

### Annual Conference 2015 'Midlands Rail -Engineering for Growth'



## Welcome Colin Walton, Rail Forum Chair



## Rt Hon Patrick McLoughlin MP Secretary of State for Transport



# Andrew Pritchard Director of Policy and Infrastructure East Midlands Councils



## Andrew Pritchard Director of Policy and Infrastructure, East Midlands Councils

27<sup>TH</sup> NOVEMBER 2015

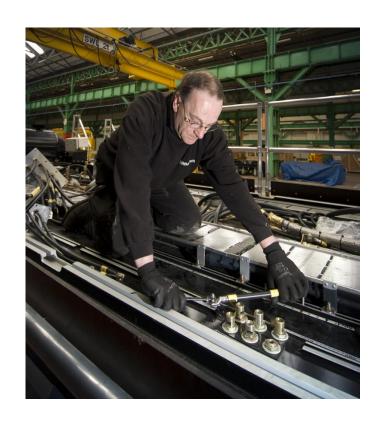
### Introduction

- Rail as an Engine of Growth
- Midlands Connect
- Combined Authorities
- ► HS2 in the East Midlands



### Rail as an Engine of Growth

- Job growth through the rail engineering sector
- Economic impacts through improved connectivity between places



### Midland Main Line Upgrade &

**Electrification** 





ARUP

- Reduce journey times by 14 mins between London and Sheffield
- Cut rail industry costs by £60 million per years
- Add £450 million of wider economic benefits

The Case for Upgrading and Electrifying the Midland Main Line









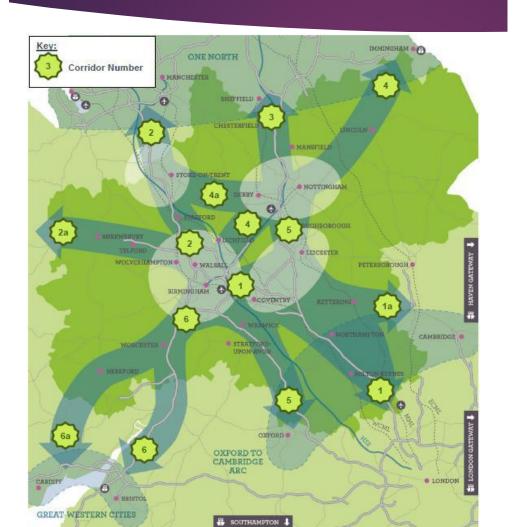


### Midlands Connect

- We have a poor historic record in securing transport spending for the Midlands
- We need to get greater traction over national spending decisions - as the north have started to do



### Midlands Connect



In 2036, if journey times were cut by 20% across all of the intensive growth corridors in The Midlands



BUSINESS JOURNEY TIME SAVINGS £460 million

PER YEAR



AGGLOMERATION BENEFITS £1.1 billion

PER YEAR



EMPLOYMENT IMPAC

306,000 additional jobs



LABOUR MARKET
IMPACTS

£33 million

PER YEAR

### Towards 'Transport for the Midlands'



Baseline Report

#### Autumn 2015

Launch of Strategy Development

#### Autumn 2016

**Emerging Strategy** 

















#### January 2014

Midlands Connect Partnership Formed

#### Summer 2015

Economic Impacts Study

### Spring 2016

Emerging Priorities Report

#### Spring 2017

Midlands Connect Strategy

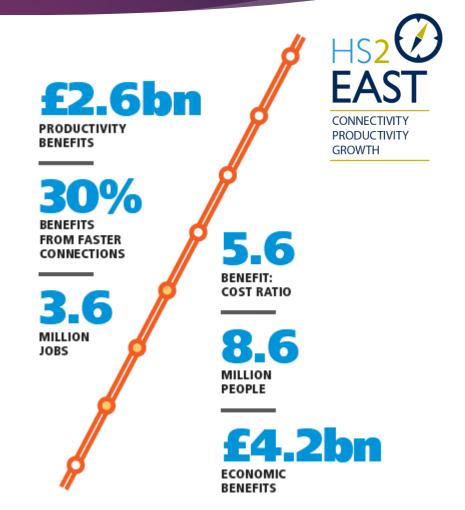
### **Combined Authorities**

- local devolution is key to securing local economic growth
- We have been working on proposals for an East Midlands Combined Authority covering the '4Cs'
- Transport is a key part of our CA 'ask'



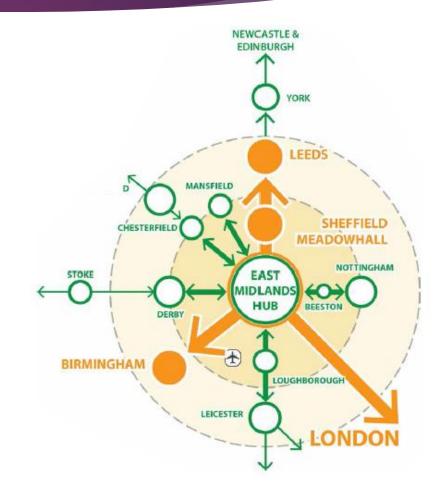
### **HS2 Eastern Leg**

- HS2 is essential to our long term competitiveness
- Eastern Leg of HS2 has the greatest economic impact



### **HS2** in the East Midlands

- We have worked hard to secure a clear local consensus in favour of a Hub Station at Toton
- We are now looking at connectivity to the Hub Station, and options for economic development around it



### **Hub Station Design Principles**

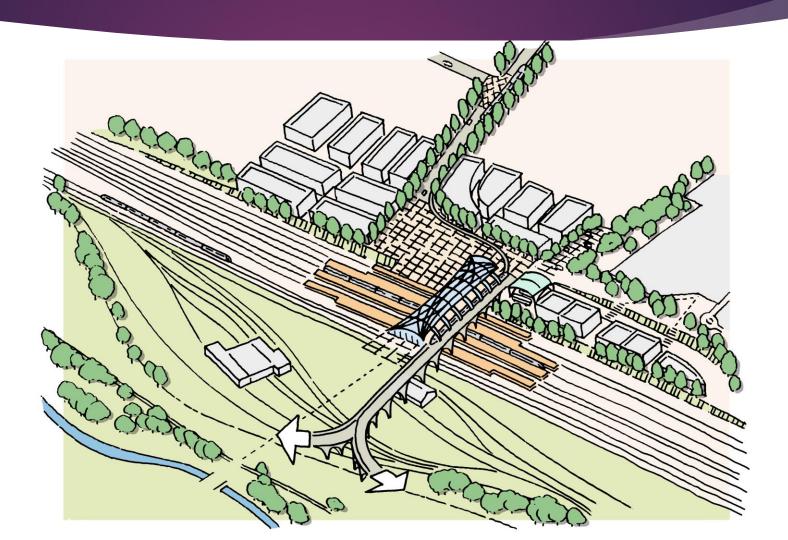
### An iconic multimodal transport interchange as well as a destination station as the catalytic hub for the region.

- 1. Provide High Speed connectivity at national level not only to London but also Birmingham, Sheffield, Leeds, York and onwards
- 2. Create efficient rail connections with the principal East Midlands stations from the East Midlands HS2 Hub
- Consider the benefits and potential for convenient cross platform interchange

- 4. Extend the existing tram network to the East Midlands HS2 Hub
- 5. Allow for future extensions of the tram system potentially to Long Eaton, the East Midlands Airport and Derby
- Provide efficient road access to strategic road network, without adding to local congestion
- 7. Bus and coaches: express and north-south bus through services to the Fast Midlands HS2 Hub

- 8. Maximise land available for development at the station, partly through efficient multi-storey car parking
- Achieve high quality cycle and walking connectivity to, and through, the transport interchange and rail infrastructure from surrounding communities
- 10. Maintain and improve local connectivity across the rail alignments

### **East Midlands Hub Station**





## Paul Plummer CEO, Rail Delivery Group

Paul Plummer, CEO, Rail Delivery Group and ATOC

Rail Forum East Midlands 27 November 2015

### A challenging year for rail

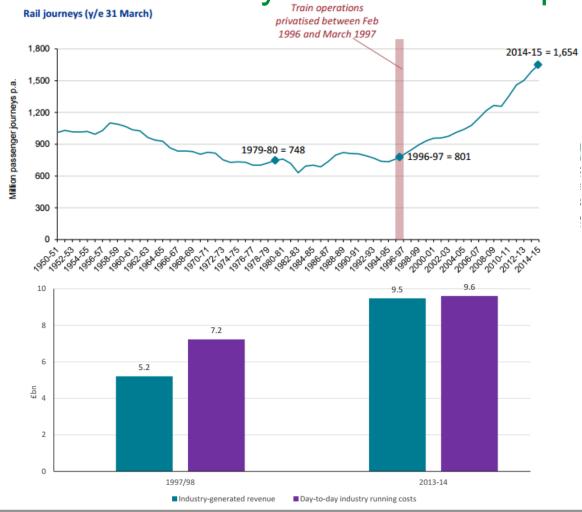








### But our railway continues to improve...



Passenger complaints

**↓** 75%

### 600 million more journeys

rated 'satisfactory' or 'good'

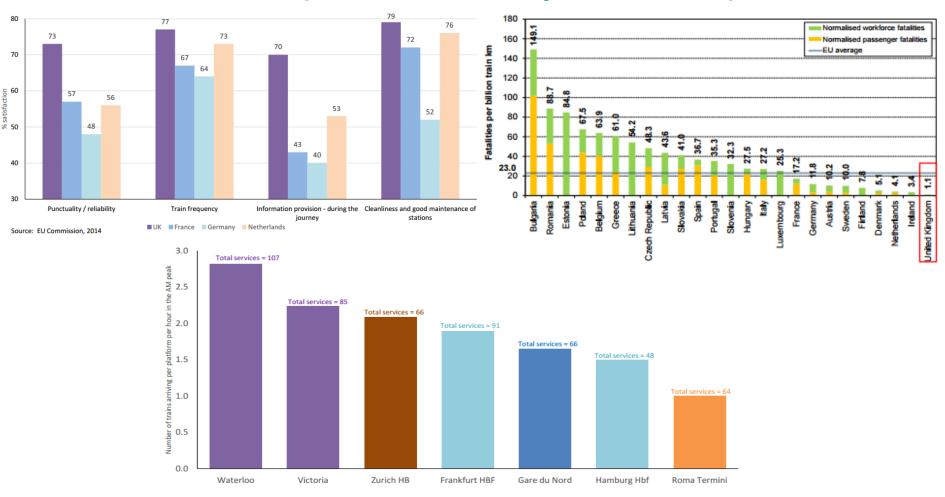
Number of passenger services

**↑ 28%** 

70%

growth in freight volumes

### ... and we compare favourably with European rail



### Rail benefits our economy and society











216,000 people employed

**£10.1bn** GVA

**£11.3bn** enhanced productive potential

7.7m tonnes of CO<sub>2</sub> saved

865
casualties
and fatalities
prevented

Up to

### Something to celebrate...



£9.3bn investment in rolling stock by 2019

Delivering >3,700 new carriages

Supporting over **2,000** UK manufacturing jobs, including **100** apprenticeships

### Current RDG work streams

Enabling continuous improvement in today's railway

- NTF
- APSCM
- Health and Safety
- People
- Transparency

Transforming customer experience of the railway

- Information and Ticketing
- Stations

Industry reform to enable excellence in the railway

- CRRWG
- Franchising
- Europe
- Competition

Planning tomorrow's railway

- POG
- Technology
- Sustainability
- Rolling Stock
- Digital Railway
- High Speed
   Two

Freight/TOC-specific

Communications and engagement

Organisation and capability

### Future RDG Portfolios

Enabling continuous improvement in today's railway

- Performance is always critical
- But so is value
- What help do Operators/Routes need?

Transforming customer experience of the railway

- Ticketing is a collective priority
- And the top priority for ATOC/RDG
- Fares are a choice for government
- Which we need to help confront

Industry reform to enable excellence in the railway

- There will always be reform
- The industry can help shape this
- Shaw, Bowe, CMA, PR18 are live today
- But the detail matters

Planning tomorrow's railway

- Governments are important clients
- But industry needs to inform decisions
- And it needs to be joined up

Freight/TOC-specific Communications and engagement Organisation and capability
We need to improve the advocacy of the railway, perceived relevance of RDG and its effectiveness

### Looking to the future...



www.raildeliverygroup.com

Rail Delivery Group, 2nd Floor, 200 Aldersgate Street, London, EC1A 4HD



## Jake Kelly MD, East Midlands Trains

### Delivering great service we can all be proud of

## Where next for the railway in the East Midlands?

Jake Kelly Managing Director



### Direct Award - Overview

Runs from 18<sup>th</sup> October 2015 to 4<sup>th</sup> March 2018
 Option for an extension of up to 13 periods (DfT's discretion)
 £150m in premium payments
 Over £13m investment

### An even better Customer Experience

- Improved WiFi on London Services with15 minutes free in standard class
- Improved complaints handling / delay process
- More ticket machines
- Enhanced on-board catering offer
- More on-train / station cleaning
- Improved information at stations





### Our role in the wider community

- Increased focus on sustainability
- More interaction with the communities we serve
- New community rail partnerships (e.g. Robin Hood Line)
  - Working with small businesses (e.g. cleaning contractors, community space at stations)
  - Making use of dis-used ('non-commercial') space at stations







### Improvements to our fleet

- Package of reliability modifications across all fleets
- Heavy maintenance programme (C6) on HST's and Class 158s
- Improving productivity / resilience at our engineering Depots
- \_\_\_ Targeted investment in longer term Depot enhancements



### Growing the Market

- More marketing / brand refresh
- Refreshed website
- Mobile App
- New Customer Relationship Management system





### Enhancing our Train Service

- AEGIS (or equivalent) –GPS train performance monitoring
- Enhancements to
  Nottingham-Lincoln Saturday
  service
- Examining other options to take advantage of infrastructure improvements at weekends on local routes
- Working with stakeholders to develop opportunities for route improvements, i.e Derby to Crewe service



### Developing our People

- Continuation of our Customer Service Training Programme
- More focus on equality and diversity
- Better equipment Improvements to equipment (Smart phones / Smart App)

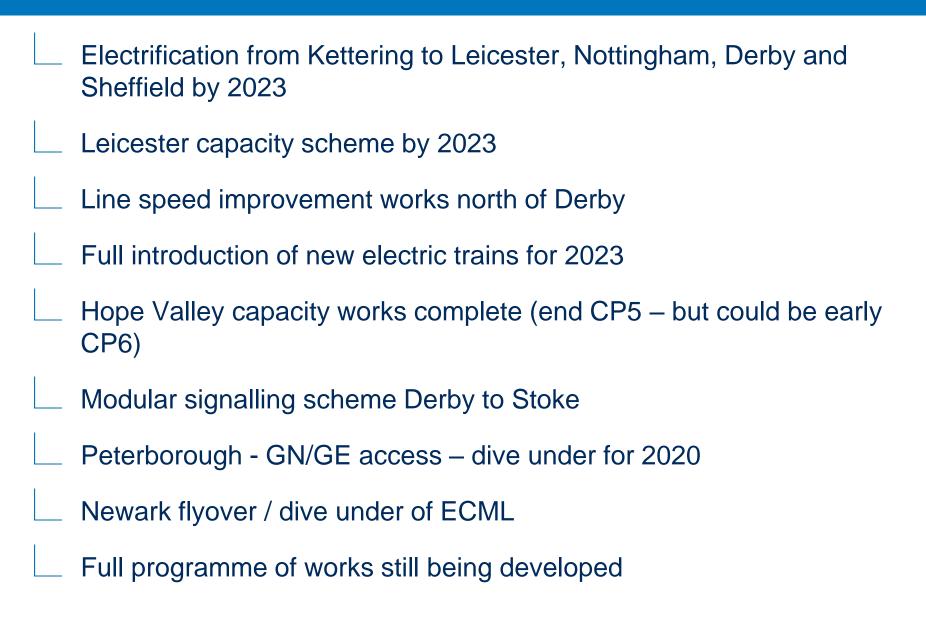




### Probable control period 5 works (2014 - 2019)



### Likely control period 6 works (2019 – 2024)





### Panel Q&A



### **BREAK**



**WE'RE REBRANDING IN 2016** 





# Neil Robertson CEO, National Skills Academy Railway Engineering



### The National Skills Academy for Railway Engineering (NSARE)





Training Accreditation









Professionalising the Workforce



This new multimilities pound state of the pound state of the an National Training Academy for fall (NIAU), will specialise in vital traction and rolling stock training to help bridge the skills gap in the uk rail industry.









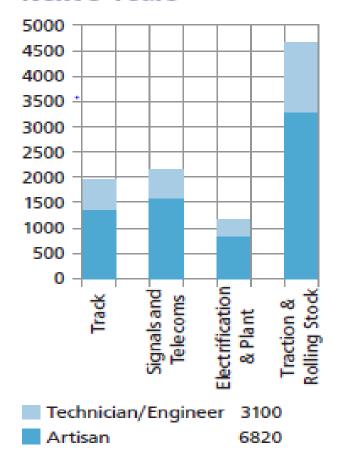








### New People Required -Next 5 Years



### **Today's T&RS Workforce Age and Gender**

20 -

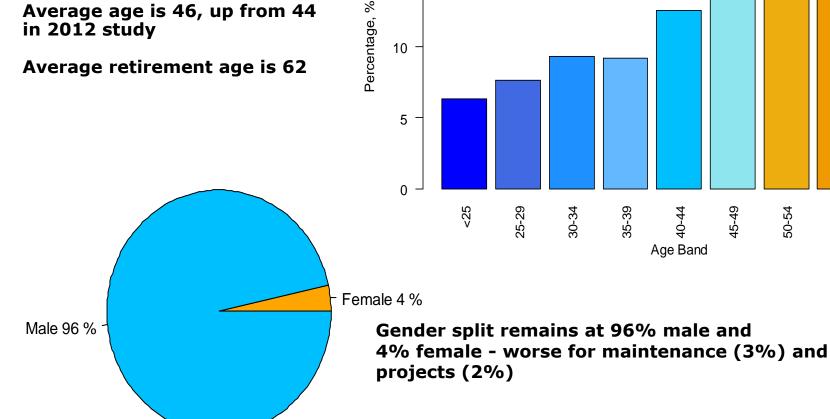
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55-59

- 40% are 50+ years
- 22% are 55+ years

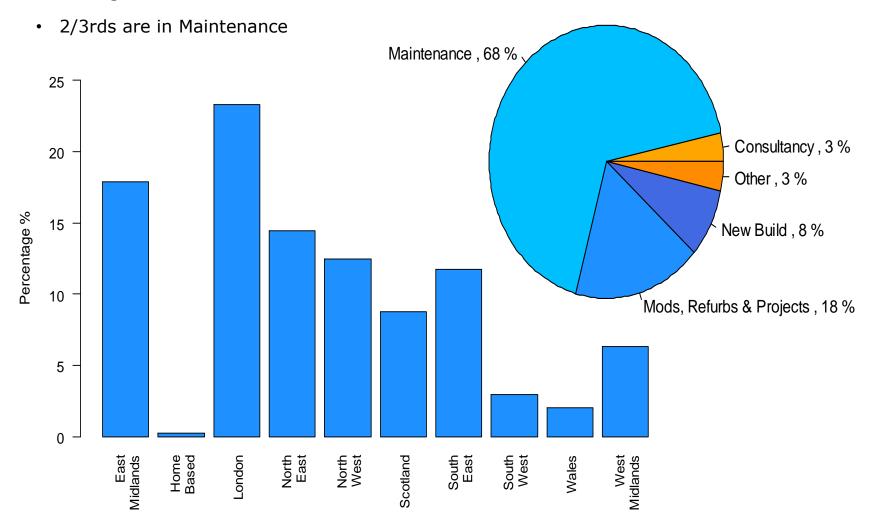
Average age is 46, up from 44 in 2012 study



### **Today's T&RS Workforce - Key Headlines 1**



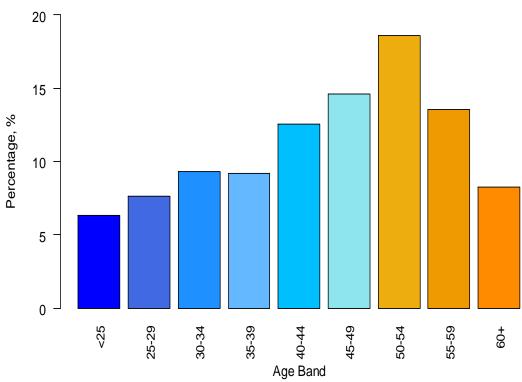
 Location split shows key areas of London and East Midlands remain the highest workforce locations

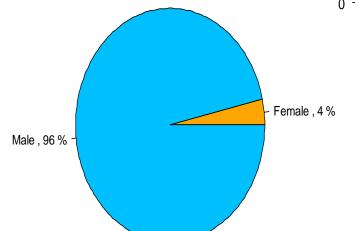


### Today's T&RS Workforce - Key Headlines 2



- In terms of the age profile 40% of workforce are 50+ years , and 22% are 55+ years
- Average age is 46 years,
   in comparison to 44 years
   in 2012 study



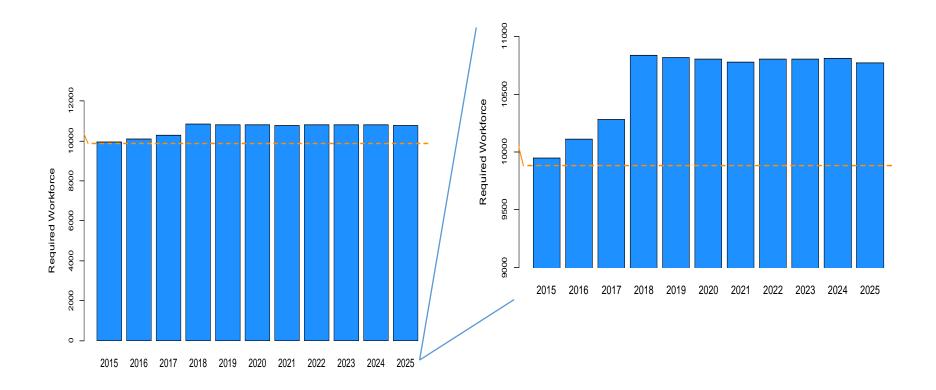


Gender split remains imbalanced at 96% male and 4% female, although this gets worse for maintenance (3%) and projects (2%)

### **Tomorrow's Future Demand Maintenance**



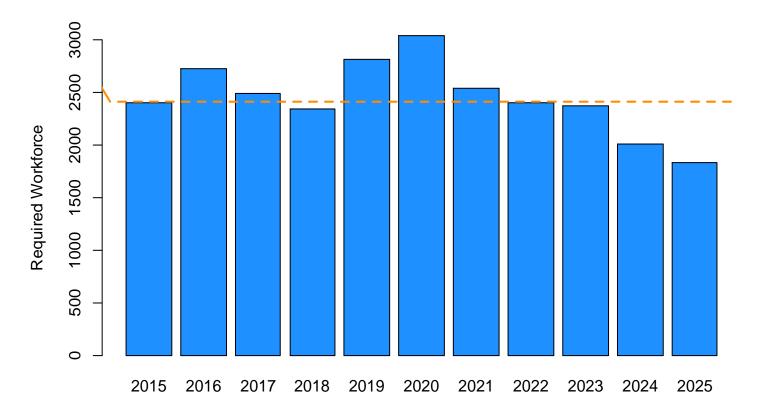
- Retirement age is assumed to be 62; Process improvements (RCM etc) and new technology improvements modelled. ETCS impact on the maintenance has been assumed to be neutral
- Future workforce is modelled on total domestic fleet size, including new and planned fleets
- Circa 3,500 workers will retire over the next 10 years, and 900 additional new hires needed



### **Tomorrow's Future Demand Projects**



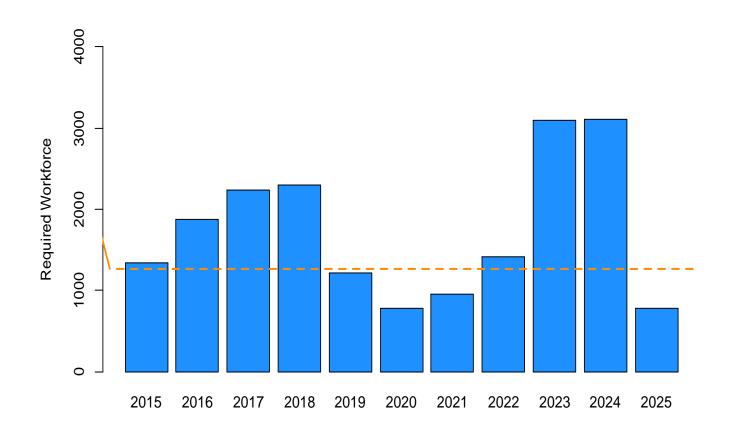
- Retirement age is assumed to be 62
- Number of interventions modelled include C4, C6 and Component Overhaul; generic team developed for each intervention and forward profile extrapolated from work numbers
- Circa 900 workers will retire over the next 10 years, and 600 additional new hires needed



### **Tomorrow's Future Demand New Build**

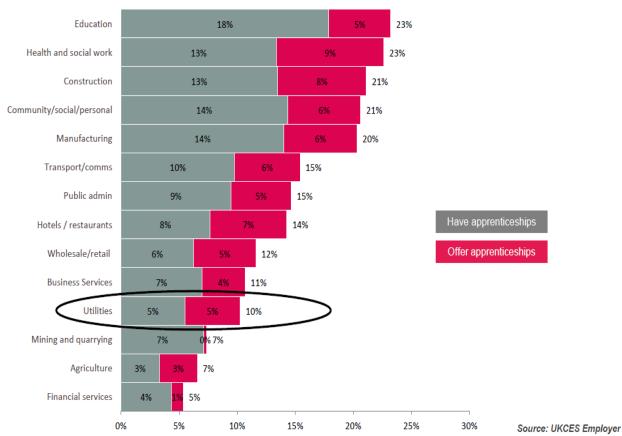


- Retirement age is assumed to be 62; new fleets modelled no of vehicles, price, introduction date;
- Two stages modelled, Design and Manufacture. HS2 modelled with higher UK ratios
- Circa 500 workers will retire over the next 10 years, and 1,800 additional staff required



### Who is offering apprenticeships? A sector breakdown:

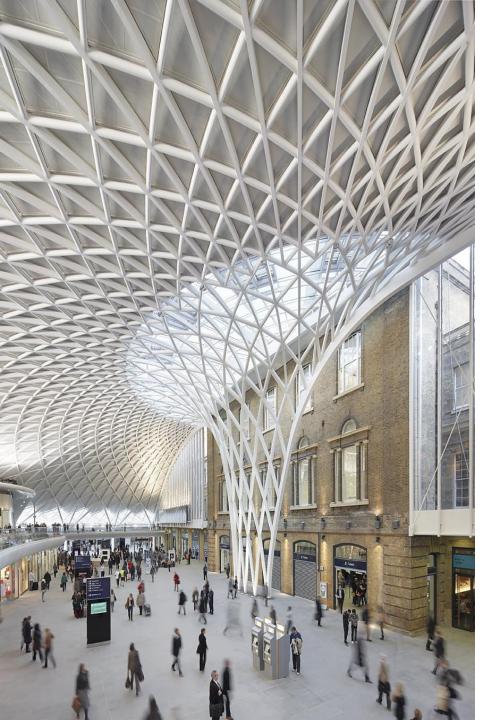




Perspectives Survey 2012
Base: all employers







#### CONTEXT

➡ Skills shortages across all infrastructure sectors are putting at risk the National Infrastructure Plan − cost and schedule.

Skills are not an end in their own right but one of the drivers of productivity

Government has announced:

- a productivity plan where skills is one of the principal drivers
  - a target of 3m apprenticeships
  - a levy to help pay for this
  - 30,000 transport apprentices
  - DfT transport skills strategy
  - RSG leading 'sector strategy' (productivity)

DfT, organisations and individual business all recognise and are addressing the skills shortages. A strong collective response will require co-ordination and support.

Not just engineering skills.

4





#### OPERATIONAL PLAN

- Develop Rail Industry Skills strategy and advise wider stakeholders of progress and challenges in rail skills (BIS, HMT, DFE, UKCES)
- 2. Develop the case for investment in rail skills at economic and company level
- Maintain and develop skills intelligence (forecasting, workforce planning, benchmarking) for companies, government and regulator
- Identify and develop skills programmes (benchmarking graduate, apprenticeship and new skills areas) and support NTAR

CONT.

#### **OPERATIONAL PLAN**

- Engage and support SMEs in all aspects of skills and training
- 6. Support and co-ordinate sector attraction to improve industry awareness and diversity
- Map training supply and demand and industry skills-related activity
- 8. Optimise training supply and demand through an industry virtual network







Rail Skills Strategic Activity as at 23 November 2015				
Stakeholder / Driver	Deliverable	National / Regional	Status / Delivery	
HMT	National Infrastructure Skills Plan	National	Published 2015 Due to be updated 2016	
HMT BIS	CSR, and Levy arrangements	National	25 Nov 2015	
DfT	Transport Infrastructure Skills Strategy	National	Due Jan 2016	
RSG	Sector Strategy (People & skills chapter)	National	Due Jan 2016	
NSARE	Sector Skills Plan – to deliver the DfT and RSG skills strategies above		Due March 2016	



# You're invited to our formal opening...







The 'Richard Review' found that there were key areas of Apprenticeships where significant improvements could be made to make them more rigorous and responsive to the needs of the employer.

The main aims of the changes are to make the new standards:

- Higher quality
- Simple to understand
- Employer driven

### **However, it also impacts:**

- Minimum Duration
- Delivery Model
- Assessment
- Funding
- Employers to negotiate with providers

And puts the onus on employers to develop the new Standards. Assessment plans and delivery models



### **Industry Promotion & Career Path**



### Welcome to Routes into Rail!

Here you can find information about the rail industry, how it is structured, who the big players are; what career opportunities are available for you and links to activities and resources you may be interested in.

Enjoy your journey!

## The National **Skills** Academy

RAILWAY ENGINEERING

### **Neil Robertson, NSARE CEO**

E. Neil.Robertson@nsare.org

T. 07899 000016

www.nsare.org



# Chris Swan Senior Manager Rail and Shipping, Tarmac



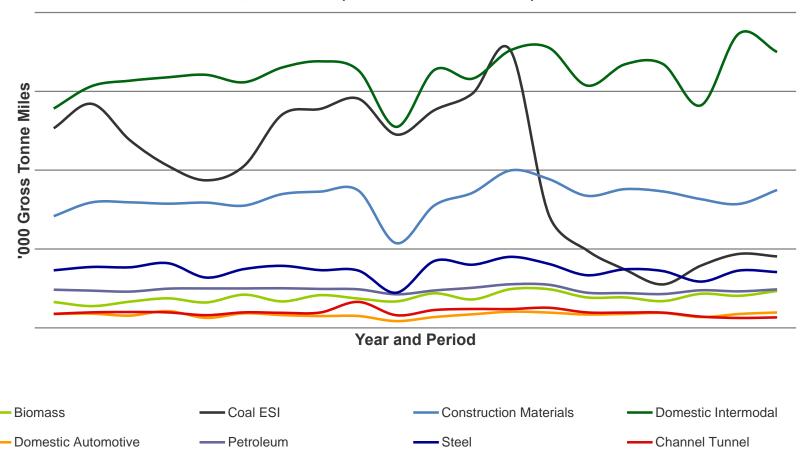
## 'Midlands Rail – Engineering for Growth' A Railfreight perspective

Chris Swan – Senior Manager Rail & Shipping Tarmac – Part of the CRH Group



### Railfreight Market – the Current state of play

Commodity volumes by rail (KGTM)
1 April 2014 to 17 October 2015, inclusive (Periods 1501 to 1607)





### Construction output to rise by 22% by 2019

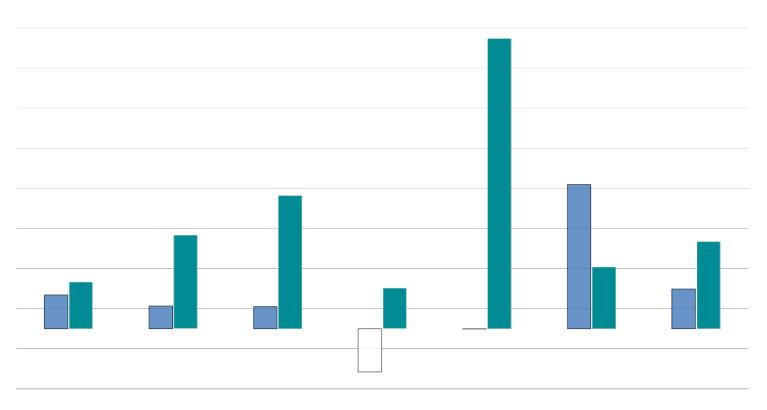


Source: ONS, CPA summer-15 forecast.



### **Drivers of construction activity set to change...**

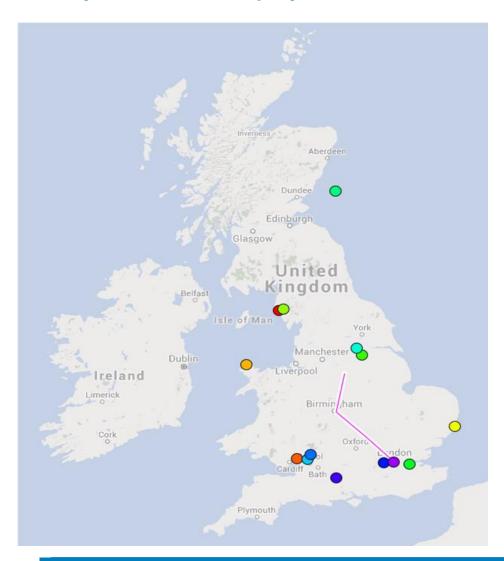
■ %Chg, 2012-14 ■ %Chg, 2014-19



Source: ONS, CPA summer-15 forecast.



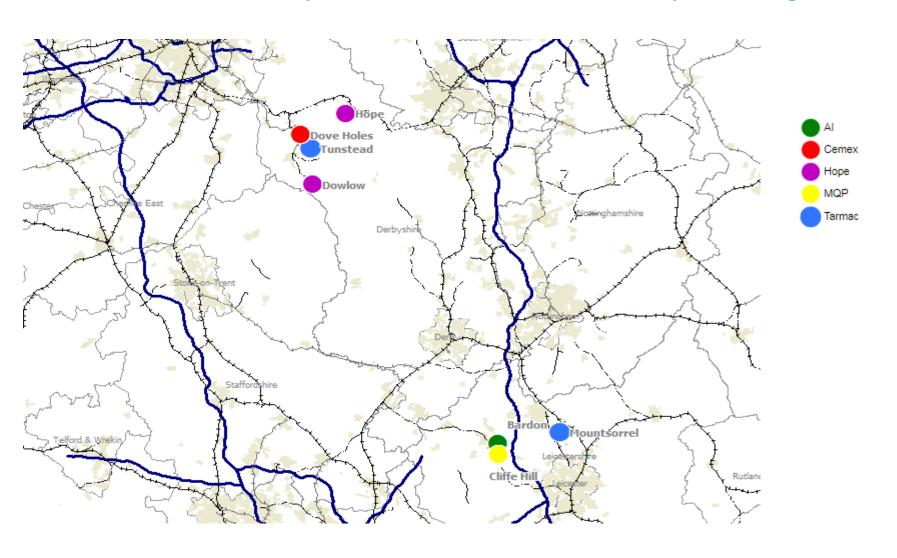
### **Major Construction projects**



•	Sellafield	£1bn pa
•	M4 Corridor Around Newport	£850m
0	Wylfa Newydd Nuclear Power Station	£8bn
0	Sizewell C Power Station	£2bn
0	Moorside Power Station	£5bn
•	Thorpe Marsh CCGT	£1bn
•	Paramount Theme Park	£2bn
•	Offshore Wind Farms [Rnd 3]	£38bn
0	Knottingley CCGT	£750m
•	Avon Gas Fired Power Station	£1.4bn
•	Oldbury Nuclear Power Station	£7.5bn
•	Heathrow New Runway and Terminal	£9bn
•	A303 Stonehenge Trunk Road	£2bn
•	Crossrail 2	£20bn
L	HS2 Phase 1	£11.5bn



### **East Midlands – Key to Construction Materials by Railfreight**







### OUR BUSINESS AT A GLANCE

6,900 İİİİİİİİİİİİİİİİ



















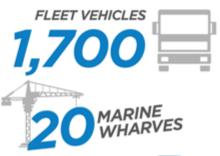


















2.5 MILLION TONNES LAID BY OUR CONTRACTORS





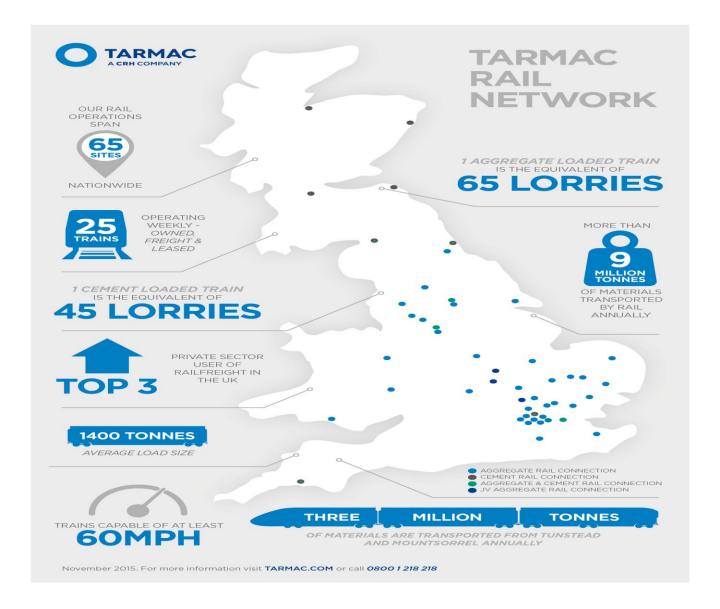














### **Tarmac – Working in Partnership with the Rail Industry**











#### Midlands Rail Challenges:

- Appetite for growth & innovation
- Terminals
- Longer trains –but needs 3 things: wagons / terminals / network
- Performance year on year industry improvement (FOC + NR)
- Capacity delay of 4 track & Leicester capacity
- Digital & Technology improvements





### Richard Hunter MD, Bombardier Transportation



#### Presentation to: Rail Forum East Midlands Annual Conference

Richard Hunter

Managing Director UK

Bombardier Transportation



### THE CLIMATE IS RIGHT FOR TRAINS Megatrend overview



- Urbanization and population growth
- Congestion
- Environmental awareness
- Ageing of societies

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### **BOMBARDIER TRANSPORTATION**Overview



Bombardier Transportation, a global leader in rail technology, offers the broadest portfolio in the rail industry and delivers innovative products and services that set new standards in sustainable mobility.

BOMBARDIER ECO4 technologies – built on the four cornerstones of energy, efficiency, economy, and ecology – conserve energy, protect the environment and help to improve total train performance for operators and passengers. Bombardier Transportation is headquartered in Berlin, Germany, and has a very diverse customer base with products or services in more than 60 countries. It has an installed base of over 100,000 vehicles worldwide.

PRIVATE AN

the evolution of mobility

#### **BOMBARDIER**

#### At Bombardier, we're shaping the evolution of mobility by...







Investing in leading mobility solutions

Growing local roots in key markets

Achieving flawless execution

Our growth strategies

Great Talent Globally Strong Financial Discipline

Active Risk Management Integrated Sustainability

Our competitive foundation

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Integrated Sustainability

Our competitive foundation



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#### OUR PRODUCTS AND SERVICES

#### The broadest portfolio in the rail industry

#### **Rail Vehicles**



- Light rail vehicles
- Metros
- Commuter trains
- Regional trains
- Intercity trains
- High speed trains
- Locomotives

#### Transportation Systems



- Monorail systems
- APM systems
- Light rail systems
- ART systems
- Metro Systems
- IntercitySystems
- Transit Security

#### Services



- Fleet Management
- Asset Life Management
- Material Solutions
- Component re-engineering and overhaul

#### Rail Control Solutions



- Integrated control systems
- Automatic train protection and operation
- Interlocking systems
- Wayside equipment
- Services

### Propulsion & Controls



- Traction converters
- Auxiliary converters
- Traction drives
- Control and communication

#### **Bogies**



- Portfolio to match entire range of rail vehicles
- Full scope of service over the lifetime of a bogie



### BOMBARDIER TRANSPORTATION Our game-changing products shape the market

#### **Bombardier Transportation game-changing products**



#### ZEFIRO Very High Speed (VHS) train

- Traction power ensures speeds between 250 and 380 km/h
- Our multi-voltage technology enables cross-border operations
- V300ZEFIRO impresses with a very low energy consumption per seat
- BT's proven technology and services solutions ensure low lifecycle costs and increase return on investment



#### PRIMOVE - eco-friendly and sustainable urban transport

- The fully integrated system includes fast inductive charging, long-life batteries and efficient propulsion equipment
- PRIMOVE reduces local CO<sub>2</sub> emissions to zero, eliminates noise pollution and frees e-mobility from the constraints of cables, wires and plugs for trams, cars and buses
- Entry into automotive industry becomes more and more feasible



#### AVENTRA – our next-generation EMU platform

- Capable of serving many market requirements from metro to intercity
- Optimised energy consumption
- Reduced maintenance costs
- High reliability
- Improved passenger experience



#### Bombardier Transportation – design & manufacturing in the UK

#### **Bombardier Transportation**

Rolling Stock UK design, assembly and testing facility in Derby

1,200 employees

3,000 employees UK-wide, including:

100 Apprentices

40 Graduates

#### UK's number one rail supplier

Over 2,000 rail vehicles manufactured in Derby in the last decade

Over 1,600 **BOMBARDIER ELECTROSTAR** vehicles in operation, consistently excelling in performance and reliability league tables





### Recent new-build projects **ELECTROSTAR** Electric Multiple Units



#### North London Railway Class 378

- 57 ELECTROSTAR intermediate (MOS B) cars and modify existing units
- Order placed in May to extend current configuration from 4 to 5-car
- Assembly completed June 2015



#### Southern Class 387

- 116 ELECTROSTAR cars / 29 x 4-car trains
- Now in passenger service



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#### **Current new-build projects**





#### Sub-Surface Lines (SSL)

- 1395 cars / 191 x trains of 7 & 8-cars
- 2007-2009 'pre-series' 2 x 8-car trains
- 2009 2015 'series build' 1379 cars
- Series manufacture commenced April 2009
- >100 vehicles in passenger service
- Scheduled for completion early 2016



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#### **Current new-build projects**



#### Southern Class 387/2

- 108 ELECTROSTAR cars / 27 x 4-car trains
- Assembly commenced March 2015
- For operation on Gatwick Express services



#### London LOTRAIN

- 180 AVENTRA cars / 45 x 4-car trains
- Contract awarded in June 2015
- Assembly to commence May 2016
- For operation on London Overground and West Anglia Inner Metro services



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#### **Current new-build projects**



#### **Crossrail AVENTRA**

- 66 x 9-car trains (594)
- Mar 2015- Apr 2016 'pre-series' build
- Sept 2016 May 2019 'series build'
- Concept designs for the new trains recently published by Transport for London (TfL)





The assembled first production (pre-series) bodyshell



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#### Crossrail - Innovation - 'Train Zero'





Advanced pre-production testing of electronics/systems, at a much earlier stage than was previously possible. A 'debugging' facility to ensure all the various on-board systems and components can 'talk' to each other. To drive out integration problems and deliver more reliable trains/improved performance.



#### **Crossrail - Innovation - new Test Facility**





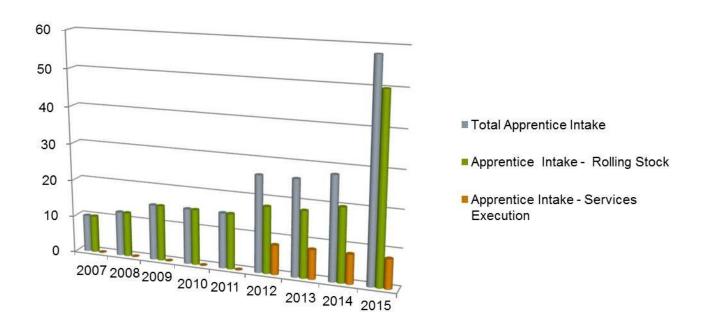
To ensure a seamless approach to manufacture, type testing and final validation & verification. A 250m x 40m, 10,400 square metre facility. Four fully flexible, multifunctional lines, configurable for both type testing and final acceptance testing. Scheduled to open in early 2016.



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#### **UK Apprentice Intake**

#### Apprentice Intake - Bombardier Transportation



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#### **Investing In our People**

#### Some of our new Apprentices

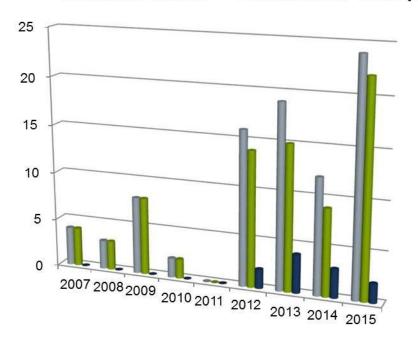


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#### **UK Graduate Intake**

#### **Graduate Intake - Bombardier Transportation**



- Total Graduate Intake
- Graduate Intake Rolling Stock/Services Execution
- Graduate Intake Functional

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#### **UK Graduate Intake**



Bombardier Transportation - Graduate Intake 2015

## BOMBARDIER the evolution of mobility



### Introduction to Workshops / Discussion Groups

#### Midlands Rail - Engineering for Growth



Meeting the Chancellor's 'Midlands – Engine for Growth' challenge!

Three priority areas for action:

- > Technology and Innovation
- **→** People and Skills
- > Engaging with and Supporting SMEs

In addition we recognise that supporting collaboration across member companies is really important

#### Midlands Rail - Engineering for Growth



#### **Location of Workshops**

**Encouraging Innovation Green Exec Lounge (next door)** 

Developing New Talent Yellow Back of This Room

Engaging With SMEs Red Front of This Room

Collaborative Working Blue Board Room (downstairs,

outside on left)



## Closing Remarks Michelle Craven-Faulkner, Rail Forum Vice Chair



### Thank you and have a safe journey home

www.midlandsrail.co.uk