

System Operator

West Sussex Connectivity Railfuture update

West Sussex Connectivity Study

- First of the Continuous Modular Strategic Planning studies, focussed on a smaller area than the previous Route Studies or Route Utilisation Strategies
- Stakeholders identified the 'Strategic Questions' in January 2019
- Baselining carried out and further definition of the Strategic Questions with stakeholders in August 2019

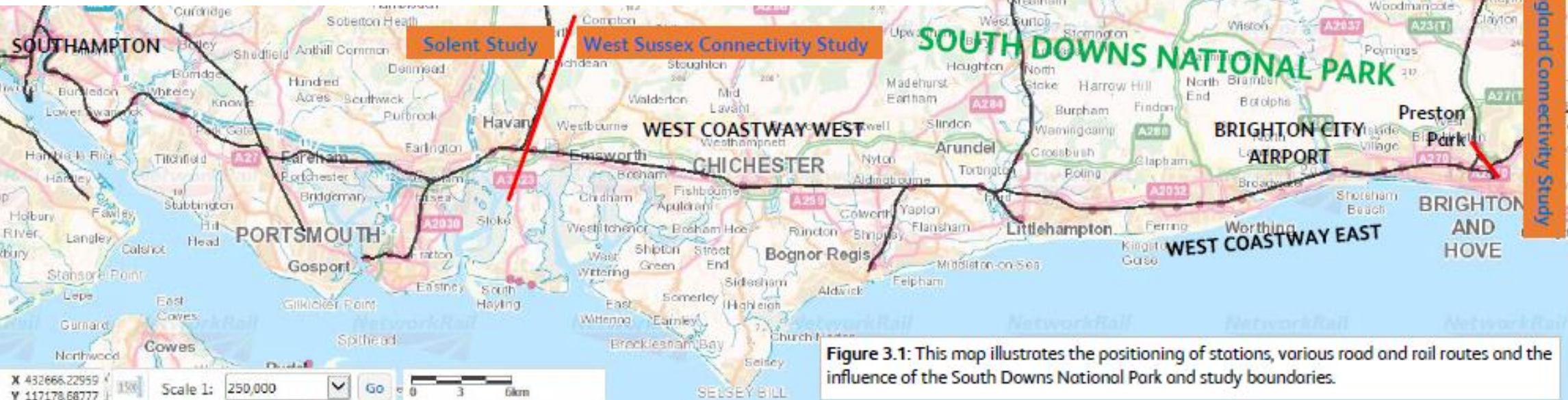


Figure 3.1: This map illustrates the positioning of stations, various road and rail routes and the influence of the South Downs National Park and study boundaries.

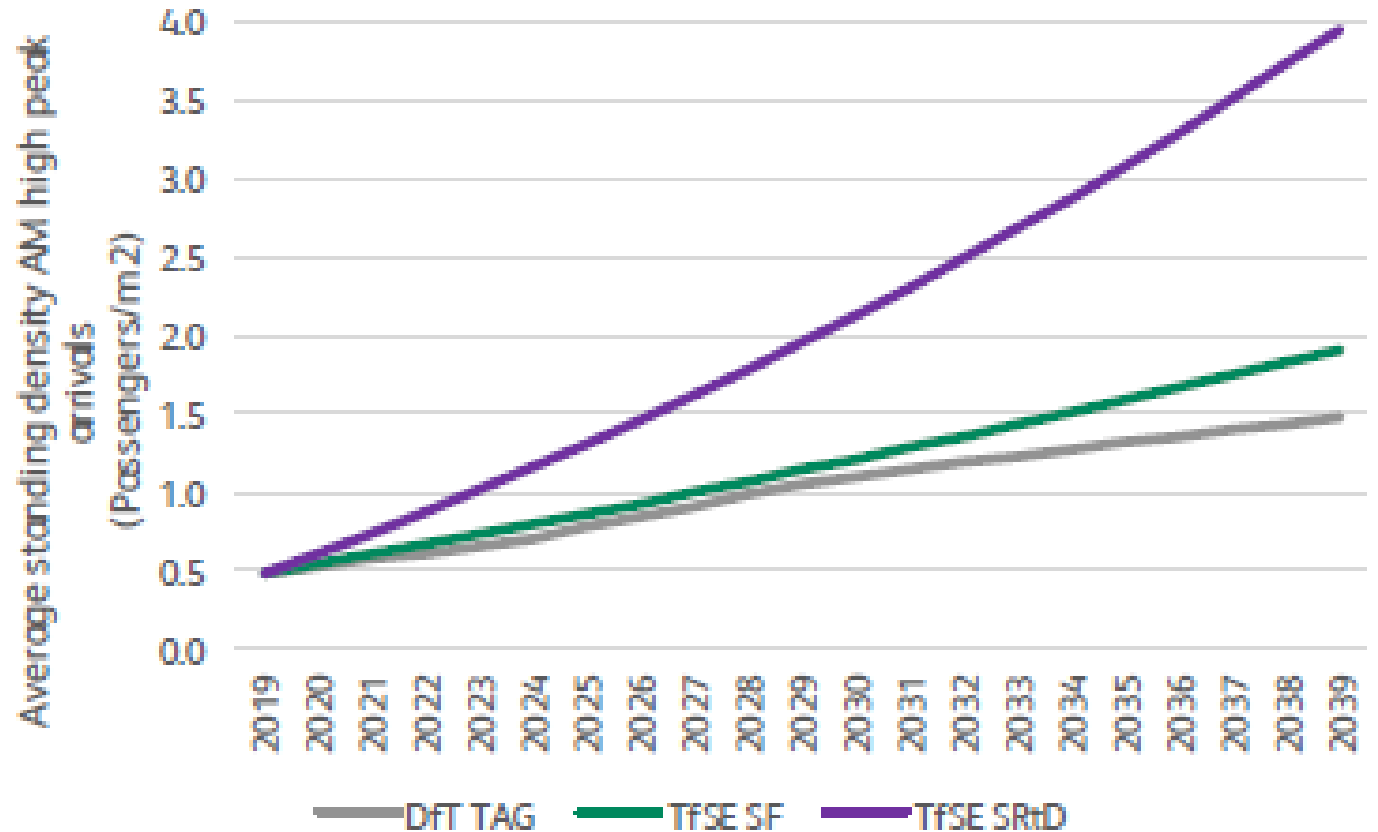
Strategic Questions

Strategic Themes	Strategic Questions	Sub-questions
Planning for Sustainable Growth	How best to respond to projected future increases in demand and the new housing planned across the region whilst contributing to decarbonisation?	1. Can the rail service accommodate current and projected demand at peak times whilst improving network reliability?
		2. How can rail support the delivery of substantial amounts of new housing?
Wider Transport Connectivity	How the railway links into other transport provision and what changes could be introduced to improve this?	3. Does the railway offer an opportunity to reduce congestion on key roads?
		4. How can access to the railway network be improved from other modes of transport?
Rebalancing the Economy	How can the network be improved for both local and long-distance journey time?	5. How best can the railway deliver local connectivity for shorter journeys in West Sussex?
		6. Can journey times be reduced for longer distance services and additional services beyond Southampton introduced?



Growth scenarios

- Identified three passenger growth scenarios:
 - DfT TAG (+24 % to 2039)
 - TfSE Sustainable Future (+35 % to 2039)
 - TfSE Sustainable Route to Growth (+84 % to 2039)
- Appraisals show the range across all three



Rolling stock requirements

- Average standing AM Peak density by growth scenario
- With the Class 313s at the end of their life, replacement trains of 4-car or more could cover the short-medium term growth
- Operating all trains (including the Class 377s) as 5- or more cars would support the high growth scenario in 2039

Average standing density in 2039 AM Peak	2/m ²	1/m ²	0.5/m ² (current)	0/m ² (no standing on average)
DFT TAG	0	2	5	8
TfSE SF	0	4	7	10
TfSE SRtG	7	13	16	21



Answering the Strategic Questions

- Extensive baselining and stakeholder discussions/interviews
- GTR produced a detailed report providing Train Service Specification with various service scenarios, the Study focuses on:
 1. Maximising today's infrastructure
 2. Small infrastructure enhancements
 3. Large Infrastructure enhancements
 4. Faster east-west trains with light rail or bus rapid transit replacing Brighton Metro services
 - A. Faster opportunities to/from London

Answering the Strategic Questions

- Network Rail Design Delivery worked up projects at a pre-GRIP level:
 - Platform extensions at stations where long trains call and foul the level crossing (Lancing, Goring-by-Sea, Angmering and Littlehaven)
 - Line speed improvements to 90 mph
 - Options for an additional platform or alterations to Platform 3 at Brighton
 - Fully reversible station at Worthing
 - Traction power supply capability for Class 313 replacements up to 6-cars

Non-RNEP Recommendations



Immediate interventions

- Replace the Class 313 units with modern Coastway-configured trains
- Introduce the train service specification which requires no additional rolling stock and infrastructure
- Advertise the last train from Brighton to Worthing
- Improve coastal connectivity by enabling faster journey times to Bognor Regis and Littlehampton from London through TSS and Class 377 changes



Further development in partnership with Transport for the South East

- Further development of train service specification options considering the following:
 - Improve east-west journey times
 - Consistent intervals within the timetable
 - Optimising the mix of long-distance and stopping services
 - Increasing the volume of services between Brighton and Southampton/Bristol
 - Encapsulating the recommendations of the Solent Study.
- Bus links from stations to out of town business parks and shopping areas with integrated bus and rail timetables
- Consistent approach to the options available for passengers to use other modes to connect to railway stations
- Improving connections from stations to the South Downs National Park
- Exploit the opportunities for improved cycle and walking routes to the station and the facilities at the station to make the interchange as easy as possible.



Further development in partnership with other stakeholders

- Third Party proposals for new stations on the Arun Valley Line
 - **Kilnwood Vale** (between Ifield and Faygate)
 - **Relocate Faygate** 800m towards London for Homes England West of Ifield development (illustrated)
 - **North Horsham** (between Faygate and Littlehaven)
 - **Kingswood, Adversane** (between Billingshurst and Pulborough)
- The focus will be on recommending the optimum location of any new station taking into account future housing provision, other transport connections, timetabling impact and investment required.



RNEP Recommendations



Progress to 'Decision to Initiate' at the appropriate time

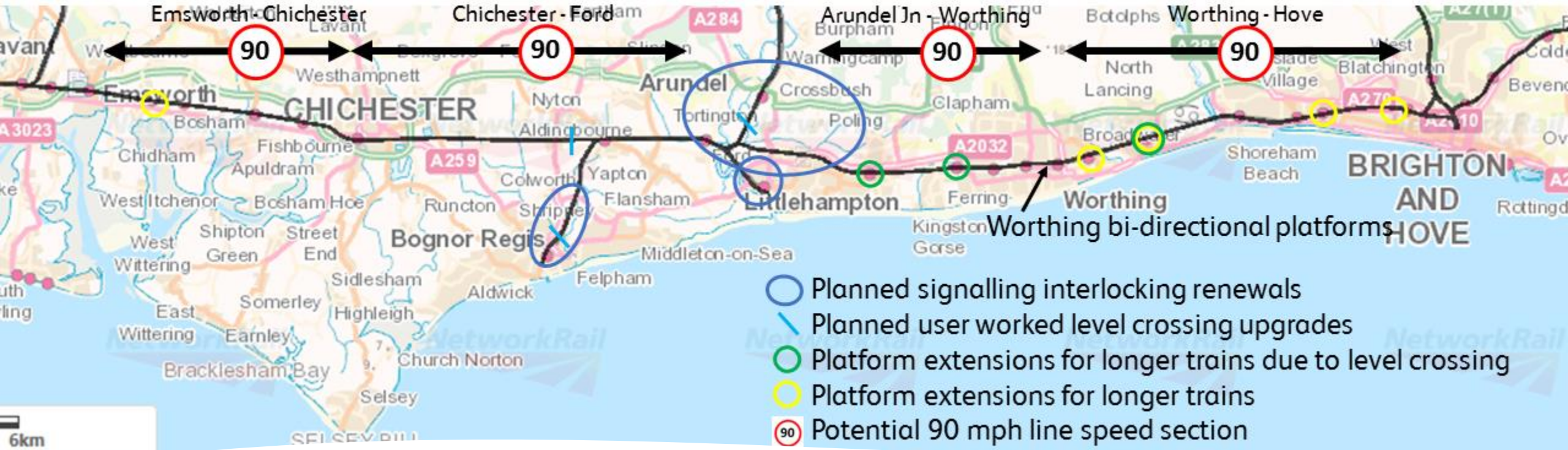
- Enable reduced level crossing down time by lengthening platforms that are too short for the longest trains
- Enable faster east-west journeys and improved service resilience via the following infrastructure projects:
 - Bi-directional working at Worthing station
 - Options for a new platform at Brighton station.
- Enable early/late trains between Horsham and Gatwick Airport



Probable longer-term interventions

- Non-London services train lengthening
- Platform lengthening so platforms are at least as long as the shortest train
- Power supply assessment
- Maximising network capability
- Digital Railway





Delivery opportunities

- Every opportunity should be taken to integrate recommended enhancements with planned renewals. This optimises access to the network, minimising disruption to passenger and freight customers and provides cost efficiencies.
- The rail franchising model is currently undergoing reform, we recommend that train service and rolling stock changes are integrated into the new model to enable a whole-system approach.

Taking the Study forward



Next steps

- The document is available on the Network Rail website
- Some platform lengthening has been carried out (to 8-cars) at stations with level crossings
- Worthing bi-directional platform working, Brighton additional platform and Horsham to Gatwick Airport are to be taken forward in due course
- Further work carried out looking at Chichester Yard for improved freight facilities, unit berthing and an electrified passing loop
- The Study will be used as evidence by TfSE for the Area Studies

Thank you for your time

