WHOLE LIFE COST / WHOLE LIFE VALUE
Driving Industry Change:

Pursuing Greater Value Through Industry Collaboration & Commercial Capability

Stephen Blakey,
Commercial Projects Director, Network Rail

9th March 2016
• Stephen Blakey is the Commercial Projects Director for the Infrastructure Projects division within Network Rail, the infrastructure manager of the UK’s rail network.

• His role brings a strategic emphasis to cross industry collaboration with responsibility to lead commercial innovation through various forums and direct engagement with stakeholders, clients, suppliers and professional bodies.

• Recognised for his zeal in the pursuit of progressive commercial techniques and effective partnerships, Stephen was the driving force in the development and adoption of the rail industry’s Fair Payment Charter.

• With 19 years of rail experience and over £12bn of major infrastructure works procured and commercially managed under his auspices, he is well versed in the commercial dynamics of programme delivery and committed to driving industry change through innovation and the promulgation of best practice initiatives that bring real performance improvements and lasting efficiencies through industry collaboration.

• Stephen is a Fellow of the Royal Institution of Chartered Surveyors, an active contributor in a number of industry forums and working groups. In 2012 he was identified by the National Specialist Contractors Council as one of fourteen Fair Payment Champions, drawn from across the UK construction industry.

• In 2015 he received the Individual Contribution to Industry Award 2015 from the Institute of Collaborative Working for his 4 year leadership of the Commercial Directors’ Forum.
• Drive coordinated cross industry engagement & commercial innovation, bringing tangible change in support of CP5

• Discipline accountability for Cost Planning, Commercial Management and Supplier Engagement & Performance (500 Practitioners)

• Leads the cultural development, operating model and service capability of the commercial discipline

• Leads commercial discipline engagement with ORR/DfT /NAO (ECAM, CPIP, RCIS)

• Drives industry change with a view to leaving a legacy
• Rail Industry & Stakeholders
• Network Rail: An Overview
• The CP5 Challenge
• 7 Dimensions to delivering CP5
• CDF & its achievements to date
• The ‘Franchise Model’
• Improving Commercial Capability
• CPIP & WLC
• Some Rhetorical Questions
• Summary & Q&A
Rail Industry & Stakeholders

- **Department for Transport**: Specify and fund rail services in England, Wales, and Scotland respectively.
- **ORR (Office of Rail Regulation)**: Operates, maintains, renovates, and enhances the network. Regulates monopoly and Health and Safety (independent of government).
- **Network Rail**: Operates and maintains the network. Receives network grant and access charges.
- **TOCs and FOCs**: Deliver train services. Receive funding and access charges.
- **Supply Chain**: Passenger and freight customers. Revenue generation.

Work together for the rail industry.
Network Rail: What We Do

– Own, operate, maintain & renew the safest & second busiest railway network in Europe (5th in the world),

– That's;

• 20,000 miles of track, 40,000 bridges, 48,000 signals, 700 tunnels & 20,000 train movements per day

– Own 2,500 stations and operate 17 major stations

– Operate and maintain the UK’s high speed rail infrastructure

– Enhance the network through our Infrastructure Projects Division

– A £7bn business with 34,000 people
Network Rail: Some Comparisons

- The safest railway network in Europe
- The fastest growing railway in Europe
- We perform well against European counterparts (7th out of 20)
- We have the second lowest level of government subsidy
Network Rail: The Routes & IP

Infrastructure Projects implemented a Regional Structure to decentralise decision making, moving it closer to Routes and their customers in turn: Train Operating Companies, Freight Operating Companies, Passengers and communities.

This Regional structure being supported by National Programmes for Track and Signalling plus a dedicated delivery group for Thameslink.


**IP’s Vision**

*To be the best rail infrastructure project delivery organisation in the UK*
A Culture of Safety & Performance

- **Our Vision:**
  Everyone home safe, every day

- **Our Belief:**
  Safety and business performance go hand in hand

- **The Principle:**
  Safe behaviour is a **requirement** of working for Network Rail for;
  - Employees
  - Contractors (& consultants)
  - Sub Contractors (& sub consultants)

- **A Personal Commitment:**
  Will drive our industry to achieve the Vision and bring the step change in safety
Constant Incremental Demand

- Today we carry 50% more passengers & 60% more freight than we did a decade ago
In CP5 we will deliver £25Bn of Infrastructure Works
The CP5 Challenge

• How to deliver…….
  – more safely     Eliminating all workforce fatalities & major injuries
  – more efficiently 20% (>45% cost reduction during CP3 & CP4)
  – more works      Av £5.3bn/Year in CP5 (Peak @ £4bn/Year in CP4)
  – more predictably Improved adherence to delivery milestones

• With……..
  – less access
  – less people
  – fewer mistakes (Design, Construction)
  – fewer disputes

In a way that is **progressive**, & **sustainable** to our society, environment & industry, delivers **tangible results** and leaves a **credible legacy**
7 Dimensions to Meeting the CP5 Challenge

1) Safety
2) Engagement
3) Collaboration
4) Performance
5) Innovation
6) Sustainability
7) Communication
CDF: Our Crucible for Driving Industry Change
Currently, membership of the CDF includes delegates from the following organisations:

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Delegate Name</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amalgamated Construction</td>
<td>DeltaRail</td>
<td>Mott MacDonald</td>
</tr>
<tr>
<td>Arley</td>
<td>EC Harris LLP</td>
<td>RIA</td>
</tr>
<tr>
<td>Arup</td>
<td>Galliford Try</td>
<td>RICS</td>
</tr>
<tr>
<td>Atkins</td>
<td>Geoffrey Osborne</td>
<td>Siemens Rail Automation</td>
</tr>
<tr>
<td>Babcock</td>
<td>Hochtief UK Construction</td>
<td>Signalling Solutions Limited</td>
</tr>
<tr>
<td>Balfour Beatty Civil Engineering</td>
<td>J Murphy</td>
<td>Skanska</td>
</tr>
<tr>
<td>Balfour Beatty Rail</td>
<td>Jacobs Engineering</td>
<td>Tata</td>
</tr>
<tr>
<td>Buckingham Group</td>
<td>Kelly ITS</td>
<td>TfL</td>
</tr>
<tr>
<td>C Spencer</td>
<td>Kier (Infrastructure UK)</td>
<td>Thales</td>
</tr>
<tr>
<td>Carillion</td>
<td>Kier MG (formerly May Gurney)</td>
<td>Turner &amp; Townsend</td>
</tr>
<tr>
<td>CECA</td>
<td>Laing O’Rourke</td>
<td>URS</td>
</tr>
<tr>
<td>Colas</td>
<td>Linbrooke</td>
<td>Vinci</td>
</tr>
<tr>
<td>Costain</td>
<td>Morgan Sindall</td>
<td>Volker Group</td>
</tr>
</tbody>
</table>
CDF: Achievements to Date

- A rail sector Fair Payment Charter – an industry first;
- Significantly shortened payment terms - reduced from 56 to 21 days;
- Removal of retentions, from 3% to zero;
- A rail sector Sustainability Charter – an industry first;
- An improved approach to assessing safety competencies during the tendering process;
- An improved approach to the use of Parent Company Guarantees & Performance Bonds;
- The incorporation of a standard 5% tender weighting for Sustainability – an industry first;
- BS 11000 certification for collaborative working – an industry first;
- Structured improvements to our supplier engagement and enablement process;
- The creation of a number of alliances and long term collaborative frameworks, some with minimum annual turnover commitments;
- Deployment of NEC3 and other advanced collaborative contract forms including Project Alliance Agreements (PAA);
- Improved Work-bank Visibility;
- Engagement on training & development and the development of a consistent framework for collaborative behaviours;
- The identification and cross industry networking of high potential commercial practitioners via the establishment of the Tomorrows Talent Today working group;
- Improved engagement with our Tier 2 suppliers (many of whom are Small to Medium Enterprises) through the establishment of Regional & Asset CDFs where the majority of delegates are Tier 2 Commercial Directors;
- A mature and expanding industry forum, acknowledged across the infrastructure sector as credible, effective and recognised for its commitment to driving industry change and leaving a lasting legacy.
The ‘Franchise Model’: Regional & Asset CDFs

Establish Regional/Asset CDF’s

Strategic direction, industry leadership, initiative development

Flow of information, feedback on initiative implementation

Cross-regional CDF engagement, sharing of tactical issues to ‘bundle’ into strategic themes

National CDF

CDF…

…becomes ‘National CDF’

Regional CDF

Key Conduits for information flow (consistency & progress):
- Commercial Directors Meeting
- Supplier Account Management Process

Tier 2 Key Issues
- Workload / Pipeline Visibility
- Tier 2 Frameworks
- Promoting Innovation
- Improved T1/T2 Collaboration
- Alignment of Objectives
- Fair Payment

Regional CDF
2016 CDF Priorities

<table>
<thead>
<tr>
<th>Working Group</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>W61: Design Review</td>
<td>Identification of improvements in the design process that will realise efficiencies through an “if only the Client, Designer, Contractor…” interrogation process</td>
</tr>
<tr>
<td>W62: Dispute Avoidance Panel</td>
<td>Reduce formal and informal potential disputes through the establishment of an expert panel to review key collaborative programmes, looking for “enemies in the dry grass”</td>
</tr>
<tr>
<td>W63: Defining Disallowable Costs &amp; Fee</td>
<td>To produce guidance on what constitutes disallowable costs and the specifics within a fee in targeted cost contracts, to inform commercial practitioners &amp; contract templates for CDF</td>
</tr>
<tr>
<td>W64: Procuring for Safety</td>
<td>To improve the contribution of the procurement process to the safe delivery of works through a deeper assessment of competences and behaviours</td>
</tr>
<tr>
<td>W65: Workbank Visibility</td>
<td>Develop integrated pipelines between NR, Tier 1 suppliers &amp; pending/awarded frameworks to support Tier 1 &amp; 2 workload planning and visibility</td>
</tr>
<tr>
<td>W66: Turning Commitments into BAU</td>
<td>Ensuring that CDF commitments to driving industry change become embedded across the industry, with a specific focus on the adoption of the Fair Payment Charter (FPC), the Rail Sustainability Charter (RSC) and Rail Method of Measurement (RMM)</td>
</tr>
<tr>
<td>W67: Making Collaboration Work</td>
<td>To create progressive, consistent and enduring relationships and illustrate the impact of collaboration on our CP5 portfolio in delivering in line with expectations</td>
</tr>
<tr>
<td>W68: Change Management &amp; Control</td>
<td>To identify and implement improvements in the way the rail sector manages change, from genesis to management and assessment to agreement of commercial consequences</td>
</tr>
<tr>
<td>W69: Tomorrow’s Talent Today (TTTs)</td>
<td>Involvement of commercial practitioners from across the rail industry to research industry issues, contribute to CDF initiatives and provide open and honest feedback to the CDF</td>
</tr>
</tbody>
</table>

CDF Working Group – “Making Collaboration Work” The Quad of Aims

<table>
<thead>
<tr>
<th>Objective</th>
<th>Stakeholder/Category/Qualifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>To drive collaboration and social license to achieve increased benefits and reduce project risk in line with increased social license.</td>
</tr>
<tr>
<td>Expected</td>
<td>To deliver training and mentoring for a new rail culture of collaboration.</td>
</tr>
<tr>
<td>Achieved</td>
<td>To deliver value through performance improvement and best practice adoption.</td>
</tr>
<tr>
<td>Realised</td>
<td>To deliver social license through a revised strategy.</td>
</tr>
</tbody>
</table>

A Commitment to Fair Payment

The Fair Payment Charter is driving better practice across the supply chain

Adoption

This is all about making the Fair Payment the norm

Awareness

I am pleased to see that this book has been launched with overwhelming support, which is consistent with the EMBA Advisory Board’s recent and ongoing efforts.
Performance: Suppliers’, Asset & Commercial

- **Safety**: Pursuit of a greater contribution in the procurement process to delivering a step change in safety.

- **Engagement**: Driving industry change through dialogue in industry forums, joint problem solving and the development of progressive commercial relationships that improve industry performance.

- **Collaboration**: Greater use of frameworks with an emphasis on corporate behaviours and values and the introduction of progressive forms of contract from NEC through to Pure Alliance Models. Expansion in the number of collaborations certified under BS11000 and active support to our key suppliers where they are seeking similar certification.

- **Performance**: Progress across three elements, namely; 1. **Supplier Performance**: Increased focus on industry acceptable performance metrics and their use in supporting and illustrating improved performance; 2. **Asset Performance**: Procuring for asset resilience and performance surety; 3. **Commercial Performance**: Promoting consistency and clarity of costs and efficiencies through standard approaches to cost modelling, benchmarking and measurement.

- **Innovation**: Rewarding innovation by supporting the development, deployment and promulgation of new and effective techniques of delivery and commercial stewardship.

- **Sustainability**: Building on the 5% weighting in tender evaluations to integrate and develop sustainability dimensions into all that we do.

- **Communication**: Continued dialogue through forums such as the CDF, industry bodies and professional institutions, supplier forums and account meetings.

Knowing what rail works should, will & did cost and why
What Should it, Will it, Did it Cost and Why?

To know what it should, will, & did cost and why, to produce funding submissions, business plans, cost plans, estimates, bids, value change control, produce final accounts, benchmark, WLC & demonstrate vfm, you need three things:

1. A common and consistent language that describes the activity
2. A data repository & IM ‘platform’ that aligns, segments and interrogates data in accordance with the common and consistent language
3. A Business as Usual process for interventions where good quality data is consistently captured
Foundations for Commercial Performance

- **Safety**: Pursuit of a greater contribution in the procurement process to delivering a step change in safety.

- **Engagement**: Driving industry change through dialogue in industry forums, joint problem solving and the development of progressive commercial relationships that improve industry performance.

- **Collaboration**: Greater use of frameworks with an emphasis on corporate behaviours and values and the introduction of progressive forms of contract from NEC through to Pure Alliance Models. Expansion in the number of collaborations certified under BS11000 and active support to our key suppliers where they are seeking similar certification.

- **Performance**: Progress across three elements, namely: 1. **Supplier Performance**: Increased focus on industry acceptable performance metrics and their use in supporting and illustrating improved performance; 2. **Asset Performance**: Procuring for asset resilience and performance surety; 3. **Commercial Performance**: Promoting consistency and clarity of costs and efficiencies through standard approaches to cost modelling, benchmarking and measurement.

- **Innovation**: Rewarding innovation by supporting the development, deployment and promulgation of new and effective techniques of delivery and commercial stewardship.

- **Sustainability**: Building on the 5% weighting in tender evaluations to integrate and develop sustainability dimensions into all that we do.

- **Communication**: Continued dialogue through forums such as the CDF, industry bodies and professional institutions, supplier forums and account meetings.
CPIP: Cost Planning Improvement Programme

• ‘We are improving the reliability of our cost estimates and establishing a way of quantifying the risk and uncertainty surrounding them’

• Executive lead: Francis Paonessa

• Workstream lead: Stephen Blakey

► Complete ongoing work to improve processes, systems & data management:

1. Resources
2. Systems and data
3. Rail Method of Measurement
4. Improvement of GRIP outputs
5. Early engagement
6. Governance
7. Scope alignment/control
8. Whole Life Costs
CPIP: Cost Planning Improvement Programme

• ‘We are improving the reliability of our cost estimates and establishing a way of quantifying the risk and uncertainty surrounding them’

• **Executive lead:** Francis Paonessa
• **Workstream lead:** Stephen Blakey

▲ Complete ongoing work to improve processes, systems & data management:

1. Resources
2. Systems and data
3. Rail Method of Measurement
4. Improvement of GRIP outputs
5. Early engagement
6. Governance
7. Scope alignment/control
8. **Whole Life Costs**

Embed WLC within NR by creating an internal WLC Capability, underpinned by a WLC methodology and supported by WLC modelling and Asset Lifecycle Profiles.
WLC for Network Rail

Whole Life Cost

- Non Construction Costs
  - End of Life
  - Infrastructure Construction
- Life Cycle Costs
  - Infrastructure Opex
  - Infrastructure Maintenance
- Income (Benefit)
  - Infrastructure Renewals
Stakeholder Support for WLC in Rail

“Network Rail should develop a Whole Life Methodology which includes a standardised template for estimating whole life costs”
WLC: value and analysis

Potential for Value Improvement and Life Cycle Cost Reductions

Emphasis on Whole life cost analysis
• options screening / selection
• inform business case funding

Emphasis on Life cycle costing
• optimise IP solutions
• lowest whole life cost

Usability

Source – BS ISO 15686-5
Early decisions drive costs and performance for decades

- Considering WLC correctly will reduce the overall cost of the railway
- Embedding WLC includes involving the supply chain in the early development of WLC options
- This will require improved understanding of what rail infrastructure works, maintenance & operations should, will & did cost and why
- This will create greater understanding of VfM & increase financial effectiveness
• Asset Life-cycle Profiling: an asset hierarchy & breakdown which contains an expected service life and tabulated yearly cost & condition profiles & interventions.
• Costs include: renewals; refurbishments; maintenance; inspection; operational; service risk; and safety risk.
• Each ALP has a ‘Dashboard’ which provides a summary of asset costs & condition.
Generic WLC model (non-railway specific) built primarily for cross asset projects, specifically to support option selection.

Based on configuring projects at asset level importing asset life-cycle cost templates (excel tables with year by year costs for each asset)
WLC Project: 2016

• The WLC project includes establishing an internal WLC capability within the Cost Planning discipline

• Initial release of ALPs for Signalling, Buildings and Structures, Electrification, Earthworks, Telecoms and an updated version of the NR WLC model CoBALT

• Development of a BAU WLC process, with clearly defined roles and responsibilities

• Establishment of WLC capability in Network Rail via the publication of a WLC Manual, Methodology, Processes and Tools supported by a WLC Practitioner Course
WLC – Some Rhetorical Questions

1. Where is the common and consistent language that describes WLC activity in rail?

2. Where is the data repository & IM ‘platform’ that aligns, segments & interrogates data in keeping with the common and consistent language?

3. Who should develop the industry-wide Business as Usual process for interventions where good quality data is consistently captured?

4. Who in the supply chain, from Client onwards, is familiar with the right questions & the right answers & has the right data?

5. What is our level of maturity & what do we need to do to accelerate?
Summary

► **The CP5 Challenge**: More, for less, more safely, sustainably, in a way that leaves a legacy……

► **7 Dimensions to delivering CP5**: Safety, Engagement, Collaboration, Performance, Innovation, Sustainability, Communication

► **Collaboration** is at the heart of our approach to the market

► **CDF** is a successful, industry leading forum

► **Regional/Asset CDFs** are our key approach to engaging with our Tier 2s

► **Commercial Capabilities** across the supply chain are key and in focus for 2016
  
  ▶ **RMM, CPIP, WLC**

► **Industry honesty is important**

► **Real progress is being made** but there are constant ‘headwinds’ & more to do
Thank you.............