

RAIL INFRASTRUCTURE

# ACCESS PLANNING & WORK WINDOW PRODUCTIVITY



DAY ONE CONFERENCE ONE

TUESDAY
21st MAY
2013
London UK

# **Planning The Most Efficient Time Slots**

# To Maintain And Upgrade The Infrastructure With Minimal Timetable Disruption

Finding The Most Cost Effective Solution For All Stakeholders

# Join Cutting Edge Industry Discussions On:

- ✓ **ESTABLISHING THE OPTIMUM ACCESS CONCEPT:** Determining The Best Overall Access Model Per Route: Balancing The Trade-Offs Between Cost, Operating Requirements And Line Condition
- ✓ **COMPARATIVE CASE STUDIES ON ACCESS MODELS:** Examining Access Models From Extended Line Closures To Overnight Shutdowns To Find The Best Solution For All Stakeholders
- ✓ **COSTS OF DIFFERENT WORK WINDOWS:** Modelling The Costs And Consequences Of Different Access Patterns For Infrastructure Managers, TOCs And Contractors
- ✓ NEGOTIATING WITH STAKEHOLDERS: Understand How Industry Peers Are Managing Coordination To Find
  The Best Way To Share The Costs And Benefits Of Disruptive Access
- CREATING LESS NEED FOR ACCESS: Assessing Infrastructure Design, Condition Monitoring And Risk-Based Maintenance

# **Expert Insights From Senior Industry Decision Makers Including:**



Steve Murphy
Chief Operating Officer
Arriva Trains UK



Steve Featherstone Track Programme Director Network Rail

**London** Business Conferences



Alain Sauvant Network Design & Planning Director RFF



Jens Ole Kaslund Project Director: Ringsted -Fehmarn Upgrade Banedanmark



Jim Morgan
Director Of Infrastructure
South West Alliance
Network Rail



Freddy Simon Head Of Traffic & Work Planning Infrabel

Media Partners

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<u>RailStaff...</u>

DAY TWO CONFERENCE TWO

WEDNESDA 22<sup>nd</sup> MAY 2013 London UK

# **Maximising Productivity Whilst Ensuring Safety:**

# Innovating In Processes & Machinery To Deliver Work In Short Possessions Windows

Doing More Work In Less Time

# **Benchmark With Industry Leaders On:**

- ✓ IMPROVING SAFETY: Benefit From Practical Examples Improving Safety Whilst Reducing Time Spent On Safety Procedures When Adjacent Line Working And On Electrified Railways
- ✓ INCREASING PRODUCTIVITY & OUTPUT: Profit From A Series Of Case Studies Showcasing Real Examples Of Productivity Improvements Achieved For Delivering More Work In Shorter Possessions
- ✓ ADJACENT LINE WORKING: Benchmark Your Safe Working Practices Against Industry Leaders And Gain From Their Technical Expertise
- ✓ SAFER & FASTER ISOLATIONS: Gain Exclusive Insights From Europe's Most Up-To-Date Benchmarking
  Portfolio On Safer & Faster Isolation Techniques & Technologies Being Used
- COORDINATING DEPARTMENTS: Learn How Industry Leading Infrastructure Managers Make The Best Use
   Of Possession By Coordinating Work Between Departments

# Hear From Industry Leading European Infrastructure Managers Including:



Steve Featherstone Track Programme Director Network Rail



Guy Levy Head Of Track Renewals RFF



Harald Nikolaisen
Director Infrastructure
Construction
Jernbaneverket



Thomas Vogel Head Of Time-Slot Management SBB



Christophe Keseljevic Senior Advisor Of The Strategy & Corporate Governance Department RFF



Peter Söderholm Lead Investigator Of Dependability Management Trafikverket

Rail









# TUESDAY 21st MAY 2013

# PLANNING ACCESS STRATEGIES, MODELLING COST AND EXAMINING MAINTENANCE CONCEPTS TO DETERMINE THE OPTIMAL WORK WINDOW PER ROUTE



# 8.50 Chair's Opening Remarks

# **OPENING KEYNOTE: ESTABLISHING THE OPTIMUM ACCESS MODEL**

9.00 Determining The Best Overall Access Solution Per Route: Balancing The Trade-Offs Between Cost, Operating Requirements And Line Condition

- Comparing opposing business drivers of infrastructure managers and train operators to establish flexibilities and sticking points on both sides
- Offsetting short-term losses with long-term gains to arrive at the optimal access solution based on route operations and track condition
- Negotiating successfully with all stakeholders to arrive at a low cost solution that is best for the route and customers
- Reviewing solutions for managing disruption to train operations when the best access model involves temporary cancellation of services

Jim Morgan, Director Of Infrastructure - SW Alliance, Network Rail

9.25 Question & Answer Session

# COSTS OF ACCESS: ESTABLISHING THE COSTS AND CONSEQUENCES OF DIFFERENT ACCESS PATTERNS FOR INDUSTRY STAKEHOLDERS

# **COST OF ACCESS TO TRAIN OPERATORS**

**9.35** Analysing The Cost Impact Of Access And Disruption: What Scenarios And Conditions Would Be Acceptable For Negotiating Track Closure?

- Measuring the impact of planned and unplanned disruption on passenger numbers and revenue flow
- Identifying the point where repeated service disruption due to poor track conditions would warrant closure of a route for major maintenance or renewal
- Specifying the level of improvement to a route that would justify extended closure of the track for upgrades
- Identifying how different access patterns affect the terms and conditions within franchise agreements

Steve Murphy, COO, Arriva Trains UK

10.00 Question & Answer Session

### COMPARING COSTS OF ACCESS MODELS

10.10 Breaking Down The Costs Related To Different Ways Of Working: Calculating The Cost Of Access Against The Cost Of Delivery

- Appraising the modelling tools used and criteria considered for calculating the cost of access against the cost of delivery
- Calculating how much costs can be reduced by based on the duration of the window giving specific focus to upgrades and renewals
- Revealing costs incurred from service cancellation, considering loss of revenue from train operations, replacement services, access minutes etc.
- Showcasing examples of variation in the cost of delivery when the same task is carried out in different time slots

Steve Featherstone, Track Programme Director, Network Rail Alain Sauvant, Network Design & Planning Director, RFF

10.50 Question & Answer Session

11.00 Morning Refreshments In Exhibition Showcase Area

## **OPTIMAL ACCESS SOLUTIONS FOR CONTRACTORS**

11.30 Examining How Price Is Affected By Access Patterns: To What Extent Does The Possession Length Affect The Price?

- Identifying specific works that show the biggest cost differential when comparing the duration of work windows
- Presenting case study examples which detail the difference in price of comparable jobs that were conducted in different possession time-slots
- Detailing the specific cost drivers in each case study and showcasing what the best cost access solution would look like
- Examining efficiency gains that result from the contractor being more involved in the access planning and design phase of a project

12.00 Question & Answer Session

# **CASE STUDY: EXTENDED LINE CLOSURE**

12.10 Undertaking An Extended Line Closure To Conduct Upgrades: Investigating The Cost-Benefits, Negotiations, And Industry Trade-Offs

- Exploring the business case trade-offs and modelling tools used to arrive at the right access solution
- Detailing the various access models considered, and the reason the final option was chosen over others
- Exploring the various re-routing and rail replacement options used to offset the consequence of disruption to passengers
- Summarising lessons learned in the dialogue and negotiations between the operator and the infra manager
- Assessing the results from the project and the extent to which the operator and infra manager achieved the desired outcome

Freddy Simon, Head Of Traffic & Work Planning, Infrabel

12.40 Question & Answer Session

12.50 Networking Lunch In Exhibition Showcase Area

# CASE STUDIES ON ACCESS MODELS: EXAMINING DIFFERENT TYPES OF ACCESS MODEL FOR ENGINEERING WORKS

### CASE STUDY: MAIOR LINE UPGRADE PROJECT

1.50 Addressing The Engineering Access Challenges Of A Major Line Upgrade: The Ringsted - Fehmarn Project

- Detailing the scale of the project and the various engineering access challenges
- Exploring the strategies being considered for accessing the line to conduct works at selected problem areas and the rational for these decisions
- Identifying specific industry expertise needed to enable the project to happen
- Reviewing the strategy for offsetting the consequences of disruptive access to the train operator

Jens Kaslund, Project Director - Ringsted - Feharn Upgrade, Banedanmark

2.20 Question & Answer Session

# CASE STUDY: ACCESS FOR PROJECTS ON A STATIC LINE

2.30 Examining A Successful Industry Collaboration On Access For An Upgrade On A Static Line That Delivered Benefits For All Stakeholders

- Breaking down the expenses attached to the different possession patterns that were considered
- Specifying the input that each stakeholder provided in arriving at the final decision

- Showcasing the short term compromises and long-term remunerations agreed
- Revealing a cost-benefit analysis of the project and the long-term impact on revenue and passenger numbers for the operator

John Purcell, Route Access Manager - Thameslink, Network Rail

3.00 Ouestion & Answer Session

# TRAFFIC MANAGEMENT PLANNING & SYSTEMS

**3.10** Using Traffic Management Systems To Strategically Direct Capacity And Increase Opportunities For Engineering Access

- Reviewing the traffic management system being used for practicality and ease of use
- Strategically re-directing capacity on sections of the railway-line to open access and allow more time for engineers to do work
- Effectively communicating change with train operators when rerouting to an alternative line or station platform
- Exploring alternative solutions for planning improved access: Re-routing trains through different stations, cancellation of the first or last train of the day

Hugo Thomassen, Head Of Capacity Allocation, ProRail

3.40 Ouestion & Answer Session

3.50 Afternoon Refreshments In Exhibition Showcase Area

# **FIXED ACCESS CONCEPTS FOR MAINTENANCE**

4.20 Using Pre-Set Time-Slots For Scheduling Maintenance On A High Density Line: Exploring The Costs vs. The Benefits Experienced

- Identifying the time-scales and frequencies of the fixed access strategies being used and the rational behind the decisions
- Understanding the negotiations between infrastructure managers and operators to arrive at an access strategy that is beneficial for everyone
- Detailing the amount of reduction in maintenance costs resulting from night time and weekend access concepts
- Reviewing the solutions employed for communicating the scheduled disruption to passengers and replacing services

Thomas Vogel, Head Of Time-Slot Planning, SBB

4.50 Ouestion & Answer Session

# CREATING LESS NEED FOR ACCESS

**5.00** Applying Technologies And Methods That Reduce The Need For Access: Assessing Design, Condition Monitoring And Maintenance Strategy

- Designing infrastructure in a way that reduces the need for access to do maintenance
- Deploying track mounted condition monitoring systems that reduce the need for access to inspect the railway
- Exploiting train mounted condition monitoring technology for a targeted and less intrusive approach to maintenance
- $\bullet$  Evaluating the collaborative relationship assumed with the operator for fitting trains with monitoring technology
- Appraising maintenance concepts which have the potential to reduce the need for access
   Marc Antoni. Head Of Technological Innovation Centre. SNCF

5.30 Ouestion & Answer Session

5.40 Chair's Closing Remarks

5.50 End Of Day One

6.00 - 7.00 Networking Drinks In Exhibition Showcase Area

# WEDNESDAY 22<sup>nd</sup> MAY 2013

# SHOWCASING EXAMPLES OF IMPROVED PRODUCTIVITY BY USING LEAN PROCESSES AND INNOVATIVE SPECIALIST EQUIPMENT



# 8.50 Chair's Opening Remarks

Uma Shanker, Head Of Strategy & Business Improvement, Network Rail **OPENING PANEL: PRODUCTIVITY VS ACCESS** 

9.00 Comparing Industry Capabilities Regarding The Amount Of Work That Can Be Achieved In Different Possession Windows

- Presenting a matrix which details how much work can be fitted in to different possession lengths
- Highlighting specific works which gave the biggest productivity and efficiency gains
- · Outlining the processes, technology and machinery which have been used to deliver
- · Specifying plans for investment in equipment, process improvement and the training of personnel to meet future efficiency targets

Steve Featherstone, Track Programme Director, Network Rail

Thomas Vogel, Head Of Time-Slot Planning, SBB

Christophe Keseljevic, Senior Advisor Of The Strategy & Corporate Governance Department, RFF (Panelist)

9.40 Question & Answer Session

# BALANCING SAFETY WITH FASTER WORKING: IMPROVING THE EFFICIENCY AND **EFFECTIVENESS OF SAFETY RELATED PROCEDURES**

# **WORKING WITH ADJACENT LINE OPEN**

# 9.50 Working Safely With Adjacent Lines Open To Increase Opportunities For Non-**Disruptive Access**

- Detailing the methodology for quickly and efficiently confirming safety when working with the adjacent line in operation
- Deploying technologies such as proximity alarms and warning systems that are guick to set up and effective to use
- · Highlighting safety procedures, training and equipment to prevent personnel straying onto the adjacent line
- Reviewing experiences using innovative plant and machinery that enables safer and faster working next to an operational line

Representative TBC, Engineering Department, REFER

10.20 Question & Answer Session

10.30 Morning Refreshments In Exhibition Showcase Area

# **SECURING & TAKING POSSESSION OF THE TRACK**

# 11.00 Taking Possession Of The Track & Securing The Work Site Faster Without Compromising On Safety

- Adopting an integrated risk management approach for balancing efficiency and safety of track work
- What technologies and processes are being used to control traffic around the work-site during the possession?
- Methodologies, technologies and tools used to communicate between traffic control, train operators and maintenance contractors to ensure safety
- Reviewing experiences using safety technologies and equipment that is efficient to deploy and effective to use
- Examining the boundaries considered in the balance between efficiency and safety

Peter Söderholm, Lead Investigator Of Dependability Management, Trafikverket

11.30 Ouestion & Answer Session

### SAFER FASTER ISOLATIONS

# 11.40 Performing Safer And Faster Isolations Through Technology And Process Improvements To Maximise Work Time During Possessions

- Showcasing developments in the process for isolating and earthing, specifically identifying improvements in safety and efficiency
- · Reviewing new technologies and equipment used to minimise the activity needed on the track to achieve switch-off, earthing and testing of the wire
- Matching isolations facilities with the working demand of the railway: Designing the electrical system so that it can be turned off in small sections
- · Exploring industry benchmarks on isolation procedures, setting the scope for the next

Representative From Network Rail: To Be Confirmed

12.10 Question & Answer Session

### COORDINATING WORKS TO BETTER UTILISE TIME SLOTS

# 12.20 Coordinating Works Between Departments To Maximise Output From The Work Window

- Improving interdepartmental communications in order to plan multiple works in the same access slot
- Coordinating between projects and maintenance to prevent unnecessary maintenance being carried out before a renewal
- Utilising software that facilitates the coordination of works between the departments
- · Revealing the planning processes that gives a complete view of all works and supports the effective coordination of tasks
- Effectively managing safety when there is overlapping leadership at the work-site: Who has ultimate authority and accountability?

Christophe Keseljevic, Senior Advisor Of The Strategy & Corporate Governance Department, RFF (Panelist) **Peter Dearman,** Head Of Network Electrification, Network Rail (Panelist)

Representative TBC, Engineering Department, REFER

12.40 Joint Ouestion & Answer Session

12.50 Networking Lunch In Exhibition Showcase Area

SHOWCASING EXAMPLES OF IMPROVED PRODUCTIVITY FROM USING LEAN PROCESSES AND INNOVATIVE SPECIALIST EQUIPMENT

# **CASE STUDIES**

1.50 Reducing The Time It Takes To Deliver Work By Developing Efficiencies In Working Processes And Using Appropriate Technology And Equipment

Each Following Case Study To Address:

- Safety processes, procedures and equipment used
- Time, cost and quantity improvements achieved
- Staff training, development and deployment

# A) High Output Renewal Of Ballast, Formation, Rail & Sleepers

1.50 Utilising High Output Machinery To Renew Longer Sections Of The Track, Ballast And Formation In Shorter Windows

- Reviewing timescales for planning the works in advance, the amount of work predicted and the amount of contingency allotted
- Highlighting the processes for removing and replacing the traffic control system efficiently when doing high output renewals
- Detailing the logistics for removing the old materials and bringing new materials to site Guy Levy, Head Of Track Renewals, RFF

2.20 Ouestion & Answer Session

# B) Delivering S&C Renewals

# 2.30 Delivering Turnouts And Crossings In Shorter Time Slots By Improving Working Methods And Processes

- Demonstrating the application of Lean Thinking and the standardisation of procedures to achieve efficiency gains in the delivery of S&C
- Exploring the planning process and software used to coordinate optimise logistics
- Reviewing how man power patterns have been optimised to maximise productivity
- Specifying works undertaken on the signalling system as part of the renewal project

Kevin Percival, Programme Manager, Network Rail

3.00 Ouestion & Answer Session

3.10 Afternoon Refreshments In Exhibition Showcase Area

# C) Increasing Line Speeds Projects

3.40 Improving The Procedure For Increasing Line Speeds: Completing Longer Lengths In Smaller Possessions

- Outlining the specifications of the projects in terms of ease of access, original running speed and track condition
- Understanding the decision criteria for agreeing the level of refurbishment or renewal necessary to achieve the desired results
- Identifying the improvements to man power processes and working methodologies which have increased productivity over time

Harold Nikolaisen, Director Of Infrastructure Construction, Jernbaneverket

4.10 Question & Answer Session

## D) Electrifying A Branch Line

# 4.20 Delivering The Electrification Of A Branch Line With A Low CAPEX Using Improved Methods Of Working And Innovative Machinery

- Identifying the scale of the project in terms of structures and wire runs that were Constructed
- · Demonstrating the access negotiations and agreements with the train operator
- Reviewing the man-power patterns and methods of working to maximise productivity
- Reducing capital expenditure of civil engineering works through innovative machinery and unique project specific construction decisions
- Revealing lessons learned to reduce the cost and further enhance productivity of OLE construction in the future

Brian Sweeney, Electrification Asset Engineer, Network Rail

4.40 Question & Answer Session

5.00 Chair's Closing Remarks & End Of Summit

66 "This is a great opportunity to share with other rail professionals about best practices relating to planning access and delivering works"

Alain Sauvant, Network Design & Planning Director, RFF



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