West of Exeter Route Resilience Study

# West of Exeter Route Resilience

**Presentation of Study** 

15 July 2014

**NetworkRail** 



## Background...

The railway between Exeter and Newton Abbot was badly hit by the abnormal weather conditions seen in February 2014, which resulted in:

- The catastrophic destruction of the Dawlish Sea Wall
- Suspension of passenger and freight services to the South West peninsula
- A £40 to £45 million impact on the railway industry and a still to be quantified impact on the local economy





## Zones of vulnerability...



A better railway for a better Britain



#### We continue to live with effects of Winter 2014....





#### We continue to live with effects of Winter 2014







# " to assess options for a resilient railway"



# Scope of the study...

The study evaluated:

- The cost effectiveness and value for money of the options to deliver a sustainable alternative route
- The opportunities to deliver improved journey times between Exeter St Davids and Newton Abbot
- The constructability and resilience of each proposed option assuming the existing route as fully restored and operational

NetworkRail

# **Option 1**

- > The Base Case of maintaining the existing railway
  - Requires annual expenditure on sea wall and cliff maintenance
  - Plus expenditure approximately every five years to recover from an incident such as cliff collapse
- During Control Period 5 (2014-2019) there are a number of committed schemes aimed at increasing the resilience of the railway to severe weather events on the Western Route including:
  - Whiteball Tunnel
  - Cowley Bridge
  - Staffords Bridge



# **Option 2**

- > Further strengthening the existing railway from Exeter to Newton Abbot would:
  - reduce the potential for geo-environmental and climactic events to disrupt the railway
  - improve the ability of the infrastructure to recover from events
- Long delivery timescales over approximately four five-year Control Periods due to:
  - High costs of the works
  - Difficult site access
  - The requirement to maintain train services
- > Works would be prioritised on the basis of risk and impact



# **Option 3 (Alternative Route A)**

- Reconstruction of the former London & South Western Railway route from Exeter to Plymouth via Okehampton.
- The reinstated railway would use the original alignment throughout.
- A double track railway would be provided for the whole length.





## **Option 4 (Alternative Route B)**

- A new double track railway on the alignment of the former
  GWR Teign Valley route from
  Exeter to Newton Abbot
- The proposed route lies within a major flood risk area
- Mitigating the impact of the new railway on flood water behaviour may not be possible due to the local topography





### **Option 5 (Alternative Routes C1 to C5)**

- Alternative Routes C1 to C5 provide five potential new routes between Exeter and Newton Abbot
- The five alternative routes capture all reasonable alignments capable of a 125mph design speed
- All alternative routes will mostly traverse open country at the north end and in tunnel at the south end





# **Summary of Option 5**

Alternative Route	Route Definition	Impact on through journey time (minutes)
C1	Alphington to Ware Barton	-5
C2	Exminster to Ware Barton	-6
C3	Exminster to Ware Barton	-6
C4	Exminster to Bishopsteignton	-5
C5	Dawlish Warren to Bishopsteignton	-3



# **Summary of options**

Option	Estimated cost at 2014 cost base including contingency (£m)	BCR
Option 1	0.8 per annum + 5 every 5 years	N/A
Option 2	398-659	N/A
Option 3	875	0.14
Option 4	470	0.29
Option 5 - (C1)	3,100	0.08
Option 5 - (C2)	2,510	0.12
Option 5 - (C3)	2,250	0.13
Option 5 - (C4)	1,560	0.17
Option 5 - (C5)	1,490	0.15





This report will be treated as a material input to Network Rail's Long Term Planning Process:

- The report will be incorporated in the Western Route Study, a draft of which will be published for consultation later in 2014
- Options will also inform Network Rail's asset policies, civils review and longer-term strategy for Control Period 6 (2019-2024) and beyond

The report can be found on our website at – www.networkrail.co.uk/WestofExeterRouteResilienceStudy.pdf West of Exeter Route Resilience Study

