West of Exeter Route Resilience

Presentation of Study

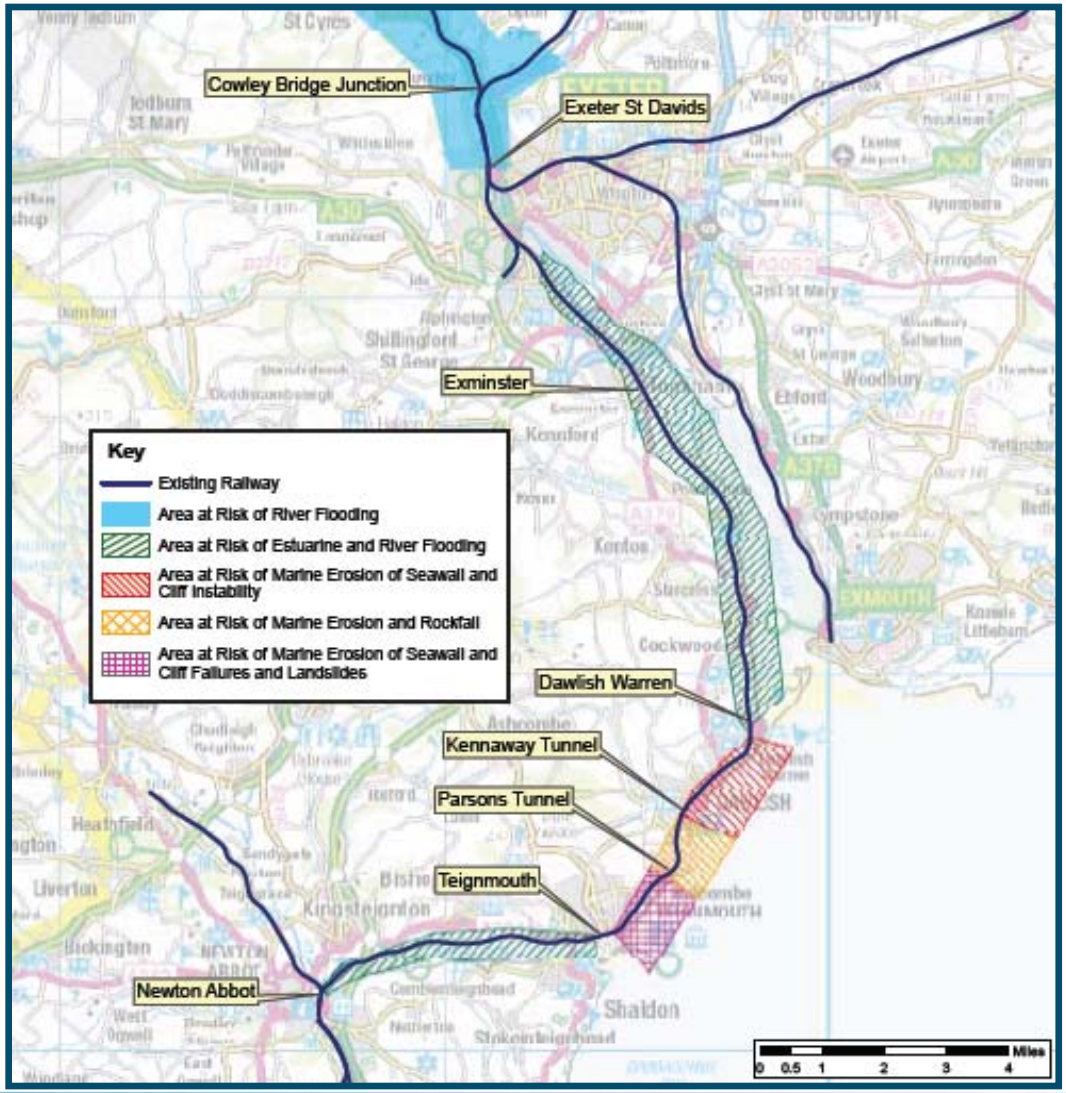
15 July 2014

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…



We continue to live with effects of Winter 2014….

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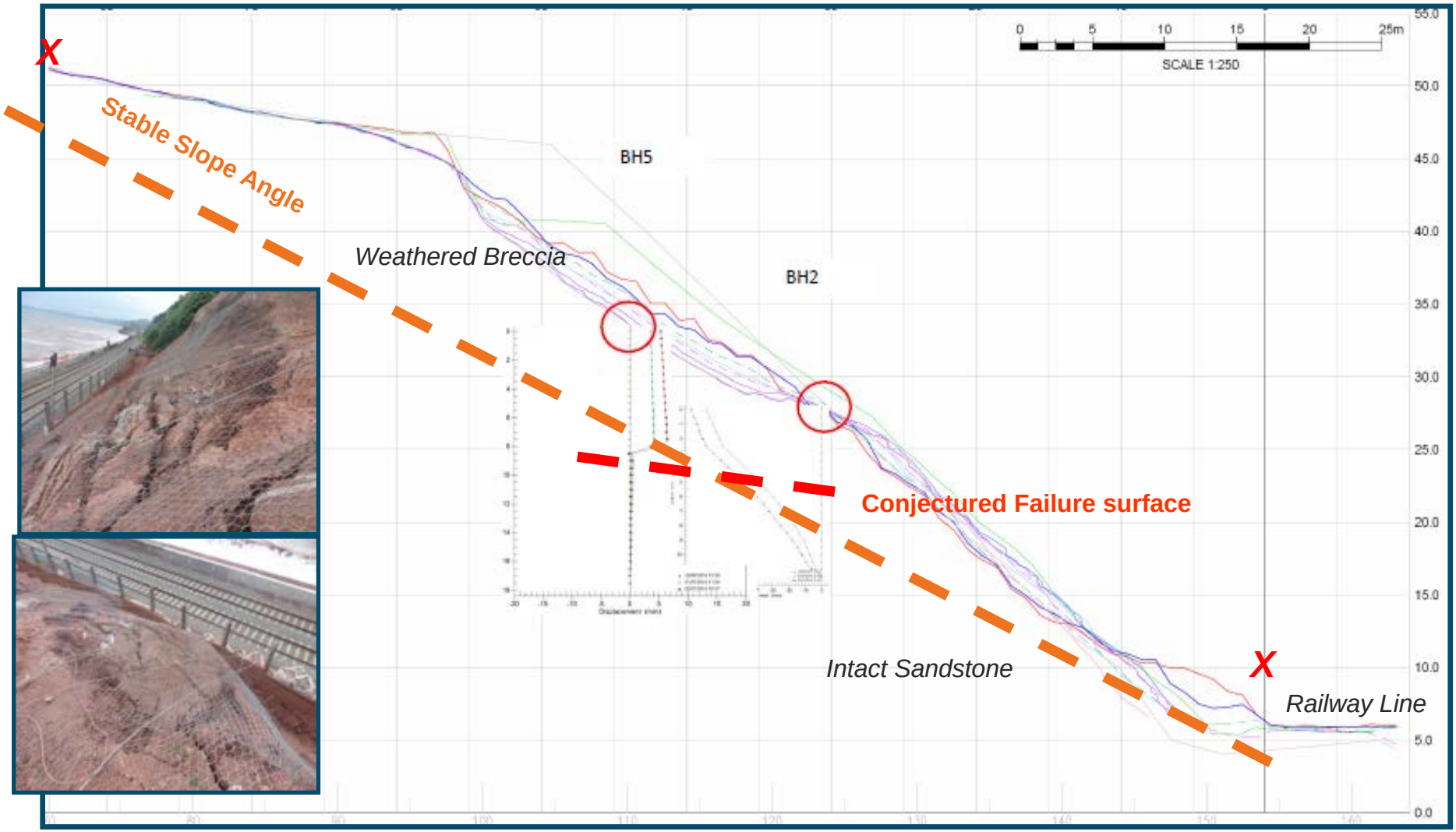


The remit...

“ 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

Option 1

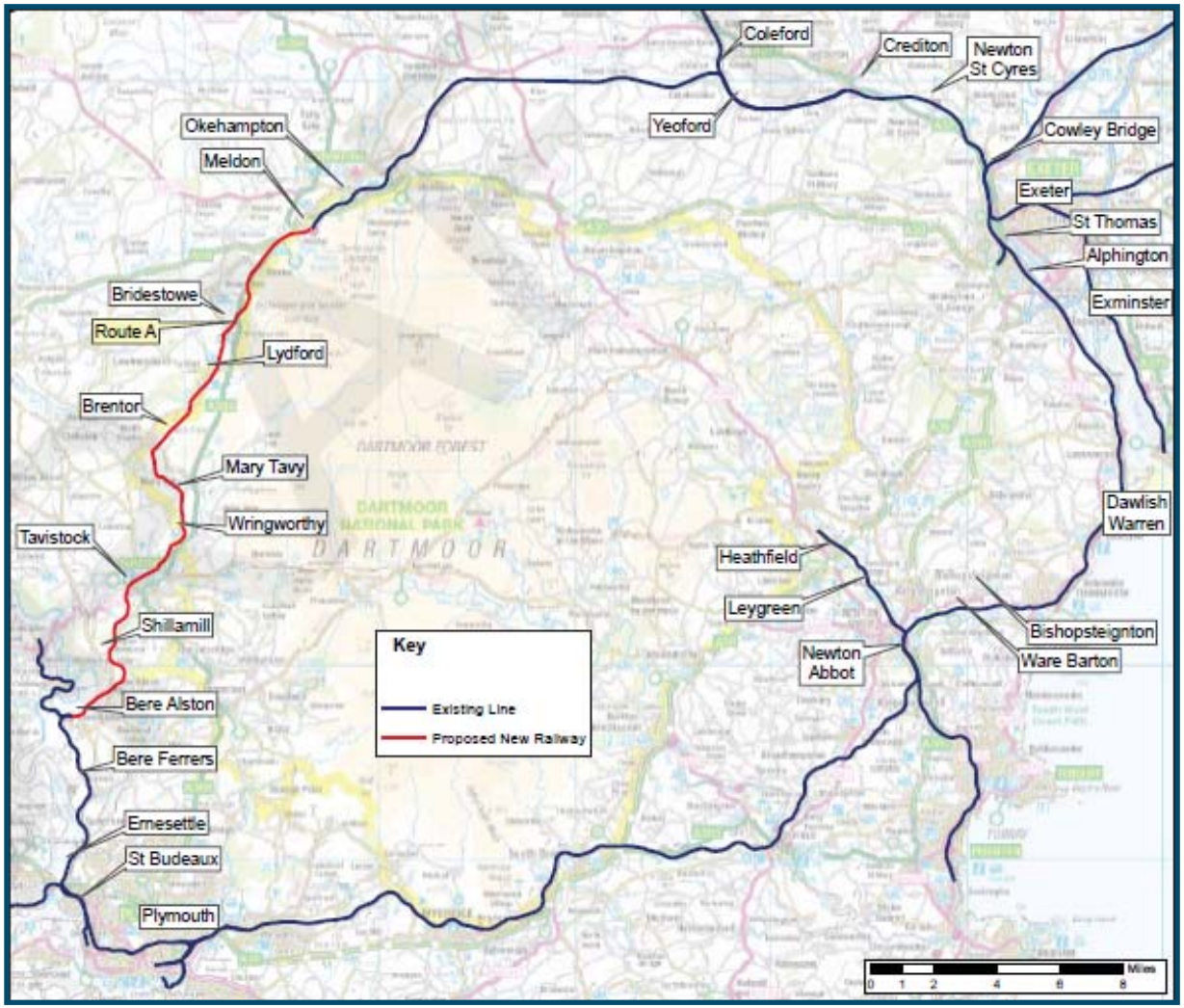
- The Base Case of maintaining the existing railway
  - Requires annual expenditure on sea wall and cliff maintenance
  - Plus expenditure approximately every five years to recover from an incident such as cliff collapse
- During Control Period 5 (2014-2019) there are a number of committed schemes aimed 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

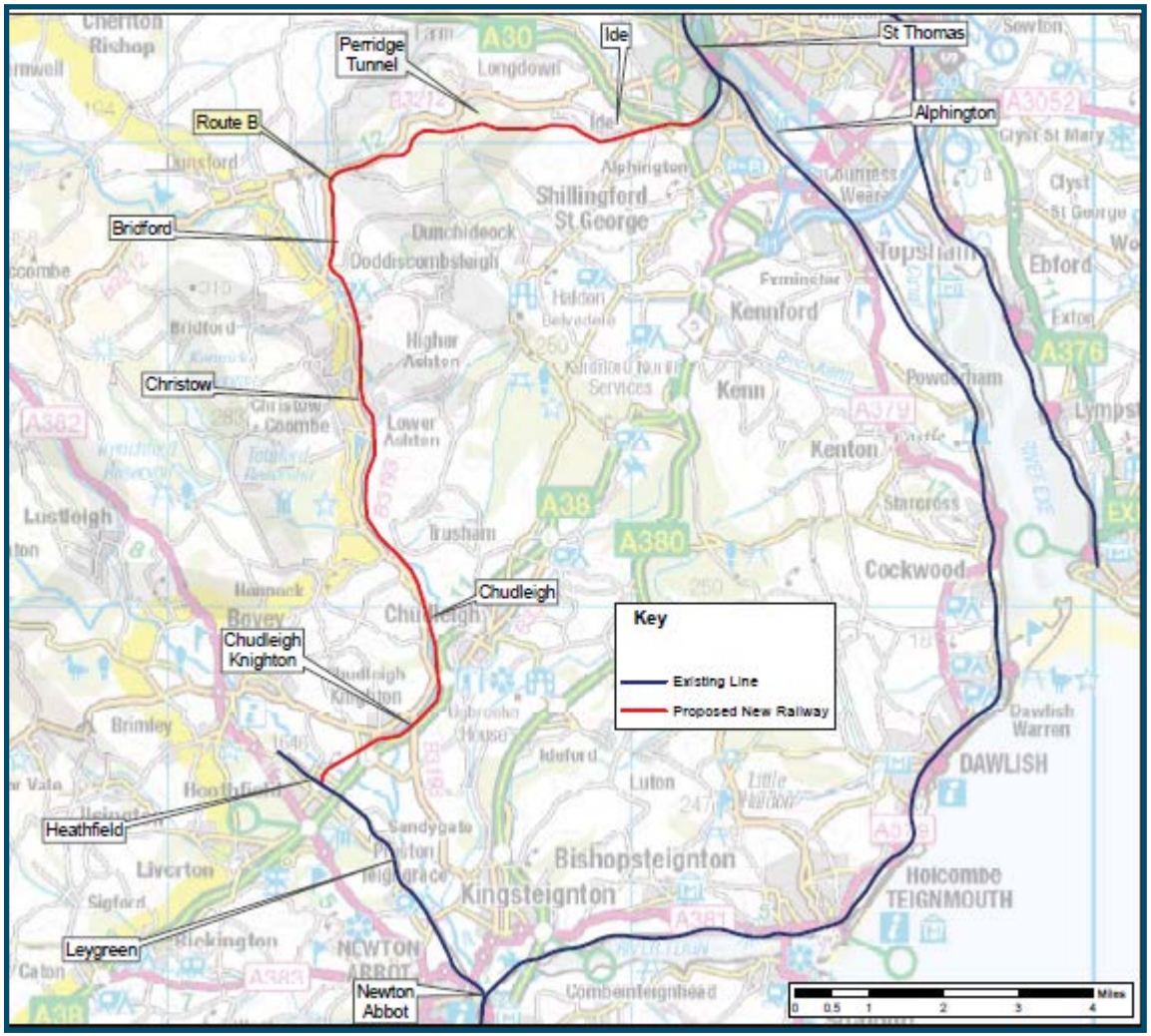
Option 3 (Alternative Route A)

- 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.



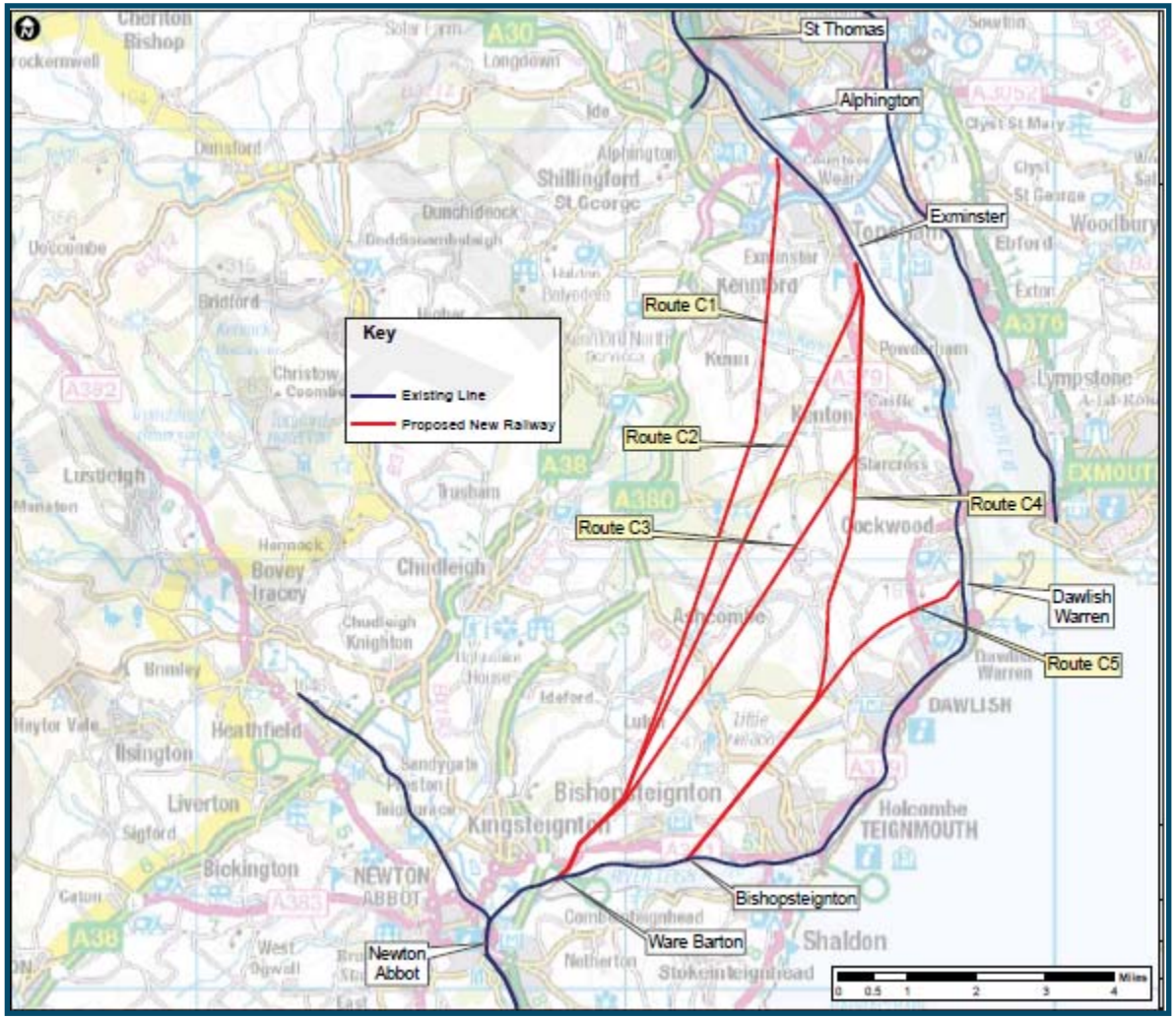
Option 4 (Alternative Route B)

- 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

Next steps…

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

Questions