

## Background

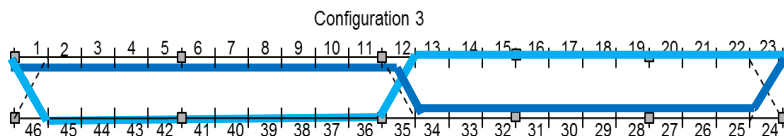
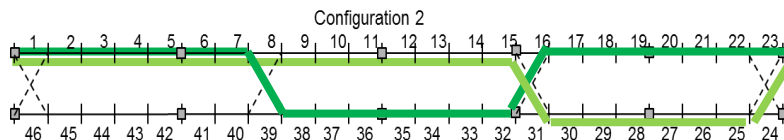
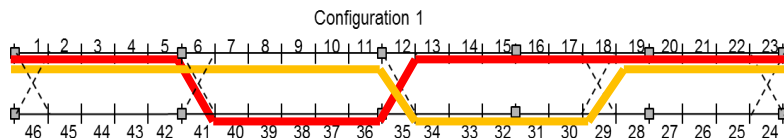
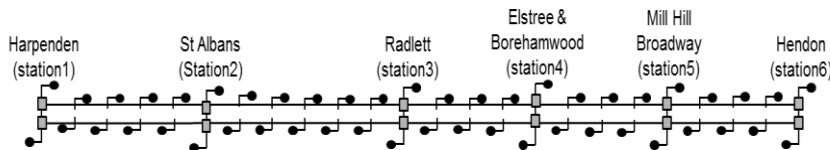
Stated aim of the UK railway to move towards 24/7 operation. This wears the components at a faster rate and at the same time removes the opportunity for preventative maintenance. The railway must be flexible to cope with failures and also allow maintenance to be undertaken during operation.

## Objective

Explore options in system structure, operation and maintenance to introduce the flexibility required for a fault tolerant railway.

## Maximise the pre-existing opportunities for redundancy:

- Two-way working lines
- Maintain the slow lines to the same standard as the fast lines
- Optimal location of points to increase flexibility



## Failure data example

Scenario	Id	Section	Time to repair	Compensating action
(a)	Track Circuit	10	1 hour	Closing section
(b)	Track Circuit	17	1 hour	Closing section

## Simulation results

Configuration	Delay (sec)
(1)	562
(2)	1211
(3)	1394