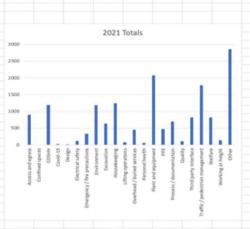
Scheme	Total	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-2
A27 Arundel	42	0	1	1	2	5	15	7	0	0	1	9	1
M20	409	50	65	55	63	14	41	58	15	16	32	0	0
M25 J10	172	1.7	40	36	31	32	16	0	0	0	0	0	0
ite	458	19	77	63	99	154	46	0	0	0	0	0	0
A2	536	63	22	77	99	59	31	34	62	50	39	0	0
CPS	1578	160	180	247	354	346	291	0	0	0	0	0	0
A14	2205	340	547	498	218	161	441	0	0	0	0	0	0
M4	5528	1014	909	1019	849	823	914	0	0	0	0	0	0
RTMC	194	18	31	5	9	24	28	25	15	16	23	0	0
A30	188	10	28	21	10	26	15	20	18	18	22	0	0
A35	0	0	0	0	0	0	0	0	0	0	0	0	0
A50	115	22	34	17	13	12	17	0	0	0	0	0	0
MIAI	119	11	13	12	14	15	6	10	13	15	10	0	0
A19	952	123	185	136	97	76	80	76	69	57	53	0	0
A57	100	23	33	9	15	15	5	0	0	0	0	0	0
A63	1490	119	150	219	151	142	26	165	162	175	181	0	0
M3	819	23	72	65	82	92	63	102	108	104	108	0	٥
A21	0	0	0	0	0	0	0	0	0	0	0	0	0
A57 Trans Pennie	3	0	0	0	0	0	3	0	0	0	0	0	0
SVD	89	0	0	0	0	0	16	20	49	2	2	0	0
DHS	7	0	0	0	0	0	4	0	0	3	0	0	0
M25 J10-16	123	6	22	31	32	26	6	0	0	0	0	0	0
A27 East of Lewes	590	0	58	84	61	57	32	75	38	86	50	34	15
A31 Ringwood Widening	155	0	0	1	0	0	0	0	3	19	38	48	46
M3 Junction 9 Improvement	78	3	0	1	0	0	0	0	0	14	23	31	6





Initial Trend Analysis Findings

Category	2021 Totals	2022 Totals
Access and egress	903	25
Confined spaces	0	0
COSHH	1189	7
Covid-19	26	4
Design	16	0
Electrical safety	114	19
Emergency / fire precautions	326	10
Environment	1185	11
Excavation	633	10
Housekeeping	1243	93
Lifting operations	73	2
Overhead / buried services	448	16
Personal health	55	10
Plant and equipment	2072	103
PPE	472	23
Process / documentation	699	62
Quality	109	3
Third party interface	813	21
Traffic / pedestrian management	1782	68
Welfare	822	7
Working at height	140	3
Other	2855	80
Total	15975	577





RDP (N) WHS Community of Practice have been asked to collate Incident and Near Miss data (in lieu of this information not being available through HART). Phil Leng of Balfour Beatty had provided some initial data collected by BB and Volker Fitzpatrick, which he had shared. The tables developed above had been produced by the CoP.

DP was working with David Lumb to develop this further.

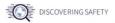
Top 4 key Near Miss areas found to date from 15975 Near Misses recorded in 2021 are as follows: Plant and Equipment (2072), Traffic and Pedestrian Management (1782), Housekeeping (1243) and COSHH (1189).

DP/DL

- 4.0 (11.00 12.15) T&F Group Updates (SCSLG H&S Hub Support)
- BIM Risk Library (10 min) (Update) (Pav Singh Arcadis) 4.1

Discovering Safety Construction Risk Library Project

- Phase 2 Due to Complete May 2022
- Current Work
 - Development of risk scenarios and associated treatment matrices
 - Work with 3D Repo Safetibase to enable easier sharing of data and better management of csv file
 - Work internal to HSE to develop ways of searching and retrieving guidance from HSE Website or publications to reinforce Treatment Suggestion prompts on Safetibase
 - Work internal to HSE to develop dashboard to make available risk and risk context information to designers using Safetibase
- Plus new Discussion Forum now on website https://www.discoveringsafety.com/ Sign up and be the first to respond!
- Find HSE Data Driven Insights e-bulletin here https://content.govdelivery.com/accounts/UKHSE/bulletins/31079c3



- Links for HSE BIM risk library update https://www.discoveringsafety.com/ https://content.govdelivery.com/accounts/UKHSE/bulletins/31079c3
 - PS provided the following link to allow PDWG members to join the Discovering Safety initiative - Create new account | Discovering Safety

ΑII

4.2 Eliminating Risk from The Outset (ERFO) - SPaTS2 - (15 min Update - (Toria T- Arup)

Work Packages



TT confirmed that Arup have 3 work packages as set out above. Learning from Design outputs come from the PDWG T&F of 2019-20.

ARUP

ARUP

WP2 – Design as a process

Review of recommendations from the ERO Task Group

- Road worker safety
- Standards
- Working space and buildability
- · Pre-construction phase plan / whole-life H&S assessment

ARUP

WP3 – learning from design

Workshops and investigation

- HART tick box to identify possible design root cause
- · Contractor writes the event report
- HART reporting tool
- · Quality of investigation is key
- · Lessons learnt logs
- PCF process is king (Major Projects)

ARUP

WP4 – measuring design performance

- Lower Thames Crossing Design Assessment Tool
- · What do you measure?
- What was done right?
- Golden thread through design decisions to zero harm
- · Standards have built in learning
- · Feeding back learning into design
- · Focus away from blame to learning

Engagement





- TT provided an update on the objectives of the ERFO SP&TS 2 Framework project.
- She indicated that there are a number of draft documents in development which start at Stage 0
 and requested that PDWG members attend future workshops to support peer review feedback.
 TT asked for volunteers to please offer your time to assist and support. TT to provide links.

Examples included: New NH process - ASSET MANAGEMENT (CDM) PROCEDURE - HSP005
 - MP2 requires a Pre-construction Phase Health and Safety Plan to be developed by the PC (note should this be PD?) – It was assumed this document will be in line with the RtB 26 requirement for a Pre-Construction Phase Plan? PB to discuss further with TT if required.

 PB flagged that there are a number of issues with the recently issued CDM Process and Procedures documents – he has passed comments back to Dave Townsend – RW to take up with DT.

 Mark L noted the importance of a Pre-Construction Phase Plan, especially in relation to the management of Utilities. Discussions are ongoing with Chris Gee on this, to ensure consideration

TT

РΒ

RW

MLa

is given and there is an understanding as to where the CDM duties and roles sit and that these are resolved before a spade goes in the ground.

- TT has touched base with the HART Team to look at outputs and reporting.
- The Lessons Learned Log was also becoming a key document.
- DP referenced the SMP requirement for a Design Strategy Record (DSR) This was a specific requirement on Smart Motorway schemes, and he felt it should become a formalised PCF product across all schemes as per previous discussions on the matter. TT to discuss with NH PCF team

ML echoed this, indicating the DSR should have clear focus so that it is standardised in its use
and contents and becoming a PCF product would ensure that it is properly monitored and
reviewed during the project life cycle - ML to discuss with TT separately.

 MP - Noted his experience on document structures and systems creation, MP indicated he had created a Pre-Construction Plan within Aone+ and would be willing to share and discuss with TT. Subsequently Actioned.

TT

MLa/ TT

MP

Suicide Prevention Design Tool – (Alistair Cooper – FUTRAN / Nicky Tweedy - NH)

AC provided an update on the progress made in the period on developing a Suicide Prevention Design Tool. He thanked members of the group for their support at the Workshop held in February following the last PDWG.



Summary of data sources



A variety of data sources were used as inputs into the model

Data provided by National Highways

- Structure data: 8,855 structures managed by National Highways
- Incidents data- 10,897 incidents in the last 5 years within 200m of a structure.
- Suspected Suicide (Fatals) data:
 92 fatalities (cause= bridge falls) in the last 5 years

Published data sources

Included in the current model

- Index of multiple deprivation
- Population density
- Urban or rural classification
- Number of higher educational institutions

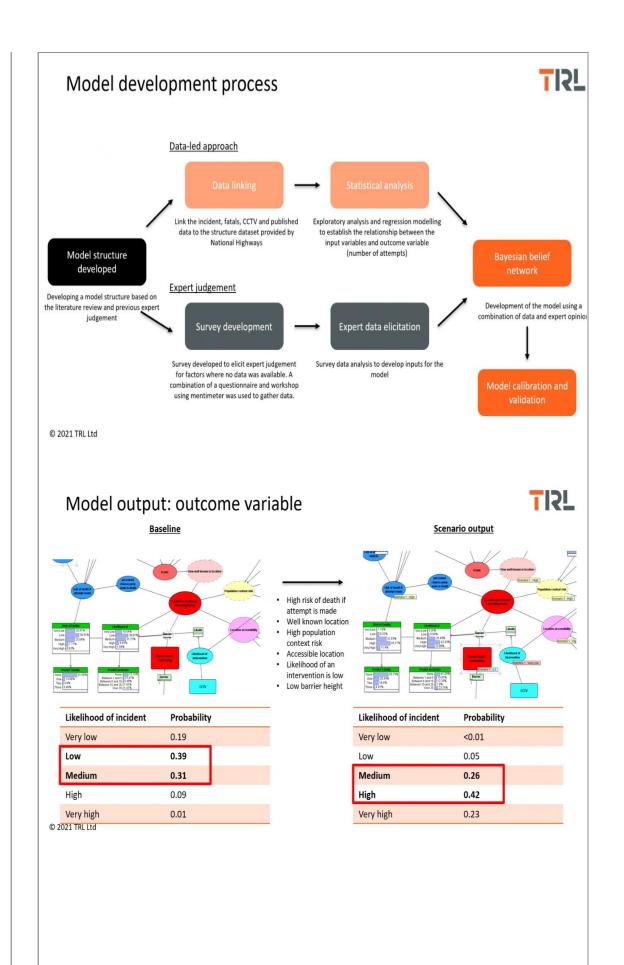
To be included in the future:

- Number of pubs or clubs nearby
- Medical facilities

Data from experts

Expert opinion was gathered from five experts from academia, the Samaritans and the British Transport Police, supported by expert judgement from members of the Suicide Prevention team at National Highways.

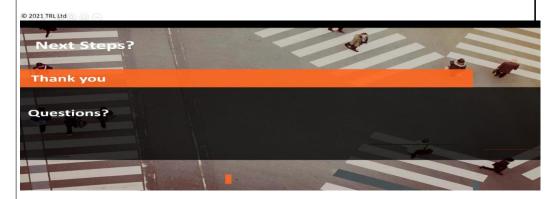
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Main Findings



- Some limitations to its validation, due to the lack of complete information around known structures
- Validation has demonstrated risk estimates in line with the rates of suicide attempts and rates of fatalities from suicide – further refinement is needed
- The output end users are given after using the tool, and how this output translates to action, is critical. This should be a key activity for any future work
- Embedment into DMRB and references in PCF and 3D critical
- In conclusion, the need for this tool is evident: when combined with best practice guidance, it could play a significant role in reducing suicide attempts on the SRN.



NT provided an update from the Client perspective. The report would now be finalised, and next steps determined. She thanked the group and also the support from PS from LTC, who had provided additional feedback at a recent Workshop. She would report back at future group meetings.

NT

4.4 Utilities Avoidance – (10 min) (Chris Gee – NH)

CG provide an update on the work of his group.

PDWG Update - Strategic Utilities

31 March 2022

- Expanded engagement (Electricity North West, Vodafone etc.)
- Utility SRM Supplier Relationship Management
- Utility Deep Dive 2
- Utility Challenges (DNO New supplies, Openreach Re-Org etc.)
- Project speed / Project Rapid
- Carbon

Utilities Strategic Engagement





H&S File Digital Development – (10 min) (Mark Lamport – Arcadis)

Links to AMDG and OD – update

ML provided an update on outputs from the Steering Group and next actions for the T&F Group.



Principal Designer Working Group **Event No 26**

Health and Safety Files Digital Development Mark Lamport, Arcadis



Task and Finish Group Team

Mark Lamport - Arcadis Doug Potter - Arcadis Natalie Mansell - Atkins Tim Bowes - Atkins David Owens – WSP Rob Butcher – Jacobs

Richard Wilson - National Highways, PDWG Chair

Kevin Clague - National Highways, Asset Needs Manager - Operations NW

Darren Allen – Telent

Jason Glasson (National Highways, Head of Asset Management) to be invited to the next meeting



National Highways CDM Standard H&S File

Highway England HSF therefore forms part of the Handover Information at the end of a construction project, but doesn't contain all the information at final handover to the Client. There are number of categories of document that will be handed over at completion of the project of which the HSF is one. Aligning with the current Highways England Project Controls Framework (PCF) the list looks like this:

Project Controls Framework (PCF) the list looks like Handover Asset Data: Volume 1 – Introduction Volume 2 – Health & Safety File Volume 3 – Operations and Maintenance Manual Volume 4 – Asset Data Volume 5 – Quality Records Volume 6 – Design Records Volume 7 – PCF Products

The scope of this document is purely volume 2 – Health and Safety File highlighted above and not the other volumes listed in section 1.2.3.



1.2.4

Current Actions

- Asset Information H&S Improvement in Data Management Steering Group (last meeting on 22/3/2022) working on alignment of PCF products with new CDM Standards and H&S File Template eg Civils Maintenance (AD/MAC/ASC) Handover Document and Certificate (Stage 6) PCF product needs to be brought into alignment with the new H&S File Template (Stage 2 product)

- IAN 105/08 likely to be withdrawn and not replaced
 National Highways BC to be modified to reflect 7 volume handover asset data structure
 Rationalisation of National Highways MP BC structure (?10 volume or 12 volume) with 7 volume
- structure in H&S File template
 Terms of Reference (Scope, Objectives, Outputs and Timescale) for T&F Group is being
- developed for discussion and agreement Interface with BIM 4 Health & Safety Working Group led by Andrew Rouse and Gordon Crick looking at integration of H&S into BIM



Future Actions

- Establish which other National Highways groups are working on H&S File digitalisation, what have they done already, how can our T&F Group interface with/support them?

 Establish what PDWG member organisations are already doing on H&S File digitalisation?
- Establish end-user requirements:
 - What information do Principal Contractors and O&M organisations need from the H&S File? In what format?
- On what platform GIS, BIM?

 What should the information flow process look like?

 How do we ensure a consistent approach?
- Ensure alignment with National Highways 5 Year Digital Transformation Plan
- 4.6 Safe Gantry Access by Design - (10 min) (Update and conclusion from risk review) - (Dave Riley - Amey)



To cover

- · So what?
- · What has been concluded
- · What information do you need from us?
- · What are we asking for







amey

So what?



Two of the significant fatal and serious injury hazards that Amey and the industry are focussed on.

- · MEWP operation under structures and in shared road space
- · Adjacent high speed traffic.





Designers' duty

Status: This is the original version (as it was originally made).

Duties of designers

9.—(1) A designer must not commence work in relation to a project unless satisfied that the client is aware of the duties owed by the client under these Regulations.

- (2) When preparing or modifying a design the designer must take into account the general principles of prevention and any preconstruction information to eliminate, so far as is reasonably practicable, foreseeable risks to the health or safety of any person—
 - (a) carrying out or liable to be affected by construction work;
 - (b) maintaining or cleaning a structure; or
 - (c) using a structure designed as a workplace.
- (3) If it is not possible to eliminate these risks, the designer must, so far as is reasonably practicable—
 - (a) take steps to reduce or, if that is not possible, control the risks through the subsequent design process;
 - (b) provide information about those risks to the principal designer; and
 - (c) ensure appropriate information is included in the health and safety file.
- (4) A designer must take all reasonable steps to provide, with the design, sufficient information about the design, construction or maintenance of the structure, to adequately assist the client, other designers and contractors to comply with their duties under these Regulations.

Principal Designers' duty

- (3) In fulfilling the duties in paragraph (1), the principal designer must identify and eliminate or control, so far as is reasonably practicable, foreseeable risks to the health or safety of any person—
 - (a) carrying out or liable to be affected by construction work;
 - (b) maintaining or cleaning a structure; or
 - (c) using a structure designed as a workplace



Asset owners' duty (2) It shall be the duty of each person who has, to any extent, control of premises to which this section applies or of the means of access thereto or egress therefrom or of any plant or substance in such premises to take such measures as it is reasonable for a person in his position to take to ensure, so far as is reasonably practicable, that the premises, all means of access thereto or egress therefrom available for use by persons using the premises, and any plant or substance in the premises or, as the case may be, provided for use there, is or are safe and without risks to health.

CD365

- Design of gantries with permanent maintenance access
- 9.1 Where the risk assessment in Section 2 identifies a need for permanent maintenance access then the provisions within this section shall apply.

What has been concluded

- · There is much gantry access variety across the network without any evident basis.
- · A decision is based on design risk assessment the but there is no evident common platform or framework upon which those decisions are based.
- · Some evidence that consideration is only of the gantry design, not of the wider environment, parking etc.
- DRAs conclude that access ladder and parking are safest, but then are sometimes removed through "value engineering"
- The initial design assumption was that the signs would be maintenance free; there has been a high failure rate leading to far more maintenance visits
 than would have been anticipated.
- · There is great inconsistency of asset performance and failure rates; suggesting an opportunity to reduce risk.
- · There is not failure data analysis to target and inform selection of assets and reduce failure and reactive maintenance frequency.
- · On M74 in 2010; 21 gantries were constructed; (where possible) all with hardstanding or access paths.
- Transport Scotland and Southwest Operating Company looked to improve access to the existing overhead gantries by installing hardstanding areas
 or paths from safe locations. This forms part of the existing sign gantry refurbishment works.
- · National Highways surveys are structural integrity; they do not include wider items such as barrier rail hight and pedestrian access.
- · Risk of items dropped onto live carriageway has been mentioned as a reason to not provide access; as distinct from the risk designed out

CD 365

9.15 To prevent any items falling onto the carriageway, those parts of the walkway handrail over the carriageway and at least 1.5m beyond the back of the hard-shoulder/ strip or verge shall be infilled with either solid plate or with mesh with openings that will prevent the passing of a ball 5mm in diameter, or a combination of both.



What is being done operationally to mitigate the risk.

- Off network access options noted and added to contract gantry asset databases so engineers know of other options.
- Discussion with National Highways / client to arrange retrospective installation of access from off-network parking.
- · MEWP and closures to gain access where access is not available.







What information do you need from us?

- · We will record all gantries without pedestrian access and egress onto AVA (Amey) system as a close call;
 - · we close it out by saying we have informed the client
 - · we build our in-contract database.
- We offer to record all gantries without pedestrian access and egress in England onto NH HART system;
 - recorded as HART event type" Infrastructure Asset"
 - · using consistent wording to aid searches text to include one or both of the following;
 - "gantry does not have permanent maintenance access; accessible off carriageway parking"
 - "gantry does not have permanent maintenance access; fixed hoop ladder or better".
 - we will record when first attending; and on distinct repeat visits if still not in place, except as part of
 one scheme of (e.g.) inspection.

DR highlighted the following recommendations that would be fed back to the T&F Group.



What we are asking for

- Design risk assessment default position for pedestrian access ladder and parking with path unless where genuinely not possible
 or reasonably practicable.
- DRA to always include consideration of the gantry design and the wider environment, parking etc.
- M&R /Technology Maintenance teams consulted on design / design risk assessment
- Formal approach to the design audit to test the design risk assessment default position for permanent maintenance access.
- Consider provision of stair access rather than ladder access to make general access and egress safer, assist transporting tools
 and goods, assist rescue of incapacitated person.
- Improve access to the existing overhead gantries by installing hardstanding areas or paths from safe locations allowing safe
 access to the structures. Risk based retrofit and/ part of planned sign and/or gantry refurbishment works.
- NH data analysis to build the extent and profile of assets not meeting their design failure criteria and consequent additional risk.
- · NH gantry surveys' scope extended to include barrier rail height, barrier rail integrity and pedestrian access.
- NH share the experiences and SSoWs of their structural engineers in respect to gantry access for inspection.
- NH extend their gantry structural surveys to include barrier rail hight and pedestrian access.
- · Smart Motorway task and finish group to consider all of the above in their scope and remit.
- · Smart Motorway task and finish group to update this group monthly.

Jim Gallagher indicated that he owned the CD 365 Design Standard for Gantries and requested that members of the group who wish to discuss feedback or have suggestions in relation to improving the contents please contact him directly.

All

He flagged that he is aware that there have been a number of issues in respect to access and he is open to designer feedback in this area. DR referenced that holistic risk assessments would still be required which covered all aspects of gantry installation.

DR confirmed that his piece of work was now complete, but he was keen to ensure it was shared with the SMP Alliance T&F Group and that outputs were fed back to PDWG on a regular basis. PB to action.

РΒ

PB flagged that there was also a back-to-basics Gantry Design Group within the SMP Alliance. JG was aware. PB would provide the feedback to this group also.

РΒ

4.7	 Whole Life Design Safety Shares – (Martin Partington – Jacobs) Due to time constraints presentation not provided – update to be provided at the next meeting in /May. (Copy included within the minutes) 	
5.0	Information for Discussion	
5.1	Passport Designer Module (Oliver McMann Atkins) – (Presentation not given on the day see attached)	
	Group has met twice on 22/2 and 25/3 – first draft is due in May and will be presented at PDWG 27 with a request for comments from the group. Launch date is currently timetabled for September.	
6.0	Date of Next Meeting – 19 th May 2022 (PDWG 27) – Teams Meeting	
	Subsequent meetings to be on – 21/7, 29/9 and proposed for 8/12 and 9/02/23. Note: Current suggestion is that the September meeting may be face to face at venue TBC.	