Network Rail and Adaptation

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Network Rail in GB

- Network Rail in UK
  - GB Rail Infrastructure owner
  - Regulated
  - 5-year Control Periods
  - 30-year Technical Strategy
  - Many players
  - Complicated interfaces

Currently working towards CP5 (2014 -2019)
**Rail CCA studies - TRaCCA**

- ‘Business as usual’ is not an option (2006 Stern Review etc)
- Flooding costs £50M pa – this could be £500M by 2040s
  - Track buckle risk management – c.£40M
- Weather delay budget is 500,000 minutes per year
- TRaCCA initiated - aimed to provide tools and knowledge to improve the reliability of the railway
- Detailed climate impact analyses on selected priorities
What we’ve learned – some Headlines

• A marked difference in climate north/south is likely

• Cold winters will become increasingly rare

• Track buckle risks increase
  – Following today’s processes means reduced System Reliability
  – Major floods become 6x more frequent by 2080s

• Adaptation activity can foster wider benefits

• Asset lifecycle important
  – Adapt at Routine Renewal stage = a low cost high impact strategy

Heat related non-work days – 2040s
Going forward…

• TRaCCA was a defined project and has led the way

• Many benefits in being more ambitious:
  – Broader scope (in terms of participation, activities and time, with a systems approach)
  – Build on external to Rail Research and Science
  – Improve Railway Asset data/ Invent new metrics
  – ‘Fast-track’ packages to bring early benefits (especially in ‘local weather management’)
  – Bring other countries’ experiences now to help show the future for the UK and vice-versa
Current proposal

Estimated Cost to Rail: £1.7M for Foundation projects (2 years)

Overall Timeline: 5 Years

Size of problem worth in excess of £4.6Bn over 30 years
Proposed Programme

The proposed work will be sponsored by RSSB’s Research Programme – currently this is subject to approval
Project Deliverables include:

2 YEAR FOUNDATION PROJECTS

• Economics of the benefits of climate change adaptation
  – Report on economics of the benefits of CCA

• Overseas analogy study
  – Comparative report of rail systems currently operating within similar weather thresholds to those predicted for future GB

• System, Sub-system and Local Decision tools
  – To aid decision making for long term Policy, medium term Asset investment and local Management operations
Conclusions

• GB Rail has undertaken research into climate change impacts up to the 2040s
• This has identified positive benefits
• Improvements into data and science have been identified
• £1.7M sought to build on TRaCCA work
  – 2 years’ Foundation projects within 5 year programme
  – Engage across academia
• Asset lifecycle very important - adapt during routine renewals
• Multi £Bn ‘Prize’
Links

Network Rail: www.networkrail.co.uk

Rail Industry CP5 Plan: www.networkrail.co.uk/iip.aspx

RSSB Research: www.rssb.co.uk ;
http://www.rssb.co.uk/SiteCollectionDocuments/pdf/reports/Research/T643_rb_final.pdf

TRaCCA: www.rssb.co.uk/SiteCollectionDocuments/pdf/reports/Research/T925_rpt_phase3.pdf


UK Government Adaptation Reports: www.defra.gov.uk/environment/climate/adapting