

Towards a person-centred approach to change in a UK rail environment

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Introduction

- 'The only constant is change'
- Evolution of the railways
- Person-centred change? Or Programme centred change?
- Is change something that happens TO people or WITH people



What is change management?

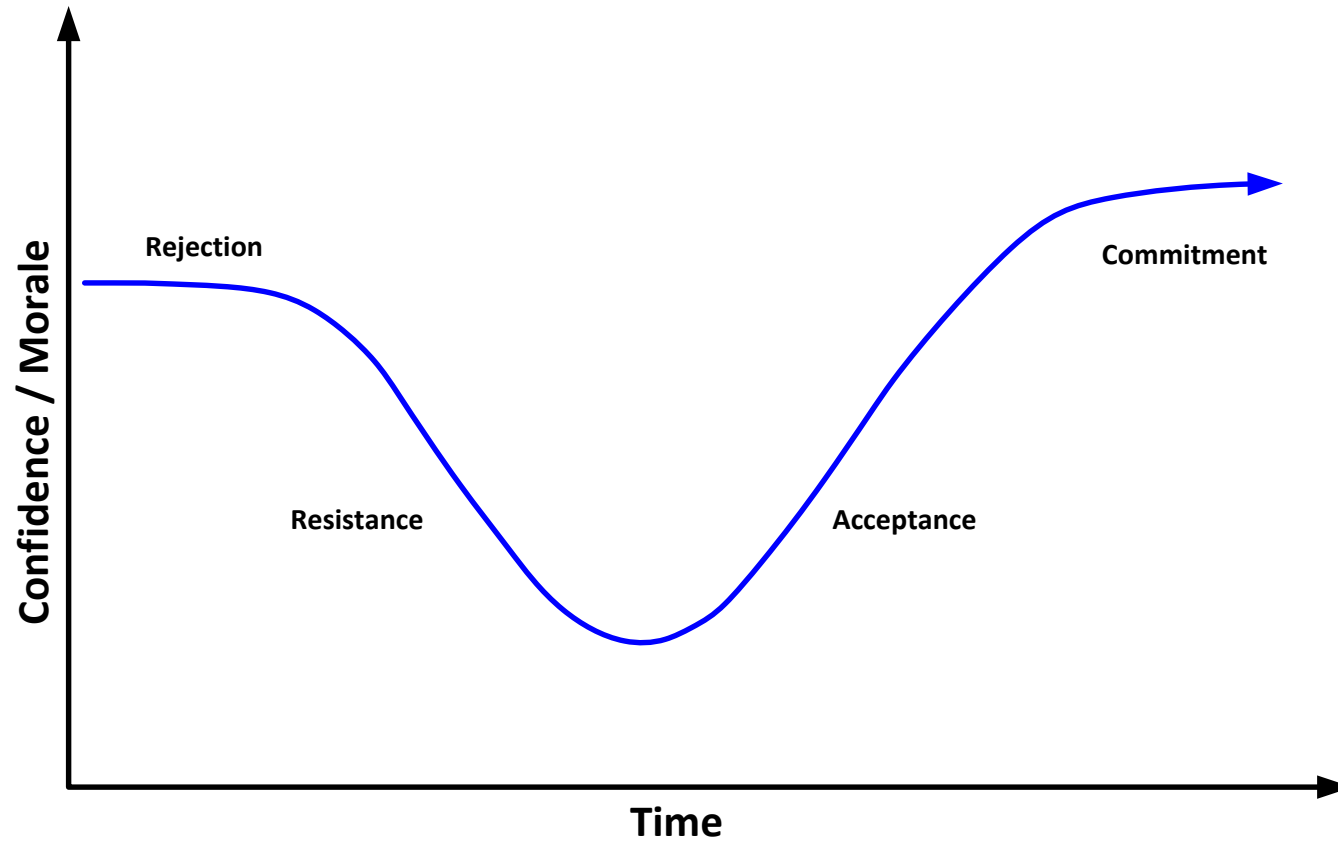
- Change management:
 - Change vs. transition
 - Organisational, attitudinal and behavioural adjustments to facilitate change
 - Sustaining and embedding the change
- How is this managed on the railways?
 - Currently very process led:
 - RSSB's guidance 'The Principles of the Safe Management of Engineering Change: Guidance',
 - RSSB's 'Taking Safe Decisions' for significant changes
 - Infrastructure owners processes – Guidance on Railway Investment Projects
 - Focus is on process rather than individual

Overview of the Research

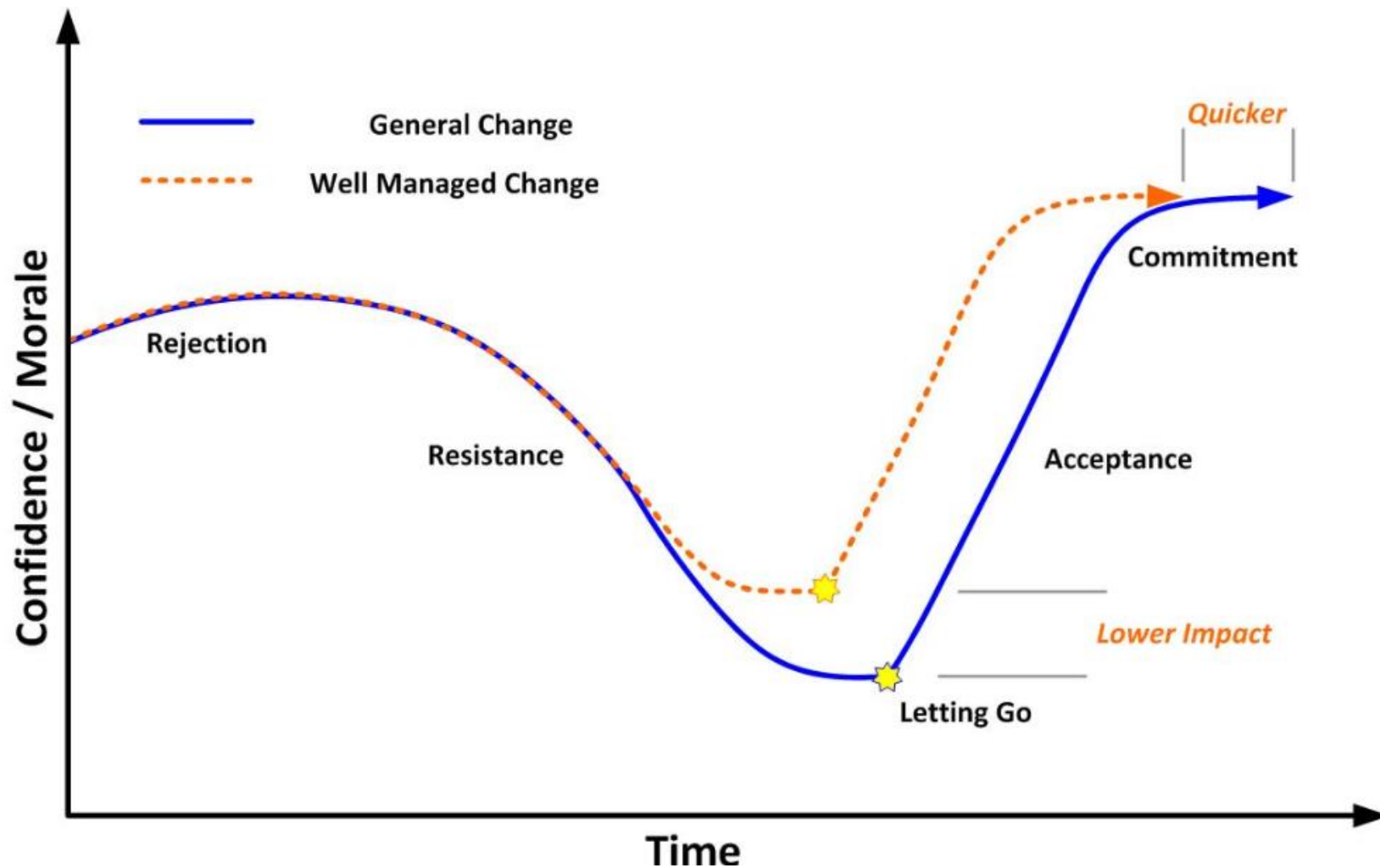
- Research question was essentially: *'When is too much, too much?'*
- What we found was that the questions were really around:
 - We need some guidance on managing drivers through significant infrastructure and technological change
 - The industry needs an attitudinal shift on change management in a safety context
 - We need some good practice on briefing methodologies to support drivers
 - There's a lack of practical suggestions to improve change management for drivers
 - There's a lack in change management being incorporated into project management
 - Can change management models help as a basis for this



How do people react to change?



Reaction to a well-managed change?



Methodology

- Semi-structured interviews
- Workshops with drivers – mainline, urban and plant operators
- Interviews with Management from infrastructure owner and TOC's
- Process mapping
- Participation in collaborative working group



What did we find?

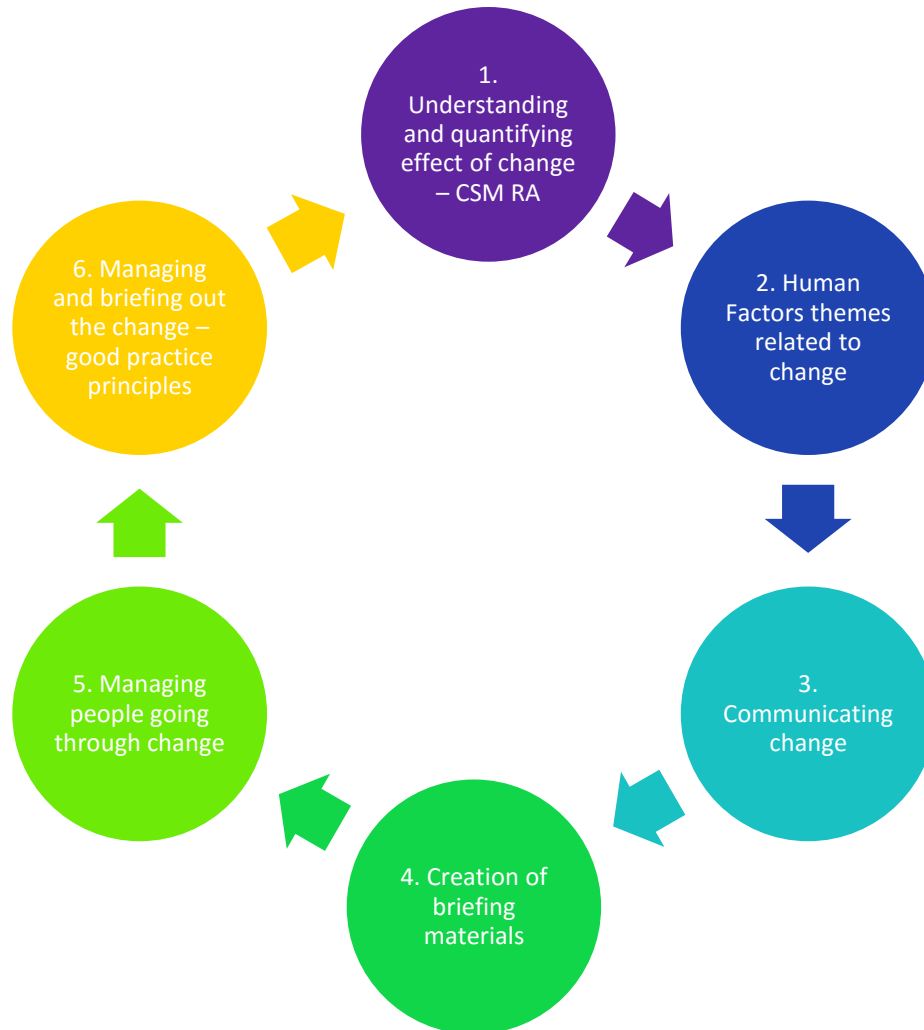
- Not as simple as was first thought!
- Hierarchy in the communication of changes
- Change often done TO people rather than with them
- Common Safety Message for Risk Assessment not consistently understood or applied
- Inconsistent format and content of driver briefing materials
- Poor or no evaluation of briefing effectiveness
- Good examples of collaborative Driver Training Working Group - structure and outputs
- Change management not always seen as integral to project management
- Need to understand the risks associated with training and evaluation
- Scope for application of change models to safety related change



Opportunities right through the project management lifecycle



Process opportunities for improvement



Project deliverables

1. Good practise guide on Change management for drivers on routes undergoing significant change
2. Human Factors themes for project management
3. Update to DTWG matrix
4. New model for safety change management



1. Good practice guide RS800

<http://www.rssb.co.uk/rgs/standards/RS800%20Iss%201.pdf>



Managing
drivers on routes
undergoing
significant change



2. Human factors themes for project managers

- Theme 1: Driver workload
- Theme 2: Driver briefings
- Theme 3: Briefing materials and information
- Theme 4: Assessment of the brief
- Theme 5: Organisational safety culture
- Theme 6: Supervision and management
- Theme 7: Project management
- Theme 8: Project communications
- Theme 9: Managing the change
- Theme 10: Individual differences

Example of theme – from ‘Driver briefings’

- For use by project managers, operational managers etc
- Can be used as part of the CSM RA process

Hazard	Cause	Risk control
Timing of the brief		
Drivers fail to remember critical information during the brief.	Increased anxiety can have a negative effect on retention and recollection of information.	Early, open communication about the change can reduce anxiety on what is happening and whether they have the required skills, competence and knowledge to successfully work with the changes. (See Chapter 3 and Appendix 5 for a change management model that deals with communication).
Drivers forget critical information during the brief.	Lack of time for transfer of briefing to solidify learning.	For infrastructure changes, there may be little opportunity to solidify learning or transfer the learning , as they have little or no opportunity to drive the route as part of the briefing or training. Reinforcement through visual reminders in the mess room, asking questions of briefing staff, re-reading materials or re-watching DVD's will help to remind them of the correct information.

3. Update to DTWG matrix

- Driver Training Working Group
 - Collaborative working by infrastructure owner, all TOC's, FOC's and Plant Operators affected by the change
 - Early sight of change and planning for briefing
 - Previous version of matrix – process focus
 - Included criteria on:
 - Quality of briefing delivery
 - Decision risk
 - Cognitive failure

3. Update to DTWG matrix – part 1

Cat.	Proposed change	Mandatory information	Additional information	Things to consider
One	Any individual change (only ONE from this list): installation of new junctions or layouts; installation of new signalling or control systems (such as TCB, axle counter sections, and/or other changes presenting a significant modification to train working up to 10 such changes all commissioning at the same time; re-location of signals, signage, or points (only movements of up to 150 metres in either direction).	Section C entry in the Weekly Operating Notice (WON).	Simplified route diagram Any driver-related hazards created by the work (to be identified and included by TOCs). This could form part of the WON if the diagram is readable and not too big (details not compromised when printed at A5 size).	Movement of a signal a short distance on a straight line should rarely cause an issue. However, a signal in border in REAR of its original position, where the approach view is restricted by line curvature, over a bridge or other impediment, can present a significant hazard, EVEN when the sighting parameters ARE met. If moving a signal back (in rear of existing position) the potential hazard and risk should be discussed with the operator's representative. Consider highlighting these hazards or risk in an adjacent column.
Two	Repositioning of signals or layout change where diagrammatic explanation would greatly help briefing (such as repositioning of or change to platform signals). Repositioning of any signal or signage by more than 150 metres in either direction. (This could be considered as recovery of one signal and provision of a new signal at a different location.)	Section C entry in the WON AND Mapbook (or diagram) to be provided either on paper or electronically.	As above, plus where a diagram will be too big (more than 2 pages) to include in the WON a Yellow Notice will be produced. Any driver-related hazards created by the work (to be identified by TOCs) and these should be shown and highlighted on the diagram.	If a Yellow Notice is produced in conjunction with the WON a Mapbook (printed or electronic) will be given to drivers.

3. Update to DTWG matrix – part 2

Cat.	Proposed change	Mandatory information	Additional information	Things to consider
Three	Repositioning of any signal or signage by more than 150 metres in either direction. (See below) The addition of a flashing yellow aspect sequences. Any repositioning of signals or layout change where diagrammatic explanation or visual representation would greatly help briefing.	Section Entry in the WON AND Yellow Notice to complement the Section C item AND Map-book (or diagram) to be provided either on paper or electronically AND PPT Presentation indicating the revised position and function of affected signals (on paper or electronically - no evaluation).	In addition to the above, the PPT presentation will use photographs and/or video clips, plus a word description to clearly explain the changes, the form and function of the signals affected.	If adding a 'flashing yellow' the a PPT presentation will always be necessary. If line curvature and/or multi-tasking will be needed on the approach that the PPT will 'bring this to life' better than a driver diagram will. The NR Route Drivability Tool (http://ndt.bentons.co.uk/Default.aspx) can help to identify driver work load issues during the design phase of the project to identify and mitigate areas where multi-tasking and workload may be higher. It's use should be considered when adding flashing yellow aspects to existing infrastructure.
Four	Major changes, multiple changes (projects) or prolonged route closure where signal changes, changes to aspect sequences, line speed changes, and changes to track layout all take place under one commissioning. Any newly built and commissioned railway or any changes in the method of signalling. Any briefing that requires a day release (or more) for drivers.	Section Entry in the WON AND Yellow Notice to complement the Section C item AND Map-book (or diagram) to be provided on paper or electronically AND DVD Presentation indicating the revised position and function of affected signals and track layout. This may be presented in either DVD, web-based, or App format as suitable to the relevant TOCs and FOCs, (including an evaluation of knowledge) AND/OR Desktop simulation any form of desktop simulation or SimKit to walk and talk drivers through the new route (including evaluation of knowledge).	In addition to the requirements of categories 1, 2, and 3, a DVD of the entire changed layout, including all potential shunt moves in the changed location. May be supplied to the TOC or FOC in either physical DVD, USB video file, web-based link, or App form. desktop simulation or SimKit with appropriate instructions and guidance on how this should be run, what should be highlighted and any other significant points.	Major change refers to any change that the operators think is significantly different from the existing layout that the mandatory fields additional to those shown in category three are warranted. Due to the scale of the changes it is suggested that the drivers' knowledge is evaluated or assessed after the briefing and viewing the DVD or SimKit.

3. Update to DTWG matrix – decision support

Category	Reason for Inclusion
Number of drivers	The greater the number of drivers means the greater number of briefings that will be needed. This could also increase the risk of the sufficient number of drivers not being briefed in time due to the added complexity of scheduling the briefings.
Cognitive fatigue	If drivers are undergoing a number of sequential briefings then there is the possibility of a number of different factors that may cause them to disengage from briefings. These include: confusion with different briefing materials, fatigue in the number of briefings being attended, or the complexity of the change making the briefing too long or complex.
Decision risk	This looks at the risk of DTWG failing to agree to a deadline or the briefing materials not being delivered to the deadline.
Material delivery	If the materials are not going to be ready on time or are not going to be delivered correctly and on time (such as in the case of late changes) then this brings a risk to the briefing process. This also covers the risk of the external supplier failing to deliver to deadline.
Briefing delivery	This is the failure on the part of the TOC or FOC to complete all driver briefings to timescales.
Risk score	This is the cumulative score from the above factors.

3. Update to DTWG matrix – across project version

DTWG Matrix																		
Core Date	Project	Scope	Category	Work Outputs	Cognitive Output	General Risk	Material Delivery	Working Delivery	Risk Score	Working signed	Material Draft	Final Review	Material Delivery	PDH	Signature	Proj Mgr Signature	Proj Mgr Title	
			1 to 4	1 to 4	1 to 1	1 to 3	1 to 3	1 to 3	1 to 20									
2014																		
30 Apr	Project 1	Area 5 project	4	4	3	1	1	2	11	23/02/14	31/11/14	24/02/14	05/03/14	J. Smith	J. Smith			
30 Apr	Project 1	Area 5 project	1	3	3	1	1	2	11	24/04/14	31/11/14	24/02/14	05/03/14	J. Smith	J. Smith			
30 Apr	Project 1	Area 2 project	2	4	3	1	2	3	11	15/02/14	13/12/14	05/02/14	05/03/14	M. Jones	J. Smith			
30 Apr	Project 1	Area 2 project	4	4	3	1	2	3	11	15/02/14	13/12/14	05/02/14	05/03/14	M. Jones	J. Smith			
30 Apr	Project 1	Area 2 project	4	4	3	1	2	3	11	15/02/14	13/12/14	05/02/14	05/03/14	M. Jones	J. Smith			
30 Apr	Project 2	Area 3 project	2	4	3	1	2	3	11	15/02/14	13/12/14	05/02/14	05/03/14	B. Bridges	S. Craig			
4th May	Project 2	Area 3 project	2	2	2	1	2	2	11	15/02/14	04/02/14	05/02/14	05/03/14	B. Bridges	S. Craig			
25th May	Project 2	Area 3 project	2	4	1	1	2	2	11	11/02/14	13/12/14	24/02/14	24/03/14	B. Bridges	S. Craig			
June 20th	Project 2	Area 4 project	2	4	2	2	2	3	11	?	?	?	?	J. Smith	S. Craig			
20th Jun	Project 2	Area 4 project	4	4	2	1	1	2	11	23/02/14	13/12/14	16/02/14	15/03/14	J. Smith	S. Craig			
1st Sep	Project 2	Area 5 project	4	1	1	1	1	2	11	23/02/14	16/02/14	17/04/14	15/03/14	M. Jones	P. Davies			
1st Sep	Project 2	Area 5 project	3	4	1	1	2	2	11	23/02/14	16/02/14	26/05/14	26/06/14	M. Jones	P. Davies			
1st Nov	Project 2	Area 5 project	4	2	1	1	1	2	11	20/04/14	31/05/14	30/05/14	31/07/14	M. Jones	P. Davies			
2nd Nov	Project 2	Area 6 project	4	3	2	1	2	2	11	?	21/06/14	30/06/14	31/07/14	B. Bridges	P. Davies			
27th Dec	Project 2	Area 5 project		4	3	1	2		11	23/02/14	31/07/14	01/08/14	01/08/14	B. Bridges	P. Davies			
2014																		
March	Project 3	Area 5 project	1	2	1	1	1	1	1	23/04/14	02/08/14	21/04/14	01/05/14	B. Bridges	P. Davies			
3rd Mar	Project 4	Area 6 project		4	1	1	2	1	1	TBA	30/12/14	31/11/14	24/12/14	J. Smith	J. Vassell			
20th Mar	Project 4	Area 6 project	4	2	1	1	2	1	11	TBA	30/12/14	27/11/14	24/12/14	J. Smith	J. Vassell			
May	Project 4	Area 6 project	4	2	2	1	2	1	12					J. Smith	J. Vassell			
2nd May	Project 4	Area 6 project	1	4	1	1	2	1	11	23/02/14	11/12/14	20/01/14	16/02/14	J. Smith	J. Vassell			
15th Oct	Project 4	Area 7 project		4	2	1	2	1	11	23/02/14	20/04/14	27/05/14	24/05/14	M. Jones	M. Patrick			
20th Oct	Project 4	Area 7 project		4	2	1	2	1	11	TBA	26/04/14	27/05/14	24/05/14	M. Jones	M. Patrick			
27th Dec	Project 4	Area 7 project		4	2	1	2	1	11	TBA	31/07/14	01/08/14	01/08/14	M. Jones	M. Patrick			

4. New model of change management

- Visual model to simplify a change management process
- Help clarify the principles and theory of change management to be easily understood and applied
- Eight models initially reviewed and evaluated
- Evaluation criteria on comprehensiveness and applicability to safety change management
- Two change management models were most applicable:
 - Kotter's Eight-Step Model
 - Bridges' Transition model

Kotter's Eight-Step Model



Kotter's Eight-Step Model

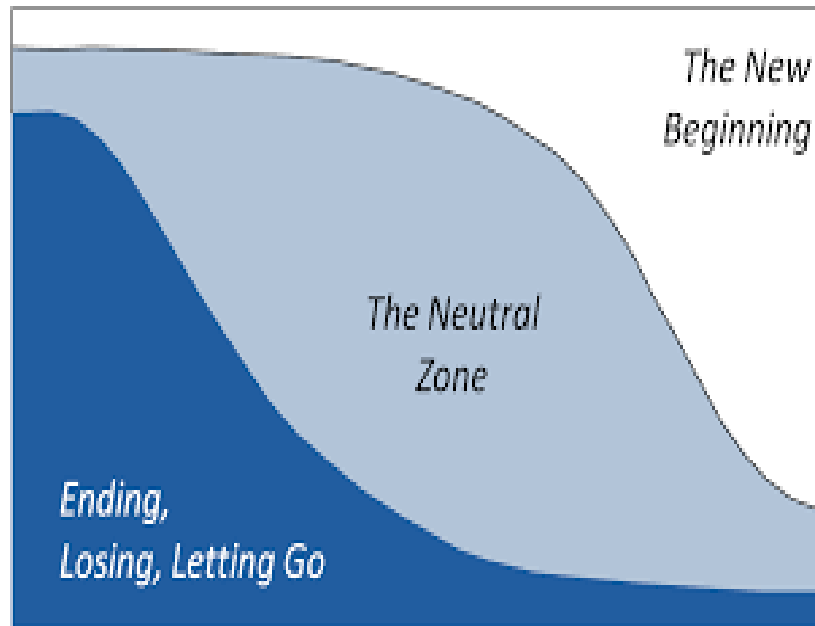
Advantages

- Views transformation as a long term process - not a simple and short term event
- Intuitive and clear steps to follow

Disadvantages

- Not enough focus on the psychological implications for the individual

Bridges' Transition Model



Bridges' Transition Model

Advantages

- Provides insight to the feelings of employees
- Looks at lasting change as a gradual transition for the individual

Disadvantages

- Not descriptive enough on how best to manage change
- To be used in conjunction with another change management model

Towards a new model of change

- No model adequately describes a perfect safety-related change management process
- Applicable aspects of Kotter's and Bridges' model combined into a new model specifically designed for safety critical change
- Amalgamated Model of Safety Change Management, 2015.
- Aligns principles of change management to rail-based, safety critical processes and requirements
- Explicitly includes organisational and individual's needs and reactions to change

Amalgamated model of safety change management, 2015

Amalgamated model of safety change management, 2015

1. Get them interested
2. Get together
3. Understand the risks
4. Why are we doing this?
5. Talk about it
6. Practice it
7. What's good and what have we learnt?
8. How could we do it better?
9. Make it stick

Benefits of the Amalgamated Model

- Based on well established change management theory and principles
- Considers organisational aspects of change
- Considers the effects on the individual
- Signposts specific activities to the industry that will help to mitigate the safety performance risks posed by the change
- Next steps:
 - User feedback will be sought on how useful the model is
 - Include a feedback loop
 - Based on feedback follow up work may be undertaken to pilot it more extensively
 - For more information go to the RSSB website www.rssb.co.uk and reference T1045

Conclusions

- We need to better manage the effect of change on front-line staff
- People transition rather than change and need a process to support this
- Reaction to change based in emotion rather than logic – need to account for ‘letting go’
- There are opportunities for improvement right throughout the project lifecycle
- Collaborative working is key to making improvements
- Change management models focus on organisational change but don’t account for safety change
- Four key deliverables to embed research outputs

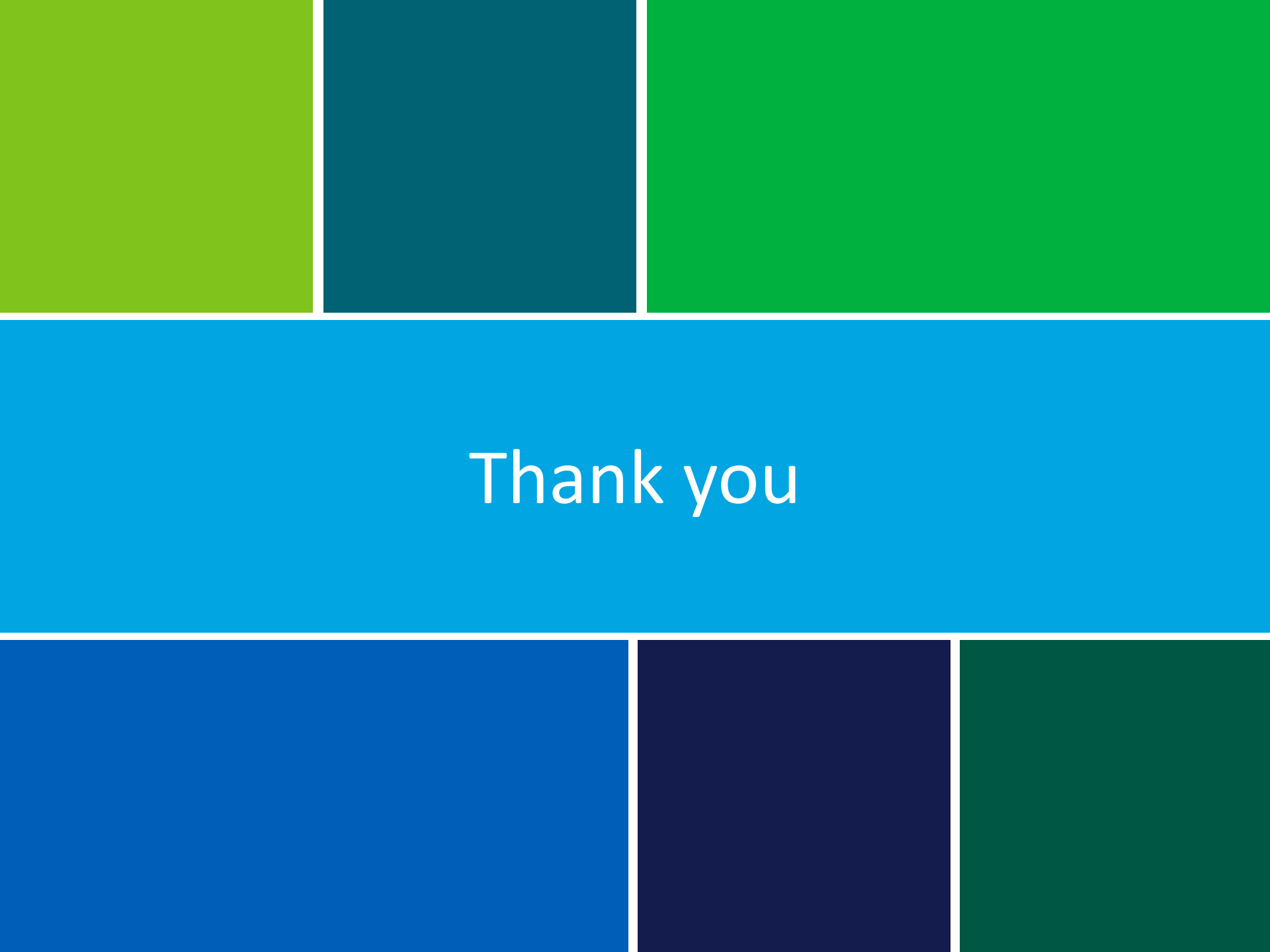




Any questions?

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The background of the slide is composed of several colored rectangular blocks. At the top, there are three blocks: a lime green one on the left, a dark teal one in the middle, and a bright green one on the right. Below these is a wide, solid blue horizontal band that serves as a backdrop for the text. At the bottom, there are three more blocks: a royal blue one on the left, a dark navy blue one in the middle, and a dark forest green one on the right.

Thank you