Welcome to Capacity Planning
The CP5 Challenge

Investing upfront to cut day to day costs
Maintaining, operating and renewing the railway

Cost in 2003-04
- 27%
- 20%
- 18%

Cost in 2004-09  2009-14  2014-19

Competing priorities
- Capacity
- Reliability
- Cost

CAPACITY PLANNING
Today's reality? Perceptions?

London Bridge delays: 100 more timetable changes in bid to halt disruption

DICK MURRAY | Tuesday 28 April 2015 | 

Flying Scotsman visit thrown into chaos by "administrative error"

The Flying Scotsman's first visit to Scotland in 16 years has been thrown into chaos after Network Rail realised it would not fit through Dalmeny station

13 May 2016 / Helen McArdle, News Reporter / @HMcardleHT
Share: 8 comments
Performance challenge

Incidents caused by known planning errors (Period 1 - Period 13)

- Headway Margins (2,211)
- Junction Margins (3,748)
- Platform Re-occupation (994)
- Platform/Loop length (253)
- Platform end Margins (348)
- Missing ‘SRT’ adjustments (318)
- Missing allowances (391)
- Platform Occupation (and Siding/Terminal) (664)
- Wrong Routing (401)
- Track Circuit Block Headway Margin (948)
A changing environment

Recommendations

Place the needs of passengers and freight shippers at the heart of rail infrastructure management.

Focus on the customer through deeper route devolution, supported by independent regulation.

Create a route for the North.

Clarify the government’s role in the railway and Network Rail.

Plan the railway based on customer, passenger and freight needs.

Explore new ways of paying for growth in passengers and freight on the railway.

Develop industry-wide plans to develop skills and improve diversity.
An evolving role...

Operating Model 2016

Central Support
- Corporate Core
  - CEO & Executive, Finance (inc Risk & Internal Audit, NCB), Property, Corporate Communications, Legal, Corporate & Commercial and Human Resources
- Network Strategy & Capacity Planning
  - This is the System Operator
- Safety, Technical & Engineering Directorate
  - This is the Technical Authority

Route Support
- Route Services Directorate
  - National Supply Chain
  - Group Business Services
  - Network Rail Consulting
- Digital Railway
- Infrastructure Projects

Routes
- England & Wales
- Freight
  - Route 1
  - Route 2
  - Route 3
  - Route 4
  - Route 5
  - Route 6
  - Route 7
- Scotland

- Undertakes core Corporate and Group activities including Business Strategy, Functional Policy Making and Assurance.
- National coordination of those activities required to optimise the overall use of the national network for the benefit of all users.
- Policies, standards, new technology, benchmarking, lateral learning, competency frameworks and skill pool health.
- The provision of services agreed by the routes to allow them to benefit from economies of scale and the optimisation of critical resources
- The industry wide programme to accelerate digital modernisation of the railway plus associated route services
- Develop, design and deliver enhancement, and other large complex capital projects, for the routes

A better railway for a better Britain... better every day
Leadership team...

Fiona Dolman  
Capacity Planning Director

- Greg Sugden  
  Programme Director
- Matt Allen  
  Head of Capacity Planning Controls
- Rob Freeman  
  Head of Timetable Production
- Toby Patrick-Bailey  
  Capacity Planning Manager (National)
- Elaine Folwell  
  Capability & Capacity Analysis Manager
Strategic focus

- New timetable
- New Service Specification
- New Rolling stock
- New TPRs

Can we achieve
- More Capacity
- Better Performance
- Improve Journey Times

- Existing Infrastructure
- New Infrastructure
- New Signalling
Massive investment

TSGN benefits:
- 50% boost in passenger capacity into central London during peak hours, 10,000 extra seats by 2018
- 8,000 jobs created as part of government’s £6.5 billion Thameslink Programme
- Free Wi-Fi, enhanced staffing at over 100 stations
- 1,398 new state-of-the-art electric carriages, boosting fleet by 27%

Modernising the Great Western route
Tactical - 2016 TT Year – Late May Bank Holiday

- **Carstairs S&C**
- **Gilwilly Footbridge Renewal**
  - IP Central
- **Plain Line Track Renewal - Kingmoor**
  - IP Track
- **Plain Line Track Renewal – Hartmoor**
  - IP Track
- **Stafford Area Improvements**
  - IP Central
- **Plain Line Track Renewal – Charfield**
  - IP Track
- **Bristol Area Resignalling**
  - IP Signalling
- **Crossrail West**
  - IP Great Western & Crossrail
- **Queen St Station / Tunnel, EGIP**
  - (Continuation of 20 week blockade)
  - IP S&NE
- **Knottingley Level Crossing Renewal**
  - IP S&NE
- **Tram-Train Project**
  - IP S&NE
- **Structures Renewal, Harringay**
  - IP Southern
- **Hornsey EMU Depot Connection**
  - IP S&NE
- **S&C Renewal – Dagenham**
  - IP Track
- **Plain Line Track Renewal – Brentwood**
  - IP Track
- **London Bridge**
  - IP Thameslink
- **Waterloo platforms 20-24**
  - Network Ops Works Delivery

As of 11th February 2016
Deliver a Zero Defect Timetable
Our improvement focus
Supporting Zero Defect Timetable

People  Process  Technology

Continuous improvement

Digital timetabling  TRIP  IAP

Delivering a better timetable
IAP - 4 projects available to you…

T-26 lockdown…

Engineering trains in the timetable

Better long term planning

Olympic timetable
**What is TRIP?**

The Timetable Rules Improvement Programme (TRIP) is undertaking a systematic review of the 5 key building blocks of the timetable at key areas of the network.

### Key Building Blocks

- **Headway**: Separation time between trains travelling in the same direction.
- **Platform Re-Occupation**: Shortest time a train can re-occupy a platform vacated by another train.
- **Sectional Running Time (SRT)**: Time allowed in a schedule for a train to travel between two points.
- **Junction Margin**: Time between two trains performing conflicting moves at a junction (crossing, converging or diverging).
- **Dwell**: Time the train stands at a platform or siding.
**TRIP areas and CP5 National PPM benefit**

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<th>Type</th>
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<th>Benefit from Dec 17</th>
<th>Benefit from Dec 18</th>
<th>Total Benefit at 31 March 2019 *</th>
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**TRIP CP5 National PPM Total = 0.48%**

*Total by 31st March equates to total Dec 16, & 17 benefit and 112 days of Dec 18 benefit*
1. **TPR Database** – A open industry access database of TPRs.
   - Better change control of TPRs
   - Improved visibility of change rationale
   - Easier access to TPRs
   - Ambiguities resolved
   - Opportunity to add additional tools in the future, e.g. sensitivity analysis.

2. **Timetable Compliance Tool** – Effective identification of where the timetable has not been planned using live TPRs correctly.
   - Facilitates the removal of these non-compliances thus reducing delays and improving customer satisfaction
   - A positive move towards Zero Defect Timetable
Deliver a Zero Defect Timetable