

SPEAKER'S BRIEF – ENGINEERING WORK AND ITS EFFECTS ON THE TIMETABLE

The Level 2 Train Planning workshop is designed to introduce students to the manual training planning skills used before the introduction of computer technology; so they have a better understanding what it is their computer is doing for them. The aim is that by the end of the 3 days, they can turn a Bid into a validated schedule and prepare a hand-drawn timetable graph. The aim of this spot is to introduce delegates to the processes involved in getting from an annual plan of work, supported by an access plan through the Part D negotiations to create the Engineering Access Statement, then on through the DPPP to the CPPP and finally the WON. Although we don't have an EAS for the network (Operail) that the delegates are working on, it would help if the speaker can walk the delegates through the principal sections. One of our aims is to get them to re-visit their plan to facilitate a short section of mid-week nights SIMBIDS – The whole off-peak services will not fit and they will have some Bids from the two TOCs reducing the train service. There will still be a at least one clash!

The nature of our planners' backgrounds has changed over the years; many would have come from other parts of the rail industry. Now it is likely the majority have (a) never previously worked in the rail industry and (b) never travel by train. Some of the things we take for granted are largely alien concepts. For this reason, the style of the presentation gives over the past few years has contained an increasing degree of explanation of what rail maintenance actually is and some of the planning tasks that need to be undertaken. Explaining for example that the Railway Group Standard for Themit Welding requires 5 hours to carry out a single weld (in case it fails and has to be re-done)

This is a 60 minute slot (although this could be extended to 80 mins if the presenter believes they have a range of materials with which to engage the delegates. This is

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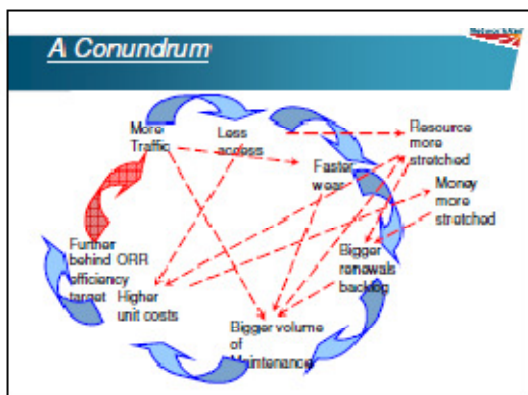
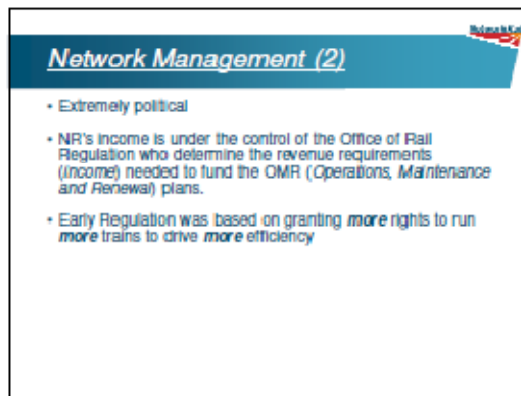
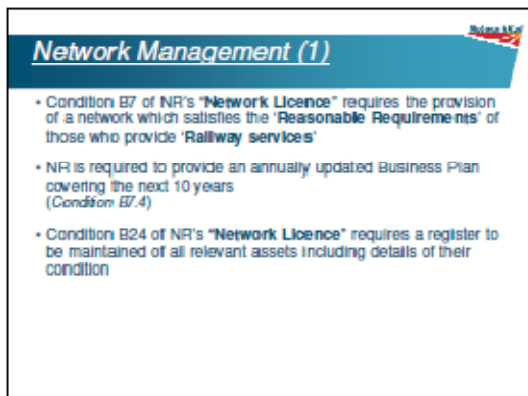
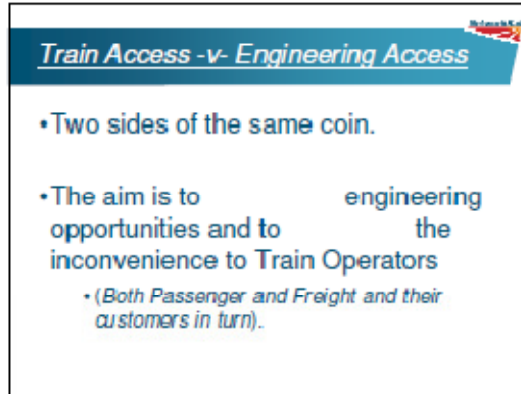
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clearly not a 'chalk and talk' session. For example talking through the Scottish 'Section 4' will enable delegates to understand how the Daysets relate to the December and May Timetable change dates. How work must be carefully planned and packaged into the very small amount of time available. Links into the West Anglia Mid-week nights. How Section 6 will dictate how and when box time goes into the timetable. Then how section 7 governs how we achieve Informed Traveller deadlines.

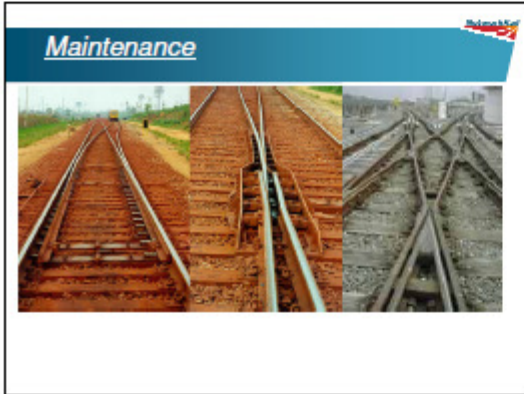
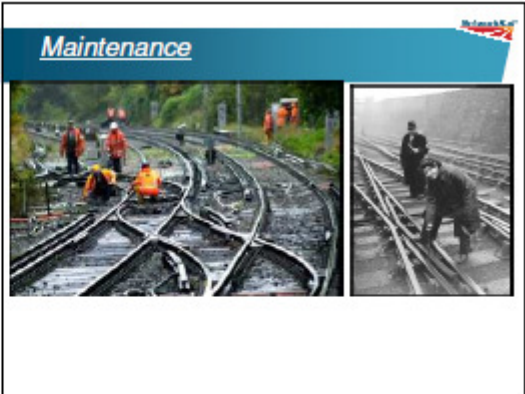
Appended are copies of the 40 slides - not all of which are used – it depends on how the students relate to what you're saying. Also appended are copies of the Rules of the Route used together with the supporting student notes.

All suggestions on how these might be better tailored towards the new Part D and a centralised planning team would be appreciated.

APPENDIX – CURRENT SLIDES



Comment: Its now 10 years beyond Hitchin and maintenance has been back in-house for the better part of 7 years – probably no need to dwell on the past?



The discussion points are that a lot of maintenance (especially S&C) is manpower intensive and needs daylight. Wootton Bassett (should that now be Royal Wootton Bassett Sidings?) provides a discussion point about using/moving 'yellow' plant.

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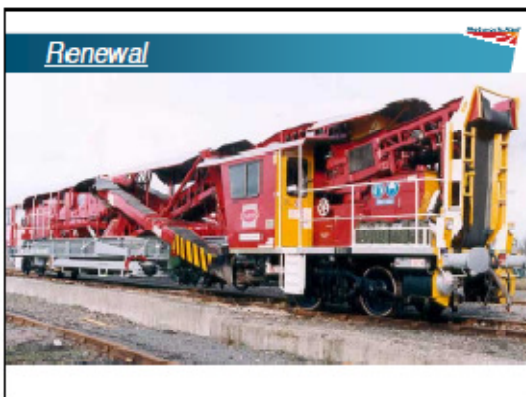
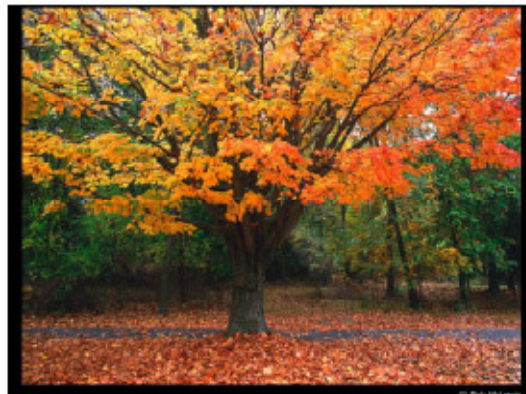
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I include 34007 “Wadebridge” (its still running!) as a discussion point that lots of what we do, we’ve always had to do and maintenance didn’t just arrive with privatisation!

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First 3 are to generate discussion on autumn and winter preparedness including the difference between Sandites/Water Cannon and de-icing



Asset Management Planning

- Territory Business Plans – produced by Asset Category
 - Track, Signalling, Structures, Power and Plant
 - Use of "Guides to Railway Investment Projects" (GRIP)
- Annualised Work Plan – produced by Territory Delivery Planning Units
 - Up to two years in advance
 - Data compiled using "Possession Planning System" (PPS)
- Annualised Access Plan produced by the Network Access Unit (NAU) and Strategic Access Planning (SAP)

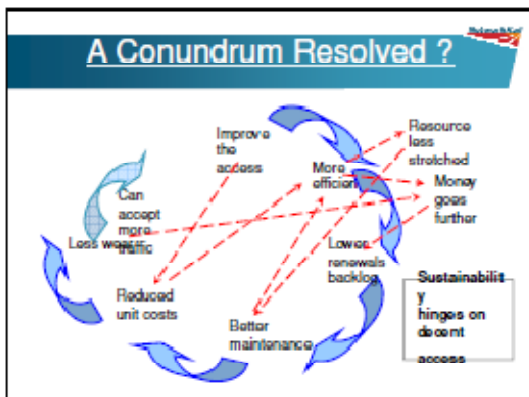
Annual Work Plan

- Produced by Territory Delivery planning Teams based on
 - GRIP approved work from Business Plan
 - Asset Maintenance and Renewals
 - Major schemes (such as WCRM and SPS)
- Basis for population of PPS
- Assessed for Schedule 4 compensation
- Handed to Area Delivery Planning Units to deliver

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NAU Responsibilities

- Possession strategy negotiations with Customers
- Ownership of Rules of the Route
- Resolution of differences of conflicting demands e.g. Train Operator, TPDU etc
- Co-ordination of North-South and East-West cross-country routes
- Manage NR's relationship with the Office of Rail Regulation for changes to disruptive possessions
- Production and distribution of WON



Rules of the Route

- Consulted in accordance with Condition 'D' of the Network Code
- Drawn up by Network Access Unit based on the Annual Access Plan
- Sets out:
 - Standard Possession Opportunities
 - Maintenance Strategies
 - Temporary Speed Restrictions
 - Register of all disruptive possessions

Engineering Planning and the Informed Traveller

- Condition A3 of the "Network Licence" requires NR to provide access to information ... all such changes to the National Timetable ... 12 weeks prior to the date such changes have effect
- Amended train details are passed to Retail and Customer information services at T-12 to enable seat reservations and train enquiries to be made

Schedule 4

- Requirement to compensate passenger train operators when NR take possessions which impact on a TOCs "Firm Contractual Rights"
- Complex process of whole timetable comparison managed by the Compensation team using S4CS
- Discounts based on advanced notification of the possession can be as great as 80%
- Can be very expensive if NR get it wrong or change their minds!

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Schedule 8

- Measures the performance (through TRUST) of every train on the network
- Comparison made against the "Applicable Timetable"
 - All delays identified
 - Attributed back to the NR Manager or TOC responsible
- Poor timetable = delays
- Inadequate maintenance = delays
- PT + IM = Mega delays

Informed Traveller Process

- T-26 weeks is the confirmation of the disruptive possession plan. (in 4 weekly chunks as the Confirmed Period Possession Plan)
- T-18 Bids from Train Operators
- T-14 Offers back to Train Operators
- T-12 Upload to TSDB

Late Possession Requests

- Disruptive possessions after T-26
- Non-disruptive possession after T-8
- All Changes to possessions after T-5
 - Detailed safety, performance or business justification required
 - Reason why work cannot be planned into normal timescales

Challenges

- Late changes to the possession plan
- Robustness of the plan (Schedules 4 & 8)
- Inter-Route issues including consistency of train planning approaches
 - Do you time trains and buses forward from their booked departure time?
 - Do you time backwards for buses and trains?

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APPENDIX – RULES OF THE ROUTE

NETWORK RAIL
Scotland

Rules of the Route 2010
Final Principal Rules and Proposed Subsidiary Rules
Section 4 - Standard Possessions Opportunities

Version : 3
Date : 24th April 2009
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SC001 GREтна JN TO GLASGOW CENTRAL (VIA BEATTOCK)

SECTION		PERIOD A 13.12.2009 - 31.01.2010	PERIOD B 01.02.2010 - 28.03.2010	PERIOD C 29.03.2010 - 22.05.2010	PERIOD D 23.05.2010 - 05.09.2010	PERIOD E 06.09.2010 - 11.12.2010	REMARKS
Boundary to Kirtlebridge GF 1.1	WEEK END	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED Ⓞ 2120 Sat - 1430 Sun Up BLOCKED Ⓞ 2120 Sat - 1430 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Isolation between Cove LC and the Zonal Boundary may not be granted until 0050 Sunday should a similar isolation be in operation in the NW Zone south of Carlisle Station. Details will be advised at the appropriate possession planning meeting.
	SUN /MON	NPP	NPP	0020 - 0445 Mon SLW ⓄⓄ	NPP Ⓞ	NPP Ⓞ	
	MID WEEK	NPP					

NOTES

Ⓞ Reduced times in week 7. Times available as other Periods.

Ⓞ First ScotRail Sleepers and DRS 4M30 are diverted via ECML in weeks 8, 10 to 21 and week 23. See section 5 for details.

Ⓞ Only one section of Single Line Working permitted between Preston and Carstairs. Therefore, this must be applied for at Informed Traveller and confirmed with LNW.

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LEVEL 2 TRAIN PLANNING

NETWORK RAIL
Scotland

Rules of the Route 2010
Final Principal Rules and Proposed Subsidiary Rules
Section 4 - Standard Possessions Opportunities

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SC001 GRETNA JN TO GLASGOW CENTRAL (VIA BEATTOCK) Continued

SECTION		PERIOD A 13.12.2009 - 31.01.2010	PERIOD B 01.02.2010 - 28.03.2010	PERIOD C 29.03.2010 - 22.05.2010	PERIOD D 23.05.2010 - 05.09.2010	PERIOD E 06.09.2010 - 11.12.2010	REMARKS
Kirklebridge GF to Lockerbie 1.2	WEEKEND	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED Ⓣ 2120 Sat - 1430 Sun Up BLOCKED Ⓣ 2120 Sat - 1430 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	
	8/SUN /MON	NPP	NPP	0020 - 0445 Mon SLW ⓉⓉ	NPP Ⓣ	NPP Ⓣ	
	MID WEEK	NPP					

NOTES

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LEVEL 2 TRAIN PLANNING

NETWORK RAIL
Scotland

Rules of the Route 2010
Final Principal Rules and Proposed Subsidiary Rules
Section 4 - Standard Possessions Opportunities

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SC001 GREтна JN TO GLASGOW CENTRAL (VIA BEATTOCK) - Continued

SECTION		PERIOD A 13.12.2009 - 31.01.2010	PERIOD B 01.02.2010 - 28.03.2010	PERIOD C 29.03.2010 - 22.05.2010	PERIOD D 23.05.2010 - 05.09.2010	PERIOD E 06.09.2010 - 11.12.2010	REMARKS
Lockerbie to Wamphray GF 1.3	WEEK END	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED Ⓜ 2120 Sat - 1430 Sun Up BLOCKED Ⓜ 2120 Sat - 1430 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	Down BLOCKED 2300 Sat - 0945 Sun Up BLOCKED 2300 Sat - 0945 Sun	
	SUN /MON	NPP	NPP	0020 - 0445 Mon SLW Ⓜ Ⓜ	NPP Ⓜ	NPP Ⓜ	
	MID WEEK	NPP					

NOTES

~~Ⓜ~~ - Reduced times in week 7. Times available as other Periods.

- Ⓜ First ScotRail Sleepers and DRS 4M30 are diverted via ECML in weeks 8, 10 to 21 and week 23. See section 5 for extended opportunity.
- Ⓜ Only one section of Single Line Working permitted between Preston and Carstairs. Therefore, this must be applied for at Informed Traveller and confirmed with LNW.

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LEVEL 2 TRAIN PLANNING

Network Rail
Scotland

Rules of the Route 2010
Final Principal Rules and Proposed Subsidiary Rules
Section 5 – Possession Strategy

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SCOTLAND TERRITORY

Route	At or Between	Week Numbers	Traffic Remarks
SC001 1.1 to 1.7	Regional Boundary and Carstairs	8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 & 23 Down and Up BLOCKED 2330 Sun to 0430 Mon	SLEEPERS & 4M30 GRANGEMOUTH TO DAVENTRY VIA ECML 4S29 CARLISLE TO RAVENSTRUTHER TO BE CANCELLED POSSESSION TO BE GIVEN UP FOR PASSAGE OF 4S49
SC001 1.8 to 1.9	Carstairs and Law Jn	8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 & 23 Down and Up BLOCKED 2350 Sun to 0445 Mon	SLEEPERS DIVERTED VIA ECML.
SC001 1.10	Law Jn and Shieldmuir South Jn	38, 41, 44, 50, 53, 3, 6, 9, 12, 18, 21, 24, 27, 30, 33, 36 Down and Up BLOCKED 0110 to 0505 Sat 0025 to 0505 Mon to Fri 47, 15 Down and Up BLOCKED 0110 to 0505 Sat 0025 to 0505 Tue to Fri	FREIGHT SERVICES DIVERTED VIA HOLYTOWN JN. NETWORK RAIL REQUIRE BIDDERS TO PREPARE A REVISED BID FREIGHT – BID FOR RETIMINGS
SC001 1.11	Shieldmuir North Jn and Motherwell	38, 41, 44, 50, 53, 3, 6, 9, 12, 18, 21, 24, 27, 30, 33, 36 Down and Up BLOCKED 0115 to 0525 Sat 0030 to 0530 Mon to Fri 47, 15 Down and Up BLOCKED 0115 to 0525 Sat 0030 to 0530 Tue to Fri	FREIGHT SERVICES DIVERTED VIA HOLYTOWN JN. NETWORK RAIL REQUIRE BIDDERS TO PREPARE A REVISED BID FREIGHT – BID FOR RETIMINGS

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LEVEL 2 TRAIN PLANNING

Network Rail
WESTERN

Rules of the Route 2010
Final Principle Rules and Preliminary Proposals for Subsidiary Change
Section 5 - Midweek Night Possession Plan Summary

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Date : 24 April 2009
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Route	At or Between	Week Numbers	Traffic Remarks
RELIEF LINES - EAST UP READING			
GW103	Paddington and Acton West	<p>19, 41, 43, 45, 47, 49, 51, 53, 02, 04, 06 1205 M-Th to 2010 T-F Platforms 9 and 10 and 0010 Tue to 0300 Tue 0010 W-F to 0510 W-F Platforms 7 to 14/Lines 4 to 6/Down and Up Relief BLOCKED and 0010 W-F to 0510 W-F Line 3 BLOCKED (Royal Oak to Ladbroke Grove ONLY)</p> <p>08, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36 0010 Tue to 0300 Tue 0010 W-F to 0510 W-F Platforms 7 to 14/Lines 4 to 6/Down and Up Relief BLOCKED and 0010 W-F to 0510 W-F Line 3 BLOCKED (Royal Oak to Ladbroke Grove ONLY)</p>	<p>NOTE:</p> <ul style="list-style-type: none"> Mon/Tue, route to be maintained to/from Marcon Yard. Can extend Line 3 into Paddington Platform 6 between 0030 and 0415. Block must be clear of Reception Line 1 and E&C Line to allow D455 to run to Acton West from GW110 (via Ladbroke Grove reverse).
GW103	Acton West and Southall East	<p>19, 41, 43, 45, 47, 49, 51, 53, 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36 0010 T-F to 0415 T-F Down and Up Relief BLOCKED</p>	<p>NOTE:</p> <ul style="list-style-type: none"> Mon/Tue, route to be maintained to/from Marcon Yard. Relief Lines across Acton West to be clear unless shown in Section 7. Relief Lines between OOC and West Ealing not to be taken concurrent with GW110 or LNW Chiltern route blocks.
GW103	Southall East and Stockley Bridge Jn (DR) / Southall West (UR)	<p>19, 41, 43, 45, 47, 49, 51, 53, 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36 1355 M-Th to 1520 T-F Down and Up Relief BLOCKED</p>	
GW103	West Drayton and Dolphin Jn	<p>19, 41, 43, 45, 47, 49, 51, 53, 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36 1205 M-Th to 1525 T-F Down and Up Relief BLOCKED</p>	<p>NOTE:</p> <ul style="list-style-type: none"> Down Reliefs to be available between Stockley Bridge Jn (Inc.) and West Drayton (Inc.). Up Relief to be available between West Drayton and Southall West Jn.
GW103	At Dolphin Jn	<p>41, 45, 49, 53, 04, 06, 12, 15, 20, 24, 28, 32, 36 0100 T-F to 0415 T-F Down and Up Relief BLOCKED and 1500 M-Th to 0650 Sat Down and Up Relief BLOCKED</p>	<p>NOTE:</p> <ul style="list-style-type: none"> Cannot block Dolphin Jn and Slough West concurrently unless shown in Section 7.
GW103	Dolphin Jn and Slough West	<p>19, 41, 43, 45, 47, 49, 51, 53, 02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36 0100 T-F to 0415 T-F Down and Up Relief BLOCKED</p>	

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LEVEL 2 TRAIN PLANNING

Network Rail
NAU Leeds
Anglia Route

Rules of the Route 2010
Final Principal Rules and Preliminary Proposal for Subsidiary Changes
Section 5 - Midweek Night Possession Plan Summary

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ANGLIA ROUTE - continued

Route	At or Between	Week Numbers	Traffic Remarks
EA1161/ EA1230	Stansted South Jn/ Stansted East Jn/ Royston and Ely Dock Jn/ Chippennyam Jn WA CYCLIC TYPE 2	39 (including Signals Prep for Cambridge A&B) 45 (including Signals Prep for Whittlesford)(not Tue night due to UTU running) 51 (including Signals Prep for Foxton) 04, 10, 16 (not Tue night due to UTU running), 22, 28, 34 Down and Up Cambridge/ Chord BLOCKED 2316 M Th to 0436 T F	AMENDED TRAIN PLAN STRUCTURE: ROAD TRANSPORT FOR NXEA/FCC SERVICES BETWEEN BISHOPS STORTFORD / HITCHIN AND ELY FROM 2345 UNTIL END OF SERVICE. ADDITIONAL STABLING REQUIRED AT BISHOPS STORTFORD. CROSS COUNTRY 5K51/2K51 TO BE REPLACED BY ROAD TRANSPORT. UP TO AND INCLUDING WEEK 02, 1E66 AND 4L63 TO BE DIVERTED VIA IPSWICH. NO ISOLATIONS ALLOWED THAT AFFECT BISHOPS STORTFORD OR CAMBRIDGE CARRIAGE SIDINGS. Possession to be split if possible at the TOC/FOC DFPP meeting to allow access to Audley End (from the London direction and Cambridge platforms 5 and 6 from the country direction) These cyclics must align with LNE cyclical maintenance possessions between Hitchin (Cambridge Jn) & Meldreth. Hitchin & Tottenham Hale depots to liaise on possession limits at Royston.



SCOTLAND TERRITORY

ROUTE NO.	SECTION	SPEED	DISTANCE	MAX PERMITTED TIME LOST		REMARKS
				Passenger	Freight	
SC001	Zonal Boundary and Carstairs (1.1 to 1.7)	Down direction 1 x 40mph Up direction 1 x 40mph	880 yards 880 yards	2 mins 2 mins	4 mins	TSR(s) must not exceed Maximum Permitted Time Lost allowed. Please note the 4mins for Freight (both Up and Down directions) is to be applied between Zonal Boundary and Eglinton Street Jn.
SC001	Carstairs and Eglinton Street Jn (1.8 to 1.16)	Down direction 1 x 40 mph or 1 x 20 mph Up direction 1 x 40 mph	1100 yards 660 yards 200 yards	1 min 1 min	4 mins	TSR(s) must not exceed Maximum Permitted Time Lost allowed. Trains from Lanark and Motherwell to Finnieston East Jn in each direction must not encounter more than one TSR. Trains from Glasgow Central to Edinburgh (via Shotts) in each direction must not encounter more than two TSRs. TSR must not conflict with a TSR in operation between Carstairs and Haymarket East Jn or Rutherglen East Jn and Langloan Jn. For Argyle Line EMU services an allowance of 5% is included in the SRT's.
SC003	Carstairs and Haymarket East Jn (2.1 to 2.3)	Down direction 1 x 40 mph or 1 x 20 mph Up Direction 1 x 40 mph Or 1 x 20mph	1320 yards 660 yards 1320 yards 660 yards	2 min 2 min	4 mins	TSR(s) must not exceed Maximum Permitted Time Lost allowed. Trains from Glasgow Central to Edinburgh (via Shotts) in each direction must not encounter more than one TSR. TSR must not conflict with a TSR in operation between Carstairs and Eglinton Street.
SC007	Midcalder Jn and Holytown Jn (4.1 and 4.2)	1 x 20 mph	1100 yards	2 mins	4 mins	TSR(s) must not exceed Maximum Permitted Time Lost allowed. Trains from Glasgow Central to Edinburgh (via Shotts) in each direction must not encounter more than one TSR.

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Network Rail
Scotland Route

Rules of the Route - Section 7
Version 3.0

Data freeze: ROTR_2010_V3.0
Previous freeze: ROTR_2010_V2.0

Week 42

Possession Ref	LOR	Possession Location from	Possession Location to	Blocked Line	Protection Type	Start	End	Traffic Remarks	Work Type
P2009/1150787	SC001	Glasgow Central	Glasgow Central	Platform 12	BLOCKED T3	25/12/09 0001 Fri	02/04/10 2359 Fri (2376 hrs)	CONTINUED IN WON 1 (P2010/1181027) FROM 0001 SATURDAY 2/4/10 TO 0700 SUNDAY 2/5/10. CONTINUOUS BLOCK OF PLATFORM 12 FROM 0001 FRIDAY 25/12/09 TO 0700 SUN 2/01/10. SERVICES TO BE RE-PLATFORMED	W2009/2276936 Major Projects 0m 0yds and 0m 0yds
P2009/1113645	SC021	Colnless	Garnkirk Jn	Single	BLOCKED T3	21/11/09 0015 Sat	15/02/10 0530 Mon		W2009/2298877 Structures Work 0m 198yds and 15m 638yds
P2009/1150180	SC111	Newbridge Jn	Bathgus	East/West LMD Line Down Up	BLOCKED T3	09/01/10 0015 Sat	11/01/10 0615 Mon (54 hrs)	FIRST SCOTRAIL SATURDAY EDINBURGH WAVERLEY/BATHGATE/NEWCRANKHALL SERVICES. NOT OPERATING TO BATHGATE. SERVICE OPERATING. SUNDAY EDINBURGH WAVERLEY/BATHGATE SERVICES WITHDRAWN. ***TRAFFIC REMARKS NEED UPDATING***	W2009/2275631 Major Projects 2m 700yds and 35m 0yds W2009/2291878 Major Projects 2m 700yds and 35m 0yds
P2009/1150172	SC191	Inverkeilor SB	Scanehaven	Up Down Single	BLOCKED T3	09/01/10 0030 Sat	11/01/10 0515 Mon (53 hrs)	FIRST SCOTRAIL SERVICES TO/FROM ABERDEEN AND DYCE TERMINATE/START AT DUNDEE. 1A25, 0440 SAT EDINBURGH/ABERDEEN AND 1816, 2142 SUN ABERDEEN/EDINBURGH SLEEPER SERVICES TERMINATE/START AT DUNDEE. NXE/C/CROSSCOUNTRY: SERVICES TO/FROM ABERDEEN TERMINATE/START AT DUNDEE. DRS: GRANGEMOUTH/ABERDEEN/GRANGEMOUTH SERVICES WITHDRAWN. DBS: SERVICES WITHDRAWN ENGINEERING TRAINS IN POSSESSION	W2009/2275623 C71 S&C-Complete Renewal RT60/NR60 204m 1730yds and 219m 1208yds W2009/2281357 Earthwork 220m 1089yds and 220m 1607yds W2009/2281364 Earthwork 28m 1228yds and 29m 1087yds W2009/2298161 Permanent Way Inspection 23m 255yds and 29m 1087yds
P2009/1153348	SC191	Comperdown Jn	Carnoustie	Up Down	BLOCKED T3	09/01/10 0100 Sat	11/01/10 0530 Mon (52 hrs)	FIRST SCOTRAIL SERVICES TO/FROM ABERDEEN AND DYCE TERMINATE/START AT DUNDEE. 1A25, 0440 SAT EDINBURGH/ABERDEEN AND 1816, 2142 SUN ABERDEEN/EDINBURGH SLEEPER SERVICES TERMINATE/START AT PERTH. NXE/C/CROSSCOUNTRY: SERVICES TO/FROM ABERDEEN TERMINATE/START AT DUNDEE. DRS: GRANGEMOUTH/ABERDEEN/GRANGEMOUTH SERVICES WITHDRAWN. DBS: SERVICES WITHDRAWN	W2009/2281358 C11 Retail Resleeper Reballast-Trax 0m 529yds and 10m 961yds W2009/2298263 Permanent Way Inspection 0m 529yds and 10m 961yds

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LEVEL 2 TRAIN PLANNING

Network Rail
Scotland Route

Rules of the Route - Section 7
Version 3.0

Data freeze: ROTR_2010_V3.0
Previous freeze: ROTR_2010_V2.0

Week 43

Possession Ref	LOR	Possession Location from	Possession Location to	Blocked Line	Protection Type	Start	End	Traffic Remarks	Work Type
P2009/1150787	SC001	Glasgow Central	Glasgow Central	Platform 12	BLOCKED T3	25/12/09 0001 Fri	02/04/10 2359 Fri (2376 hrs)	CONTINUED IN W/ON 1 (P2010/1181027) FROM 0001 SATURDAY 3/4/10 TO 0700 SUNDAY 2/5/10. CONTINUOUS BLOCK OF PLATFORM 12 FROM 0001 FRIDAY 25/12/09 TO 0700 SUN 2/05/10. SERVICES TO BE RE-PLATFORMED	W2009/2274936 Major Projects 0m 0yds and 0m 0yds
P2009/1113645	SC021	Coltness	Garnhiatt Jn	Single	BLOCKED T3	21/11/09 0015 Sat	15/02/10 0530 Mon		W2009/2298877 Structures Work 0m 198yds and 15m 638yds
P2009/1150181	SC111	Newbridge Jn	Bathgate	Up East/West LMD Line Down	BLOCKED T3	16/01/10 0015 Sat	18/01/10 0615 Mon (54 hrs)	FIRST SOOTRIL: SATURDAY EDINBURGH WAVERLEY/BATHGATE/NEWCRAIGHALL SERVICES. NOT OPERATING TO BATHGATE SERVICE OPERATING. SUNDAY EDINBURGH WAVERLEY/BATHGATE SERVICES WITHDRAWN. ***TRAFFIC REMARKS NEED UPDATING***	W2009/2275632 Major Projects 2m 700yds and 35m 0yds W2009/2291879 Major Projects 2m 700yds and 35m 0yds
P2009/1185749	SC191	Camperdown Jn	Carnoustie	Down Up	BLOCKED T3	16/01/10 0100 Sat	18/01/10 0530 Mon (52 hrs)	FIRST SOOTRIL: SERVICES TO/FROM ABERDEEN TERMINATE/START AT DUNDEE. 1816, 2142 SUN ABERDEEN/EDINBURGH SLEEPER SERVICE STARTS AT DUNDEE. NXE/C/CROSSCOUNTRY: SERVICES TO/FROM ABERDEEN TERMINATE/START AT DUNDEE DRE: GRANGEMOUTH/ABERDEEN/GRANGEMOUTH SERVICES WITHDRAWN. D&S: SERVICES WITHDRAWN.	W2009/2281072 C15 Drainage Only 2m 152yds and 3m 800yds W2009/2247179 Track Maintenance 0m 1518yds and 10m 730yds W2009/2274053 C11 Rerail Resleeper Reballast-Track 0m 529yds and 10m 961yds
P2009/1150165	SC191	Inverkeilor SB	Stonehaven	Down Up Single	BLOCKED T3	16/01/10 0030 Sat	18/01/10 0515 Mon (53 hrs)	FIRST SOOTRIL: SERVICES TO/FROM ABERDEEN AND DYCE TERMINATE/START AT DUNDEE. 1A25, 0440 SAT EDINBURGH/ABERDEEN AND 1816, 2142 SUN ABERDEEN/EDINBURGH SLEEPER SERVICES TERMINATE/START AT DUNDEE. NXE/C/CROSSCOUNTRY: SERVICES TO/FROM ABERDEEN TERMINATE/START AT DUNDEE DRE: GRANGEMOUTH/ABERDEEN/GRANGEMOUTH SERVICES WITHDRAWN. D&S: SERVICES WITHDRAWN ENGINEERING TRAINS IN POSSESSION	W2009/2275622 C71 SSC-Complete Renewal RT60/HR60 204m 1730yds and 219m 1208yds W2009/2281355 C11 Rerail Resleeper Reballast-Track 203m 1100yds and 204m 423yds W2009/2281359 Earthwork 220m 1089yds and 220m 1807yds W2009/2281262 Earthwork 28m 1218yds and 29m 1087yds

ENGINEERING PLANNING & TIMETABLING

OVERVIEW

The aim of Engineering Planning is to **MAXIMISE** engineering opportunities and to **MINIMISE** the inconvenience to customers and passengers.

Remember when we talk about Train Operators we include both passenger and freight operators along with their own customers in turn.

Network Management

- Network Rail is charged with the management of the railway network, by the Government, by means of a set of conditions in the Network Licence.
 - Condition B7 of the "**Network Licence**" requires Network Rail to provide a network which satisfies the '**Reasonable Requirements**' of those who provide '**Railway services**'. It is necessary to provide an annually updated Business Plan covering the next 10 years (*Condition B7.4*).
 - Condition B24 of the "**Network Licence**" requires Network Rail to maintain a register of all relevant assets including details of their condition.
- There is now general acceptance that the single biggest flaw of rail privatisation was that the network was maintained by separate Infrastructure Maintenance Companies who were all pursuing a very different agenda to achieve the same purpose.
- As a regulated company, the income is under the control of the Office of Rail Regulation who determine the revenue requirements (*income*) needed to fund the OMR (*Operations, Maintenance and Renewal*) plans.
- Early Regulation of the Rail Industry was based on a formula, which assumed that Railtrack was able to both reduce its costs each year and increase the revenue. This quickly led to a situation where it was increasingly unable to maintain the basic fabric of the network. Access time for maintenance fell and Railtrack found itself running ever faster just trying to maintain the status quo.

Operations, Maintenance and Renewal [OMR]


Operational **Control** of the network falls into two quite distinct activities – signalling and control. In many parts of the county signalling is still undertaken in the traditional manner with signallers working shifts in signal boxes. More modern installations are based on computer technology and may include a 'control' function. Increasingly, however we recognise the benefits from having the Network Rail and the Train Operators control organisation co-located. Controls are generally responsible for all aspects of Very Short Term Planning [VSTP] for last minute requests for new or amended access.

Maintenance

Rails - Traditionally rails were cast in 60-foot lengths and bolted together with a pair of plates and 4 bolts. These had to be removed and greased. Rails need adjusting, as they tended to 'creep' forward. Modern rails are still cast in 60-foot lengths but are welded together and delivered to site in 600' lengths. Once installed, they are welded into 6000' sections. To control expansion and contraction during extremes of heat rails must be stressed using hydraulic rams.

Points - Although we refer generically to "Points". They are a combination of Switches and Crossings (S&C for short). Although most crossings are fixed, on higher-speed lines the nose of a crossing is designed to swing as if it were a switch. There are very rigid regimes covering point maintenance. **Equipment** - Many basic maintenance activities require mechanical equipment. Where this cannot be provided then gangs of men must be provided with additional lookout protection.

Mechanised Maintenance - This is achieved using a fleet of specialised equipment - Stoneblowers (which inject fresh ballast into the formation) and Tampers (which consolidate the ballast). With the former, 1 ton of fresh ballast is carried by the Stoneblower; with the latter, fresh ballast must be dropped first. The method of achieving this has hardly changed over the years. Failure to maintain a firm foundation with good shoulders quickly leads, in very hot weather, to track buckles.



Ice – In the third rail (DC) area, during the winter months, it is necessary to spray the conductor rail with anti-freeze using special de-icing trains (**Snow & Ice**). In the overhead area (AC) there may be a need to run light locomotives through the night to prevent the build up of icicles (**Ice-Maidens**).

Autumn – The impact of train wheels on autumn leaves a fine coating, not dissimilar to Teflon, on the railhead. Special trains spray **SANDITE** (a mixture of wallpaper paste, sand and iron filings). Traditional purpose built trains are being replaced by Multi-Purpose Vehicles which can be adapted to many maintenance and light freight roles.

Structures – Bridges come in all shapes and sizes; generally the bigger they are the more complex their care and maintenance. Sometimes it is easier to undertake a complete replacement by building it alongside the line and then one weekend pushing it into place. On others the basic structure is still sound after 150 years and all that is required to keep it in first class order for another 20/30 years is for it to be refurbished.

Renewals

Ballast Cleaning – Although it sounds as if it were a maintenance activity, Ballast Cleaning (or MBC) is part of the renewal process. Ballast cleaning machine digs out the existing ballast, removes all the small (broken) material and returns large ballast back to the track. It can then be augmented by fresh ballast, prior to the track formation being renewed.

Track Renewals – The alternative to Ballast Cleaning is to remove all or part of the ballast formation. To do this, the track is completely removed using a crane and JCB type excavators brought in to remove the ballast. Fresh ballast is dropped from an adjacent line and levelled using bulldozers working to a laser alignment. New panels of track can then be laid by crane or new (usually steel) sleepers laid. Previously dropped long lengths of rail can then be manoeuvred into place.

- **Business Plan**

- Allows a Company to plan its future:
 - Traffic growth
 - Tackling known problem areas
- Smooths out investment profiles.
- Sets out how to control and reduce the OMR costs
- Provides confidence to funders

- **Local Output Statements**

- Commits the delivery of a level of **Performance Output** for each franchised train operator
- Requires Network Rail to work with train operators to develop improvement initiatives (Instrumental in gaining better maintenance access in some areas)

- **OMR Plans**

- Route Directors responsible for operational costs
 - Operational Planning is treated as if it were a 'Route'
- Territories responsible for all Maintenance and Renewals costs, supported by
 - Work activity plans
 - Investment programmes
 - Outline possession plans

- **Asset Management Planning**

- Territory Business Plans - produced by Asset Category
 - Track, Signalling, Structures, Power and Plant
 - Use of "Guide to Railway Investment Projects" [**GRIP**]
- Annualised Work Plan - produced by Territory Delivery Planning Units
 - Up to two years in advance
 - Data compiled using "Possession Planning System" [PPS]
- Annualised Access Plan - produced by the Network Access Unit [**NAU**] and Strategic Access Planning [**SAP**]

Strategic Planning Process in Practice

- Territory Delivery Planning Teams produce an Annual Work Plan
 - GRIP approved items from the Business Plan
 - M&R

- Major Projects
- Annual Plan – Used to populate Possession Planning System [**PPS**] (future link into **TRAINPLAN**)
- Rules of the Route
 - Consulted in accordance with Condition D of the Network Code.
 - Drawn up by Network Access Unit based on the Annual Access Plan
 - Identifies possession opportunities, Temporary Speed Restrictions and is the register for all disruptive possessions.

Schedule 4

- Requirement to compensate passenger train operators when possessions taken which impact on a TOCs "**Firm Contractual Rights**"
- Complex process of whole timetable comparison managed by the Compensation team using S4CS
- Discounts, based on advanced notification of the possession, can be as great as 80%
- Can be very expensive, if it is wrong or minds are changed

Disruptive Possessions

It is important that you understand the meaning 'Disruptive Possession'. Any engineering maintenance or renewals work (involving either Track or Structures), which impinges upon the running of any train service, is deemed to be 'Disruptive' and the information is vital to Operational Planners when putting the timetable together.

NAU Responsibilities

- Possession strategy negotiations with our Customers.
- Ownership of Rules of the Route
- Resolution of differences of conflicting demands, e.g. Train Operator, RPDU, etc.
- Co-ordination of North/South and East/West cross-country access plans
- Manage our relationship with the Office of Rail Regulation for all changes to disruptive possession plans and timetables

Engineering Planning and the Informed Traveller

- Condition **A3** of the “**Network Licence**” requires Network Rail to provide access to information . . . all such changes to the national timetable . . . 12 weeks prior to the date such changes is to have effect. Amended train details are passed to Retail and Customer information services at T-10 to enable seat reservations

Informed Traveller Process

- T-26 weeks is the confirmation of the disruptive possession plan. (in 4 weekly chunks as the Confirmed Period Possession Plan).
- T-18 Bids from Train Operators.
- T-14 Offers back to Train Operators.
- T-12 Upload to TSDB.
- **Late possession requests – processed by Area Delivery Planning Teams/Network Access Unit**
 - Disruptive possessions after T-26.
 - Non-disruptive possessions after T-8.
 - Changes to possessions after T-5.
 - Detailed safety, performance or business justification required.
 - Reason why work cannot be planned into normal timescales.
 - Authorised signatures. (Route Director)

Challenges in Engineering Planning

- Late changes to the possession plan.
- Robustness of the plan (Schedules 4 & 8).
- Inter-regional issues including consistency of train planning approaches.

Weekly Operating Notice (produced by NAU team)

- A - Temporary Speed Restrictions
- B - Engineering Arrangements
- C - Signalling and Permanent Way alterations
- D - General Instructions & Notices

WON (Section A) - Temporary Speed Restrictions

- Details of lines affected (miles and chains)
- Shows permitted speed
- Gives reasons e.g. condition of track, condition of bridge etc
- Warning Boards
- Time Lost estimate

WON (Section B) - Engineering Arrangements

- Details of contractor (e.g. Balfour Beatty)
- Times, place of work (days, hours, miles and chains)
- Type of work e.g. overhead, track, station platform resurfacing etc
- Protection Limits, Isolating Electrical Sections

WON (Section C) - Signalling & PWay alteration

- Signals removed, altered, re-positioned etc
- Shortening of platforms
- Junction and crossover limitations, adjustments etc
- Prohibited lines due to track condition etc

WON (Section D) - General Instructions & Notices

- Sectional Appendix Changes
- Telephone numbers for key staff e.g. Police, Control
- Special arrangements e.g. scaffolding, excavations etc at stations/signal boxes.
- Operating publication amendments.

WON Distribution

- Hard copy.
- Electronic (may be interrogated using PPS)

Late possession requests – processed by ADPM/NAU

- Disruptive possessions after T-26.
- Non-disruptive possessions after T-8.
- Changes to possessions after T-5.
- Detailed safety, performance or business justification required.
- Reason why work cannot be planned into normal timescales.
- Authorised signatures.

Challenges in Engineering Planning

- Relationships with other Operational Planners.
- Relationships with Customers and Suppliers.
- Late changes to the possession plan.
- Robustness of the plan (Schedule 4).
- Publication and/or Electronic WON.
- Inter-regional issues including consistency.
- Rule Changes.
- PPS.
- New computer systems.