

## Appendix E: New South Tottenham Junction Margin derivative, proposed in Version 2 of the Dec 26 TPRs

### The value proposed:

South Tottenham		
Junction Margins		
First Movement	Second	Margin
Pass to Seven Sisters	Pass/Arrive from Harringay Green Lanes	4½
Pass to Seven Sisters	Arrive from Blackhorse Road/	4½
Pass to Seven Sisters	Pass from Blackhorse Road	6
Pass to Seven Sisters	Pass from Tottenham South Jn	5½
Pass from Seven Sisters to Blackhorse Road	Pass to Tottenham South Jn	4½
Pass to Blackhorse Road	Pass to Seven Sisters from Blackhorse Road	5
Pass to Blackhorse Road	Pass to Seven Sisters from Tottenham South Jn	4
Pass to Blackhorse Road	Pass from Seven Sisters to Tottenham South Jn	3½
Depart to Blackhorse Road	Pass to Seven Sisters from Blackhorse Road	4½
Depart to Blackhorse Road	Pass to Seven Sisters from Tottenham South Jn	4

### The calculations and operating conditions underpinning the value proposed:

Notably, all trains are reduced to 20mph or slower through South Tottenham Station.

#### **Proposed new South Tottenham Junction Margin derivative – 4 minutes 30 seconds**

##### **First movement: ‘Pass from Seven Sisters to Blackhorse Road’**

- The first movement is based on the front of the train passing South Tottenham from Seven Sisters to the rear of the train clearing the relevant track circuit for the points to reset. This has been calculated on the train travelling at 15mph and with a length of 650meters. The time taken is 2 minutes 16 seconds.

##### **Reset Time**

- This is the time required for the signalling system to reset, and points to move after the first train has cleared the point work. NR uses a standard value on Anglia Route of 7 seconds, this can however vary depending on the signalling system in use. This increases the time taken to 2 minutes and 23 seconds.

##### **Sighting time**

- A further 9 seconds for sighting is required for the second train to see the appropriate signal and pass this signal. This increases the time taken further to **2 minutes 32 seconds**.

##### **Second movement: ‘Pass to Tottenham South Jn’**

- A timing run on a stopping ARL service at South Tottenham shows the travel time of the second movement to be 1 minute 50 seconds from Signal 11
- Travelling at 30mph from Signal 11 to the 20mph speedboard, the travel time is 1 minute and 25 seconds
- Travelling at 20mph from the 20mph speedboard to South Tottenham Station is 12 seconds
- As such, the travel time is somewhere between **1 minute 37 seconds** and 1 minute 50 seconds

The above **red bold and underlined** values equate to **4 minutes 9 seconds** total and help explain the proposed Junction Margin derivative of 4 minutes 30 seconds.