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Transforming asset management : a UK perspective

*Jonathan Scott – Director Asset Management and Maintenance, Network Rail Consulting
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Overview of Britain's Railway System



Overview of Network Rail



- ▶ We own, run, maintain and develop 20,000 miles of track
- ▶ We carry out 20,000 train movements every day
- ▶ We own and operate the second busiest railway in Europe and the fifth busiest in the world
- ▶ We are a \$9bn a year business with 35,000 staff
- ▶ We are the safest railway in Europe
- ▶ We have reduced our costs over the last 10 years by 15% and continue to do so
- ▶ Our ridership figures have increased by 50% over the last 10 years and 6% in the last year alone

£1 = \$1.53

An overview of the UK railways from 1980's to 1997



- ▶ A decline in rail passengers, freight income and investment was seen from mid to late 1980's.
- ▶ 'British Rail' ran the majority of heavy rail links, was subsidised and had a reputation of being out of date, dirty trains and heavily unionised
- ▶ Most politicians disliked the railways – particularly Prime Minister Margaret Thatcher
- ▶ In 1994 it was decided to privatise the railway and split into a national infrastructure owner – Railtrack - and separate companies that would run maintenance and renewal of the railways as well as train and freight operators.
- ▶ 31 companies originally ran trains as well as over 35 other specialist maintenance and renewals companies



Handside Bridge – Kings Cross

1997 – 2001 the end for Railtrack



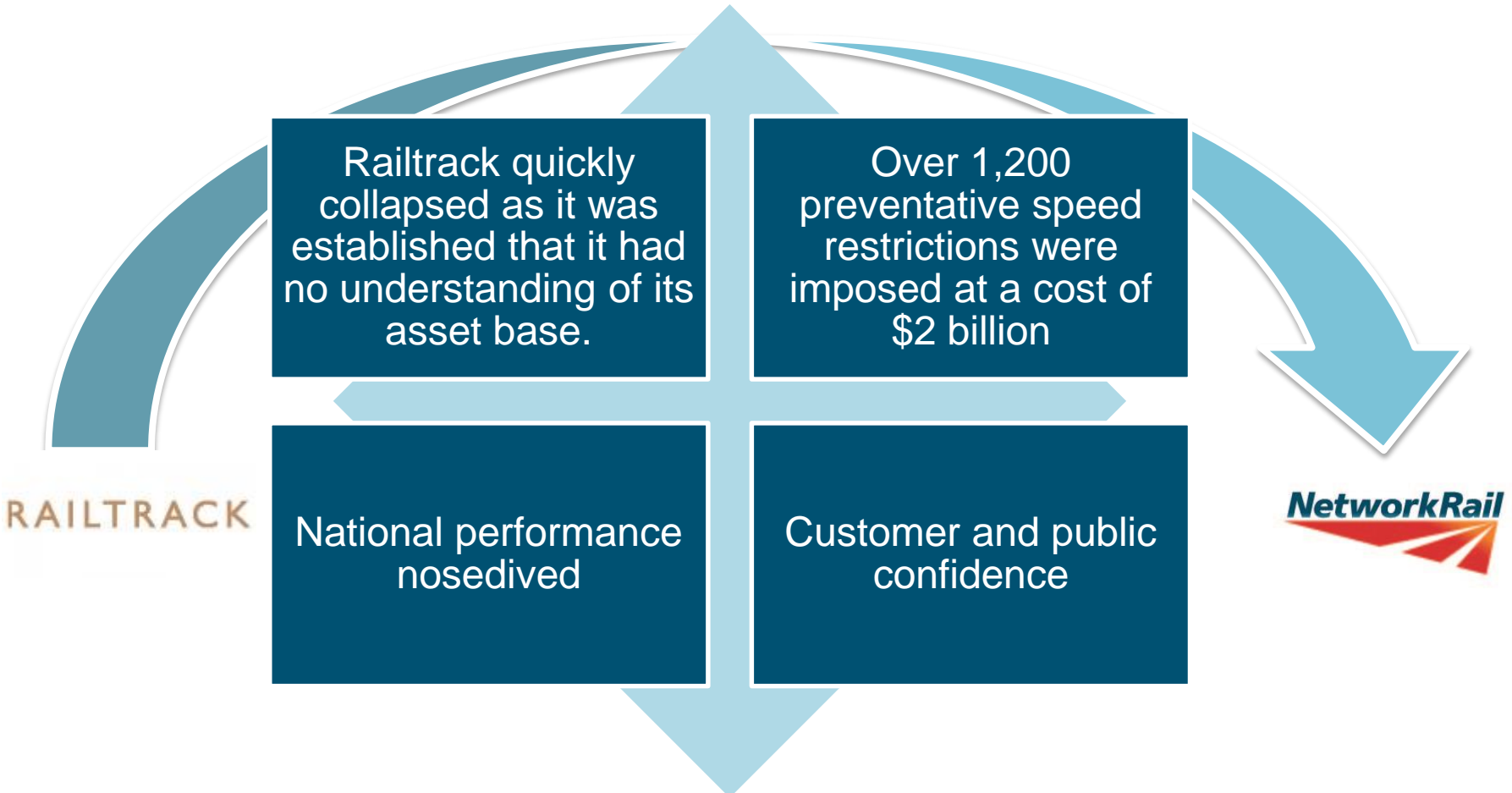
The 'pre cursor' events

- ▶ Southall 1997 – 7 died and 139 people were injured
- ▶ Ladbroke Grove 1999 – 31 killed and 520 people hurt

The 'tipping point'

- ▶ Hatfield 2000 – 4 people killed and 70 injured
- ▶ Broken rail caused by rolling contact fatigue.
- ▶ Railtrack as infrastructure owner unaware, contractor knew and had rail on site for over a year in advance.

The difficult years 2001 - 2003



Railtrack was effectively nationalised in late 2002 and Network Rail was formed

What Network Rail found in 2003



Departures			Departures			Departures		
1552	Victoria	Delayed Plat 15	1627	Beckenham Jnc	Delayed Plat 14			
1606	Caterhan	Delayed Plat -	1638	Uckfield	Delayed Plat -			
1608	Uckfield	Delayed Plat -	1640	West Croydon	Delayed Plat -			
1610	West Croydon	Delayed Plat -	1642	Brighton	Cancelled			
1612	Brighton	Delayed Plat 12	1646	Caterhan &	Delayed Plat -			
1618	Tottenham Corner	Delayed Plat -	1653	Victoria	Delayed Plat -			
1622	Victoria	Delayed Plat -	1657	Littlehampton	Delayed Plat -			
1625	Horsham &	Delayed Plat -	1659	Horsham &	Delayed Plat -			

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- ▶ A broken company
- ▶ No understanding of what had been maintained and when
- ▶ Complex, commercial undertakings within maintenance and renewal companies and a total lack of visibility relating to data
- ▶ No asset management policies in place – all work undertaken locally

What Network Rail did from 2003

- ▶ Brought all maintenance activities in house – 15,000 staff

[There had been a further fatal accident in 2002 at Potters Bar near London that accelerated this decision]

- ▶ National asset management policy (regional variation)
 - Single set of standards
 - Standards guide the user
- ▶ Central purchasing and supply
- ▶ Budgets and strategic plans set nationally
- ▶ Reorganised maintenance, operations and projects on national lines
- ▶ Produced a national database of all assets and intervention

Network Rail Asset Management Today

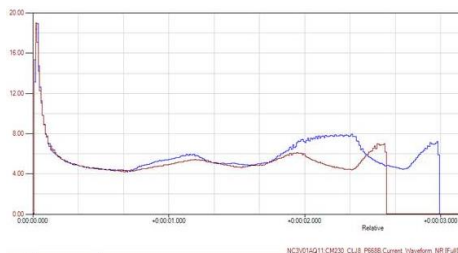


Asset management policy and delivery

- ▶ Asset management policy set centrally in line with ISO 55000
- ▶ Whole life cost taken into account for each asset decision
- ▶ Central policy and purchasing – but - Routes specify what is required and when
- ▶ Case study : Reading – Guildford line
- ▶ In 2014 it was outlined that the track was in a poor state and was struggling to be maintained. Local asset owner made decision to renew in 2015.



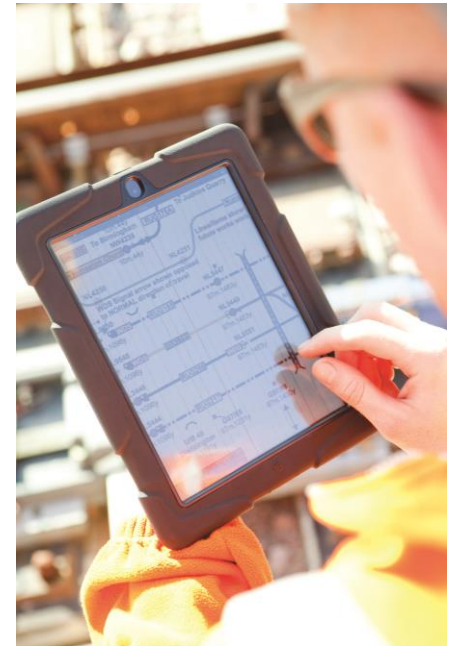
Remote Condition Monitoring



- ▶ The ‘gamechanger’ for real time asset management
- ▶ Gives an overview of the asset and functionality
 - Enables intervention prior to failure and proactive management
- ▶ Builds up a history of intervention
- ▶ Case study : London Waterloo remote condition monitoring
- ▶ Case study : Havant train dispatch centre

Network Rail measurement of assets

- ▶ Data acquisition and management have traditionally been paper based and measured manually. However through our ORBIS programme there are several fundamental projects to improve data management and decision making
- ▶ ‘My work’ – 15,000 staff are now equipped on a 24/7 basis using an iPad based asset management ‘front end’.
- ▶ Since 2014 this has seen:
 - Decision making within minutes for asset management critical decisions (1 million entries open and closed in the first 9 months)
 - A lowering of the cost base
 - ‘Line of site’ between the engineer and the asset maintainer



Consulting

What we can offer to your railway business that is different



Network Rail Consulting

- ▶ We understand your business
- ▶ We are ‘doers’ not consultants – we are practitioners in our field
- ▶ We can provide guidance, expertise and ‘bolt-in’ real world experience
- ▶ We can help tell you what works – and doesn’t - from our experience for your business



Thank you



*Network Rail Consulting Inc
2200 Pennsylvania Avenue,
4th Floor East,
Washington DC,
20037-1701,
United States*

www.networkrailconsulting.com