West Sussex Connectivity CMSP Summer Update

Agenda

14:05:Overview of the CMSP Process

14:20:Themes

- Rail connectivity
- Wider transport connectivity
- Planning for growth

14:50:Workstreams underway

- Train service development work
- Infrastructure feasibility study
- Economic appraisals

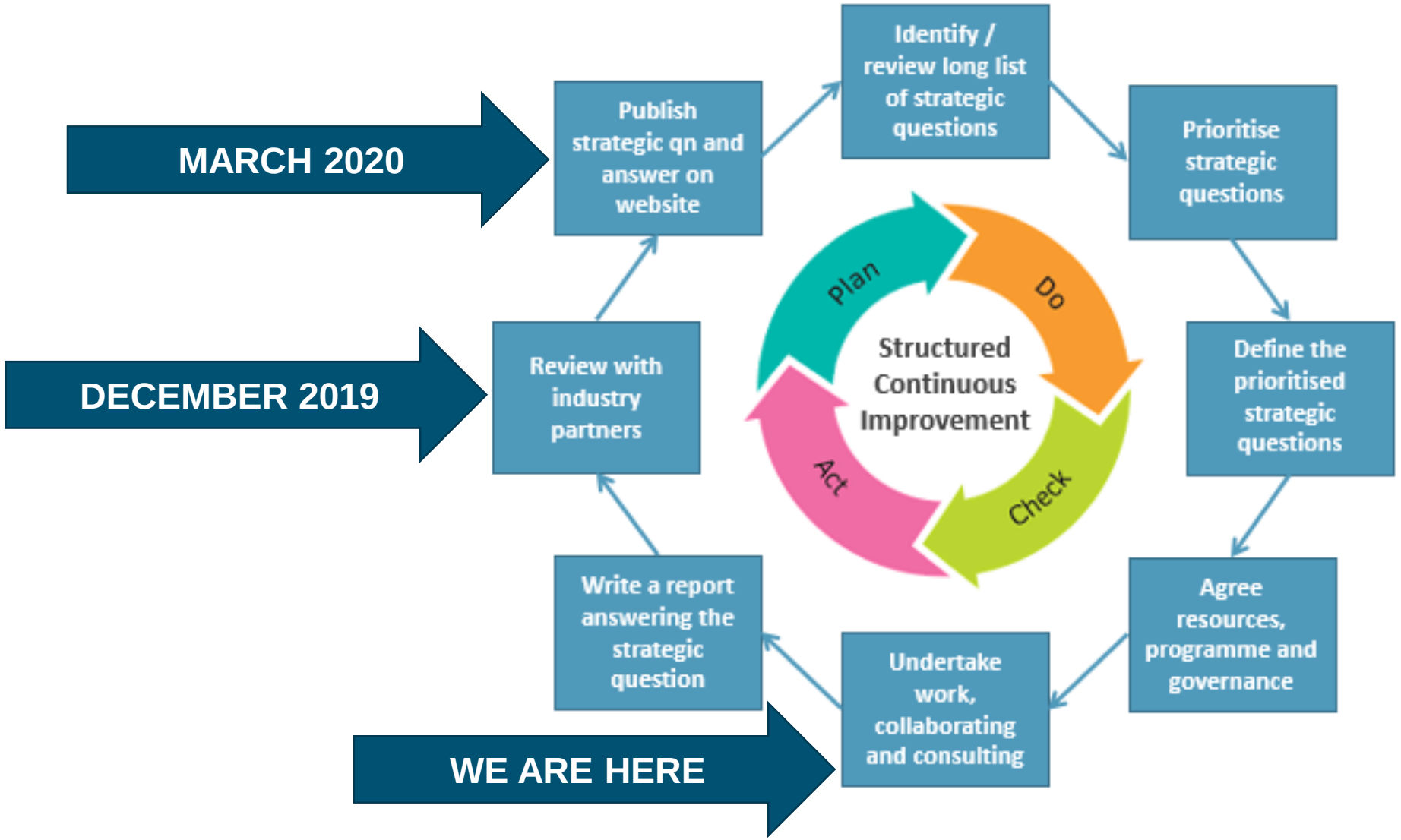
15:05:Working groups

15:40:Your thoughts from the working groups

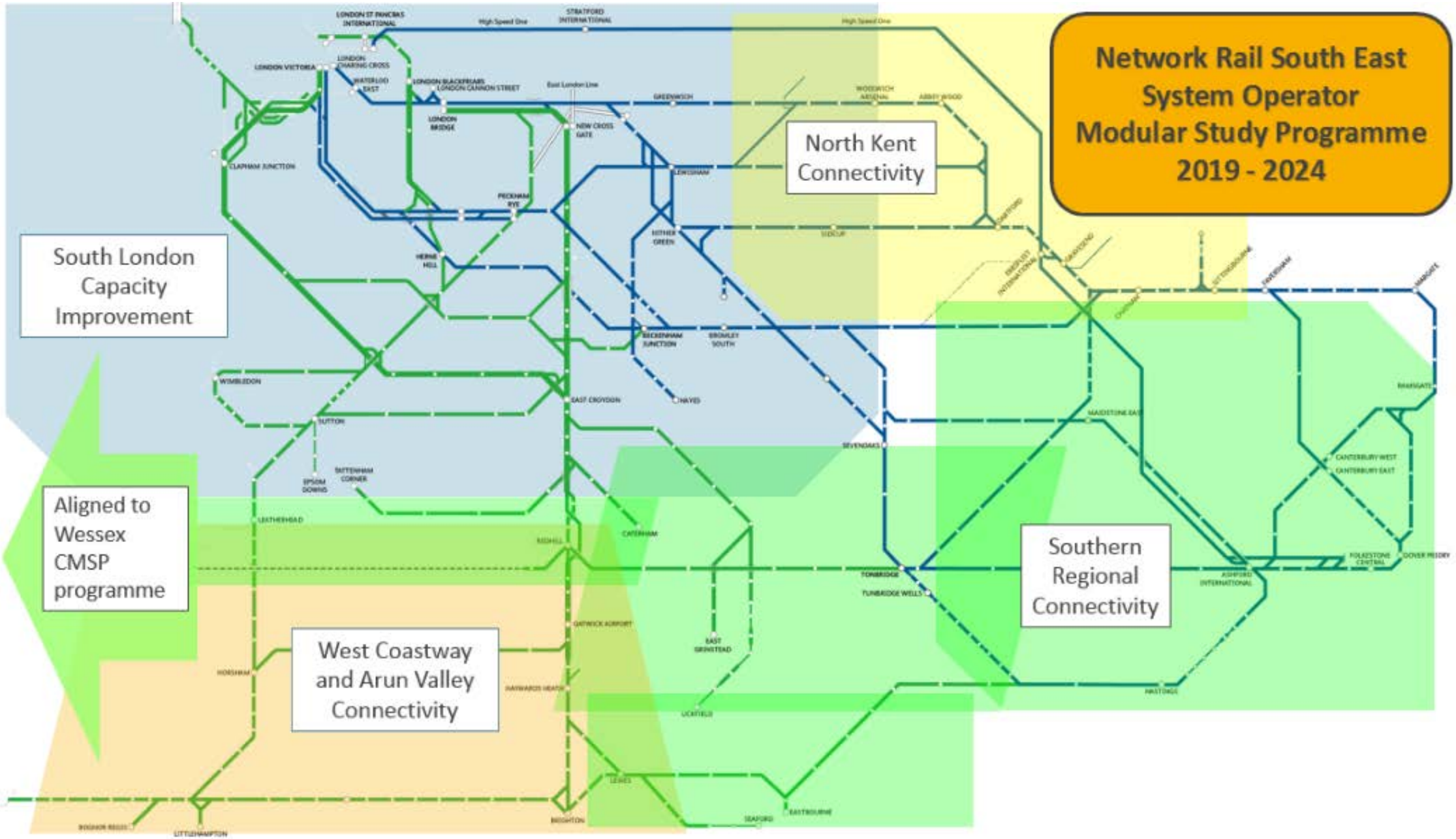
15:50:Next steps

15:55:AOB

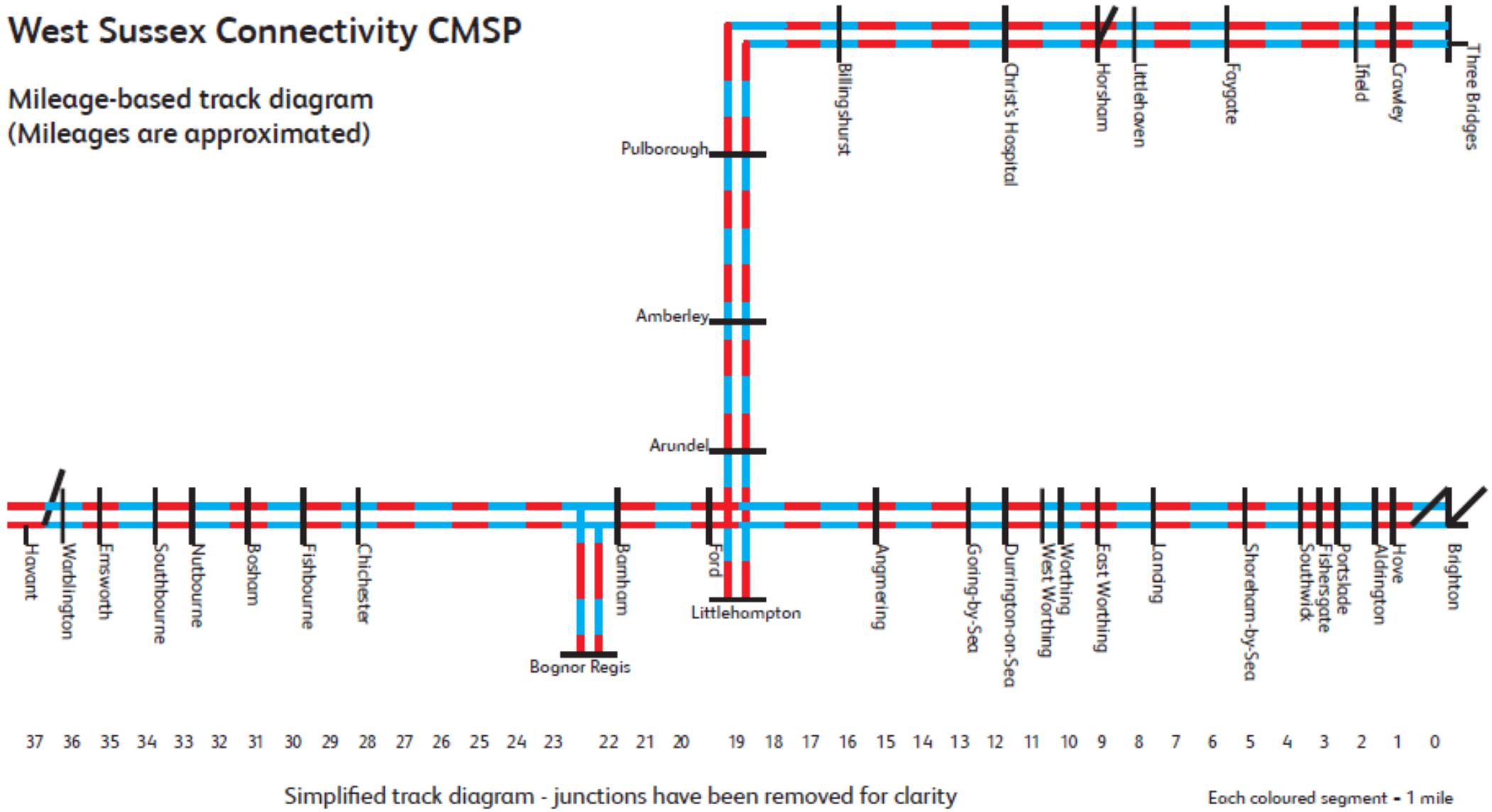
What is the CMSP programme?



Map of CMSPs


Network Rail South East System Operator Modular Study Programme 2019 - 2024
North Kent Connectivity
South London Capacity Improvement
Aligned to Wessex CMSP programme
West Coastway and Arun Valley Connectivity
Southern Regional Connectivity

Scope area


West Sussex Connectivity CMSP
Mileage-based track diagram
(Mileages are approximated)
Billingshurst
Christ's Hospital
Horsham
Littlehaven
Faygate
Ifield
Crawley
Three Bridges
Pulborough
Amberley
Arundel
Havant
Warblington
Emsworth
Southbourne
Nutbourne
Bosham
Fishbourne
Chichester
Bognor Regis
Barnham
Ford
Littlehampton
Angmering
Goring-by-Sea
Durrington-on-Sea
Worthing
West Worthing
East Worthing
Lancing
Shoreham-by-Sea
Southwick
Fishersgate
Portslade
Aldrington
Hove
Brighton
37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
Simplified track diagram - junctions have been removed for clarity
Each coloured segment = 1 mile

Strategic Themes

1. Rail Connectivity
2. Wider Transport Connectivity
3. Planning for Growth

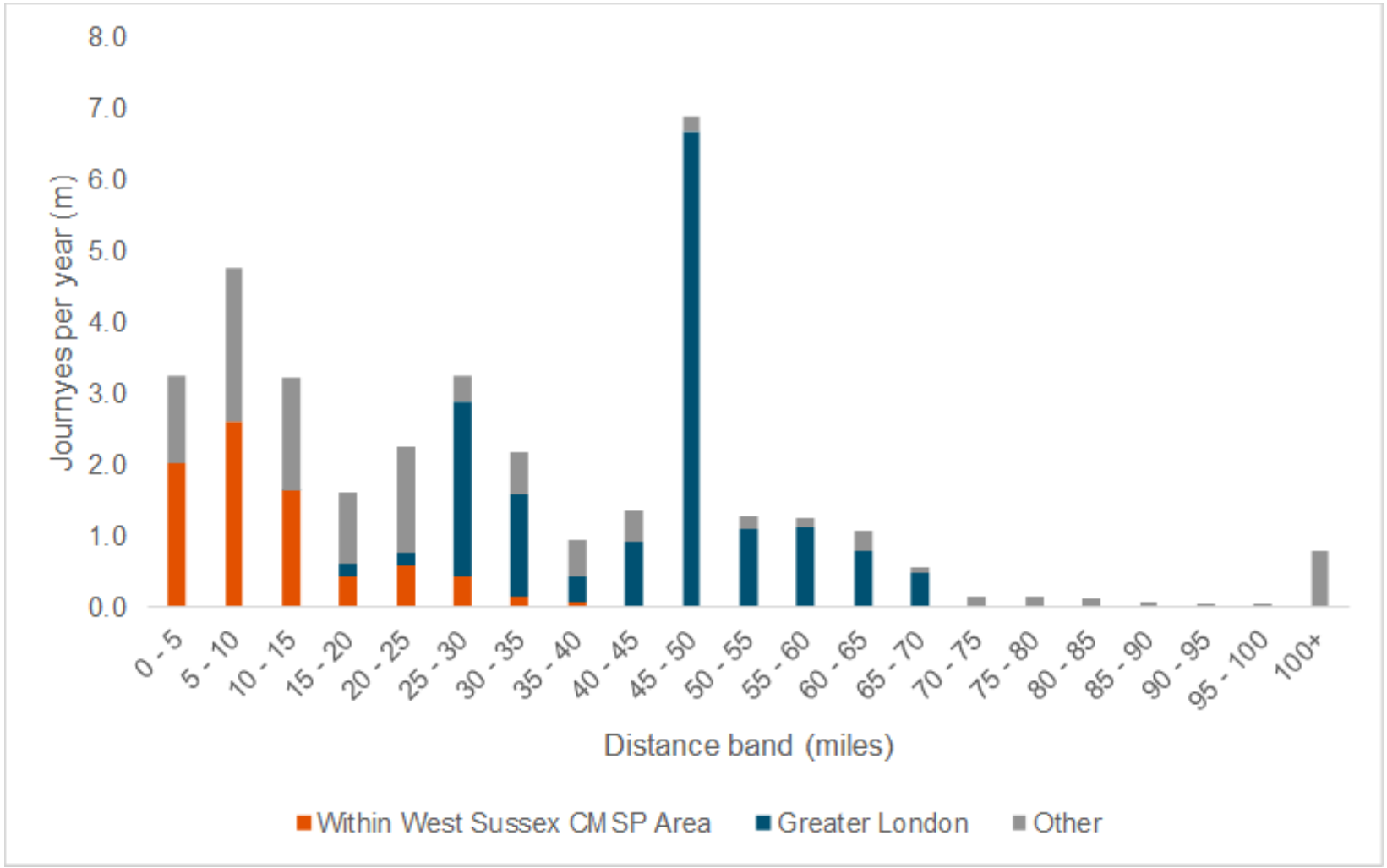
Theme 1 - Rail connectivity

Q1:How best can the railway deliver local connectivity for shorter journeys on the West Coastway

Local Connectivity

- From stakeholder feedback, we know that ‘short hops’ are valued by passengers
- Also aspirations for alternative direct services including:
  - Chichester to Bognor
- Also requests for later trains at weekends to support night time economy

Rail Connectivity – brief overview of local area

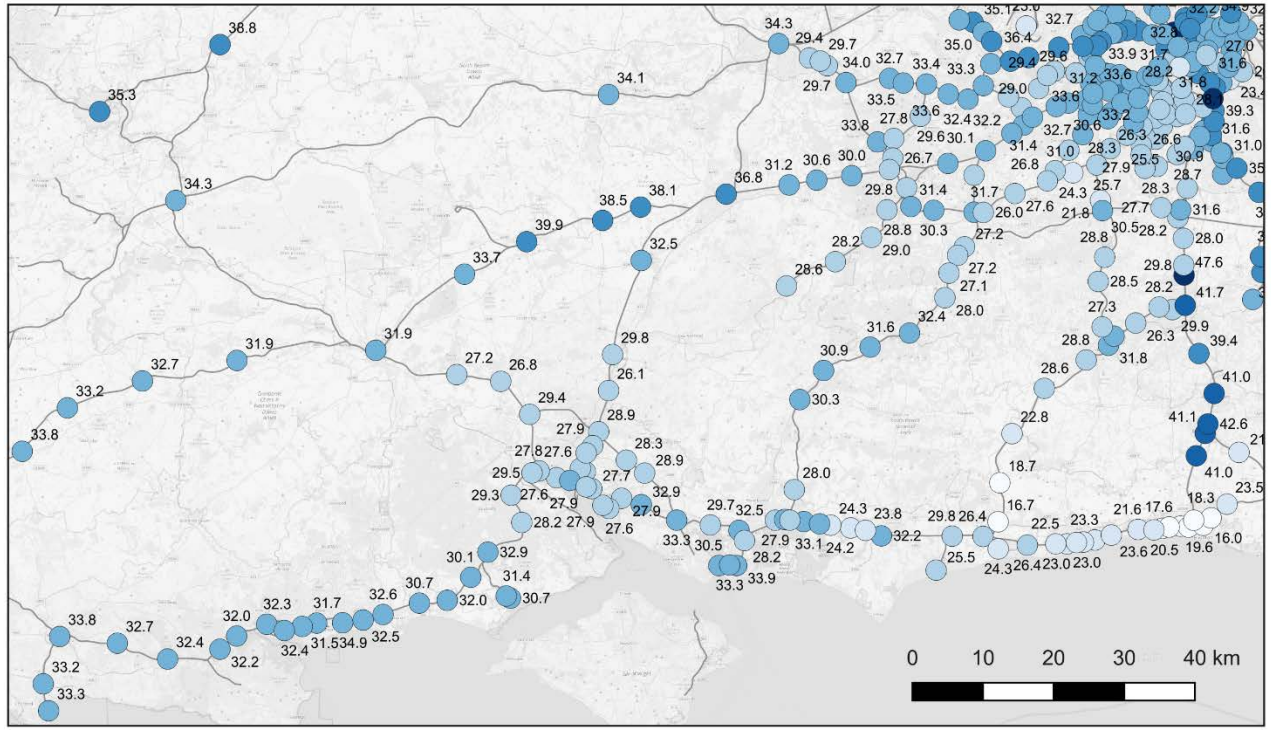


What's stopping us sorting this out now?

- Challenge of how to manage demands of 'short hops' against aspirations for faster journeys
- Average speeds poor on West Coastway, in comparison to both the BML and East Coastway, e.g: Brighton to East Croydon 47mph, Brighton to Lewes 29mph, Brighton to Shoreham 22mph
- For introducing later (or earlier trains), challenge of balancing maintenance access to railway as well as safety and security of staff

Average speed of trips from Brighton

Journey time component of GJT divided by distance. Includes interchange time but excludes interchange penalty. MOIRA2 simulation, Summer 2019 timetable, Wessex zone structure.



Theme 1 - Rail connectivity

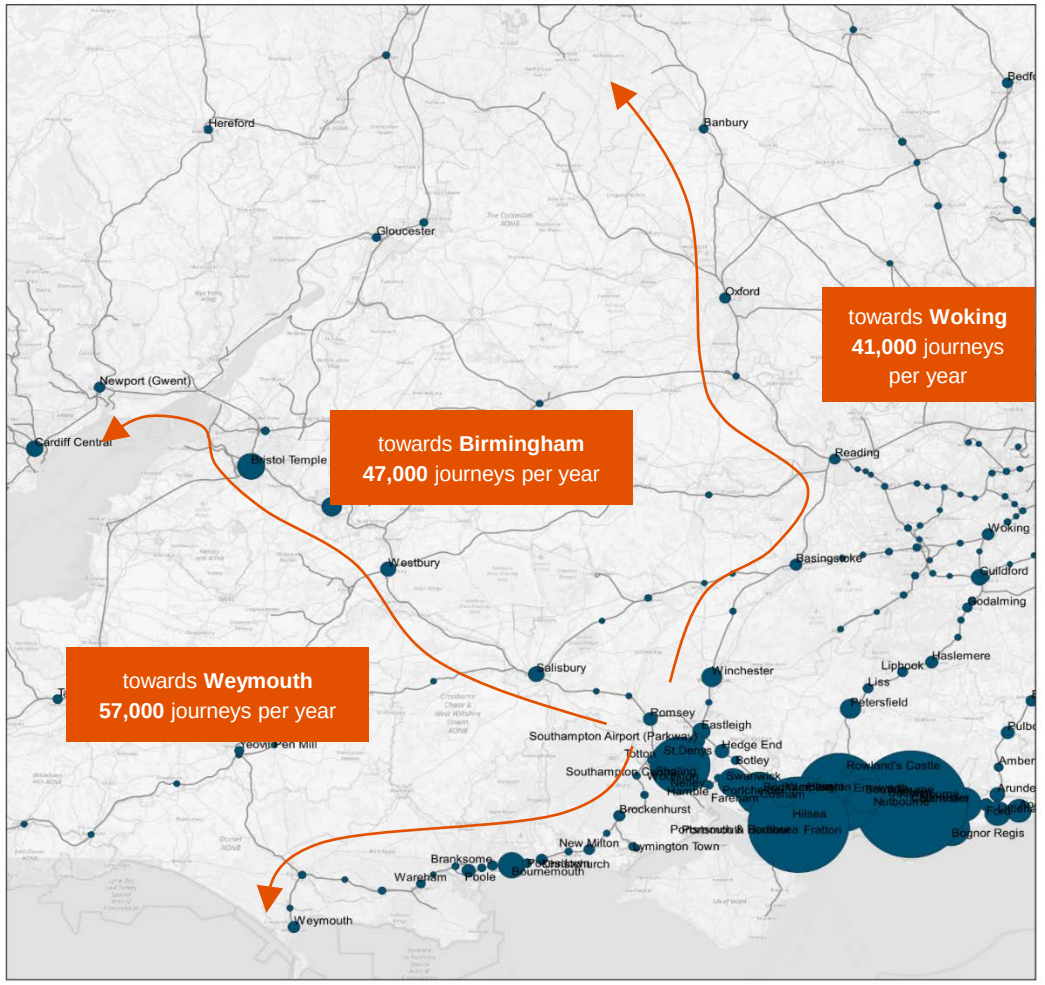
Q2: Can journey times be reduced for longer distance journeys and additional services beyond Southampton introduced?

Long Distance Connectivity

- Stakeholder feedback expressed desires for faster journeys between Brighton & Chichester - Journey times vary from 51 to 59 minutes for GTR services
- Stakeholder feedback that journey times between Bognor and London are to slow (1hr 45mins)
- Could more longer distance trains from Brighton via the West Coastway be introduced

Rail passenger demand flowing West of West Sussex CMSP area

MOIRA2 Year to Mar 2019 simulation with Wessex zone structure (size proportionate to demand)



What's stopping us sorting this out now?

- Current infrastructure makes it harder to improve journey times, lack of infrastructure to allow fast services to overtake slower services

- These infrastructure challenges also restrict the number of longer distance trains that can operate

- Train services from Bognor to London pass over several flat junctions, especially at Arundel, where this a line speed as low as 30mph

Theme 2 – Wider transport connectivity

Q1: Does the railway offer an opportunity to reduce congestion on key roads?

Road Congestion

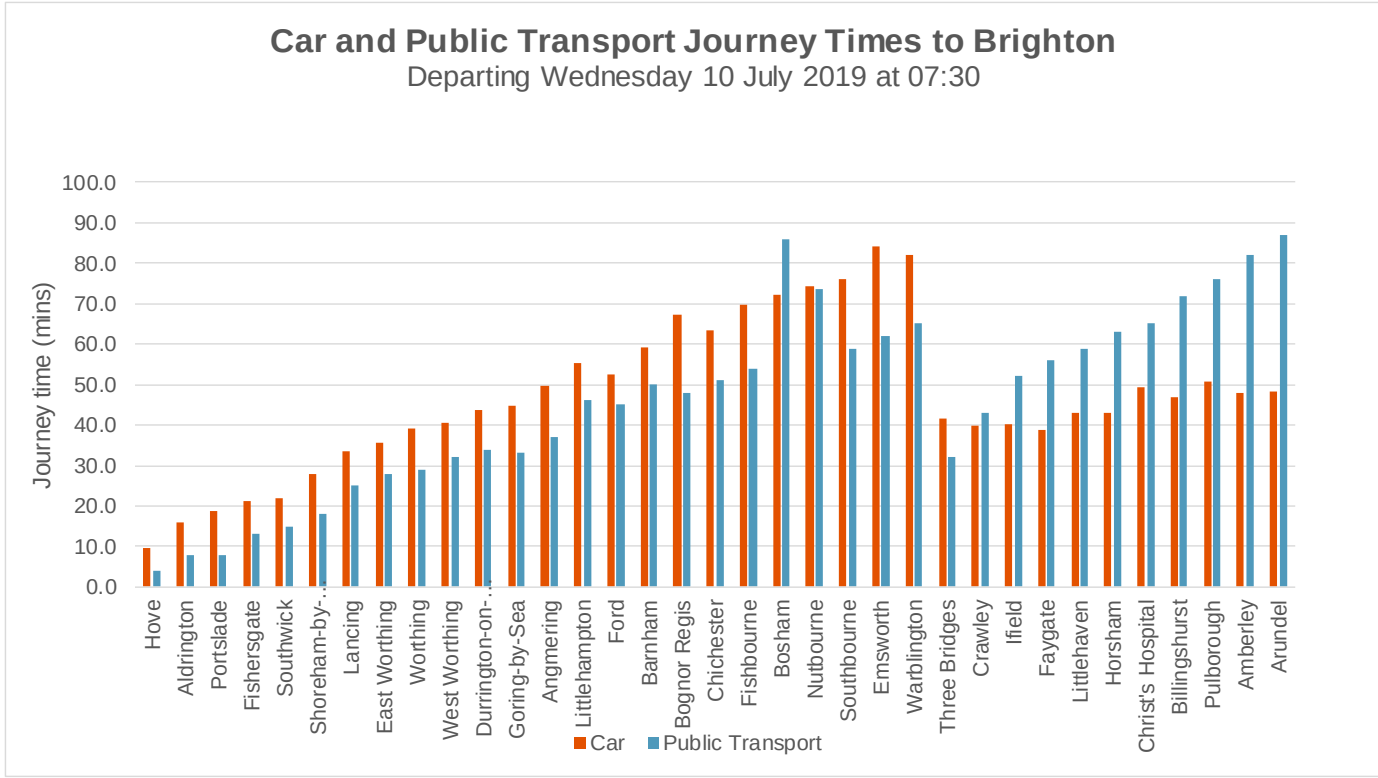
- Widespread feedback from stakeholders that congestion on main roads (in particular the A27 and A259) is a major issue across West Sussex

- There are also a number of Air Quality Management Areas across urban areas including Chichester, Shoreham and Worthing

- With 39 road level crossings, the railway itself also contributes to road delays, especially the link roads between A27/A259 that pass over level crossings

Road Congestion – journey time analysis

- Our analysis shows that rail is already a faster option than driving for majority of Coastway journeys
- This is even the case with Bognor to Chichester, even though the journey time includes the time required to wait for a connection at Barnham



What's stopping us sorting this out now?

- Options to further reduce journey times to make rail more attractive to motorists restricted by current infrastructure as fast trains have limited opportunities to overtake slower ones

- Existing advantage in journey times only felt if someone lives and works near a West Sussex station – road still preferable for locations like out of town business parks etc

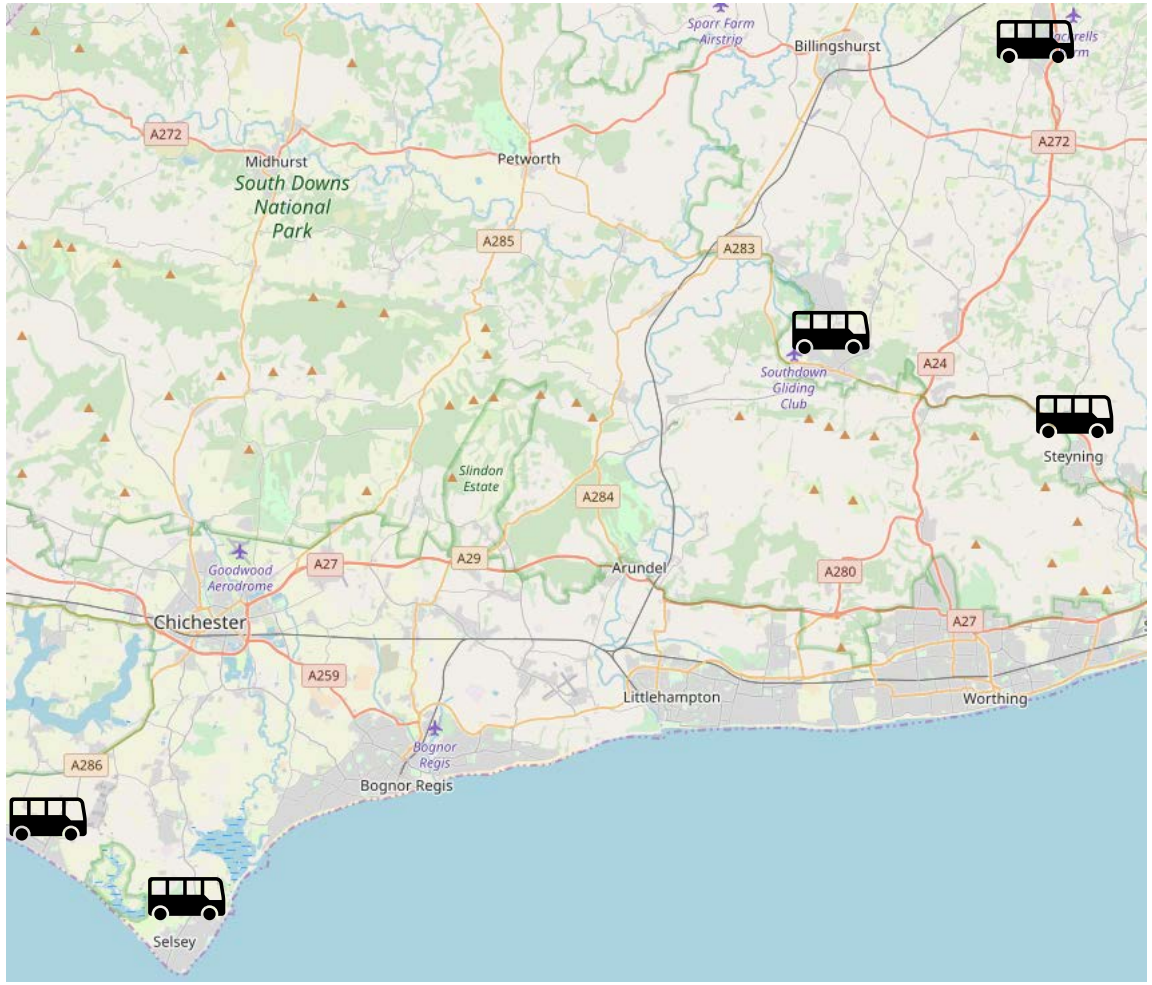
- The vast majority of level crossings are in built-up areas with no space for the construction of a bridge

Theme 2 – Wider Transport Connectivity

Q2:How can access into the railway network be improved from other modes of transport?

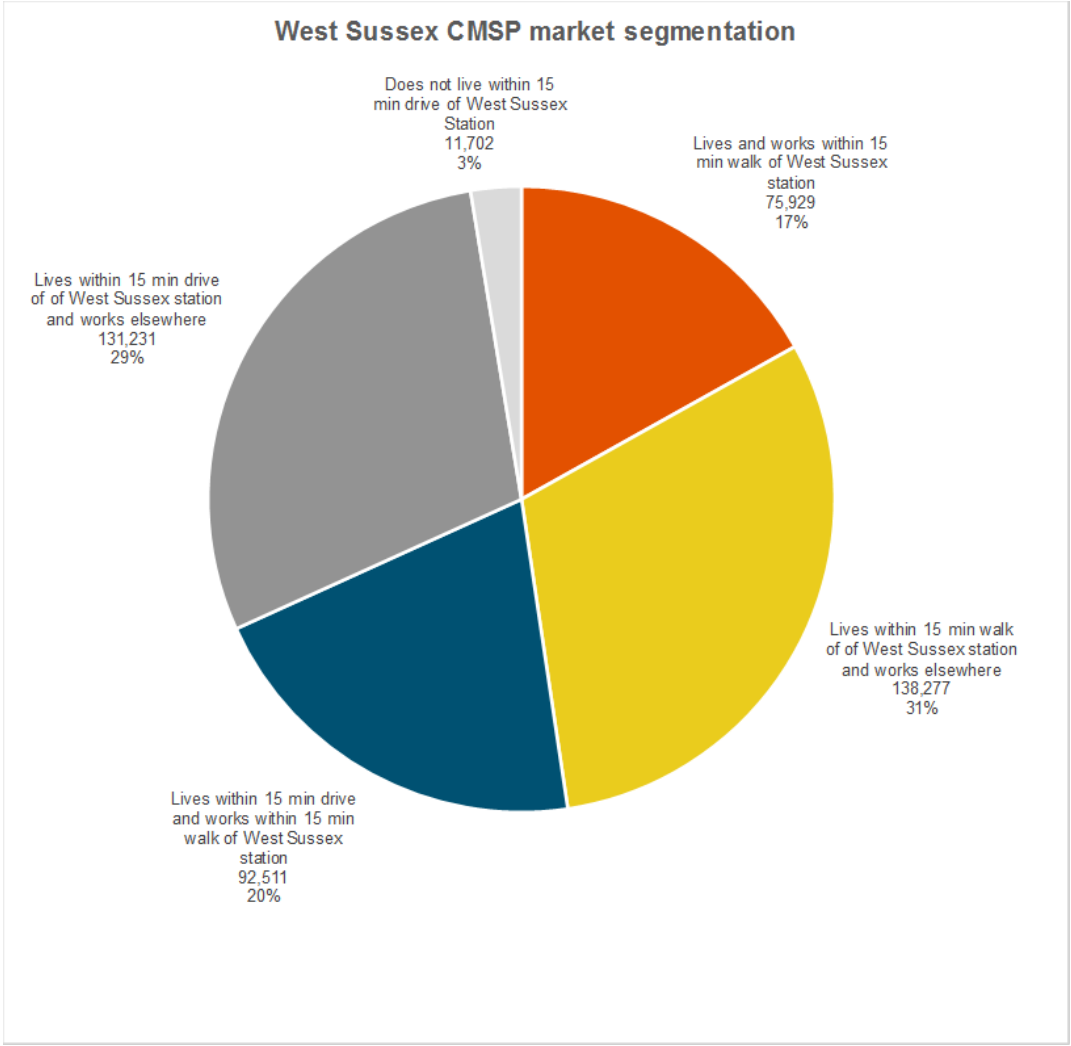
Settlements not served by the railway

- Five towns with more than 5,000 residents not served by the railway
- Stakeholders raised the challenge of the bus/rail timetables not linking up at certain stations
- Also raised integrated ticketing options, especially in context of access to South Downs National Park



Car parking at stations

- Car park capacity particularly important for stops serving wider areas without stations
- Improvements to station car parks also an opportunity for reducing distance of car journeys
- Our analysis shows 20% of people live within 15minutes drive of a station and then work within 15minutes walk of another



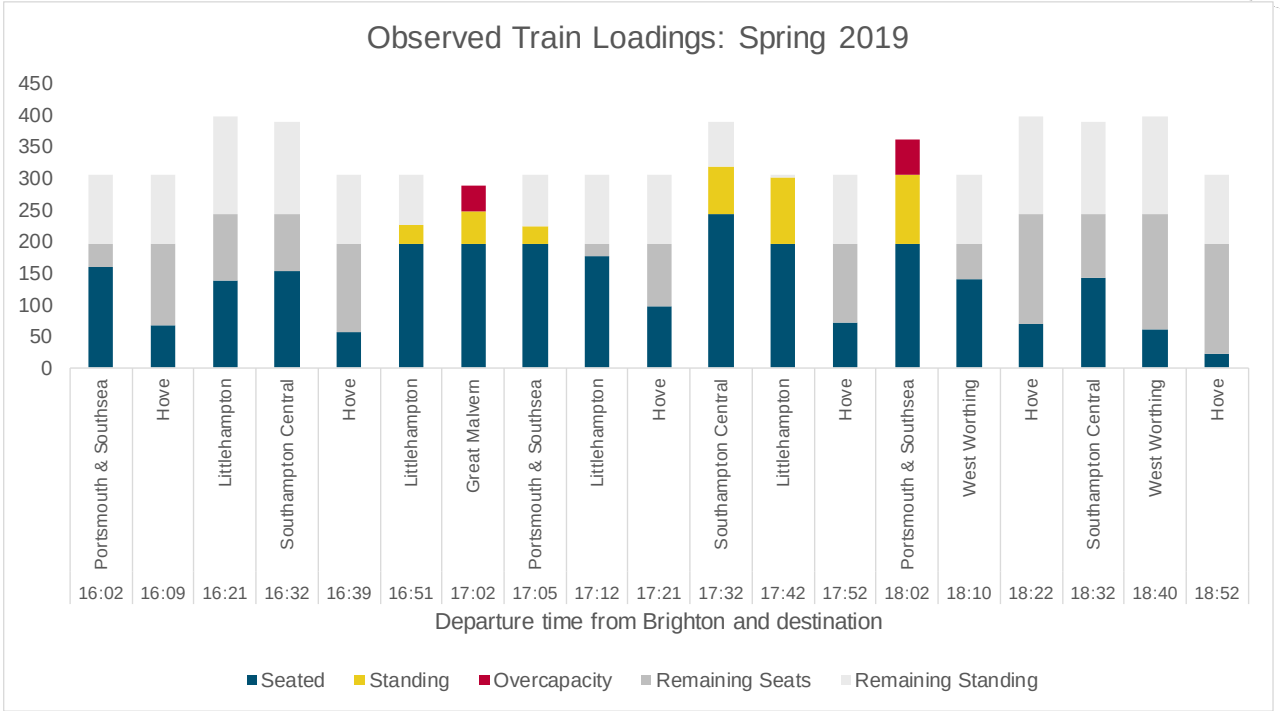
What's stopping us sorting this out now?

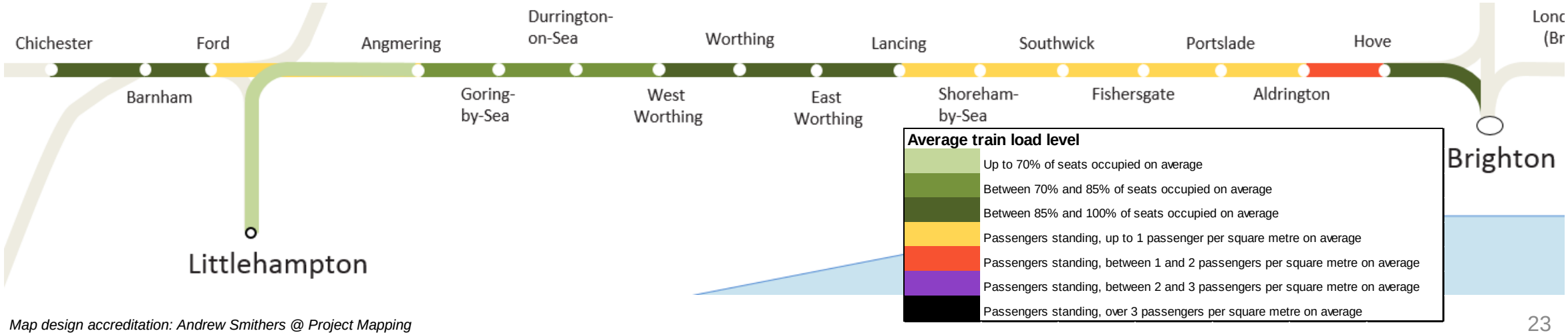
- Challenges in deepening integration between bus and rail and the different processes/systems, especially in the context of introducing a truly integrated ticketing option
- The location of stations close to built-up areas means land available for car-park expansion is limited
- Station car parks present a challenge as to how best to price them to reflect the differences between local and London commuters

Theme 3 – Planning for growth

Q1: Can the rail service accommodate current and projected future demand at peak times?

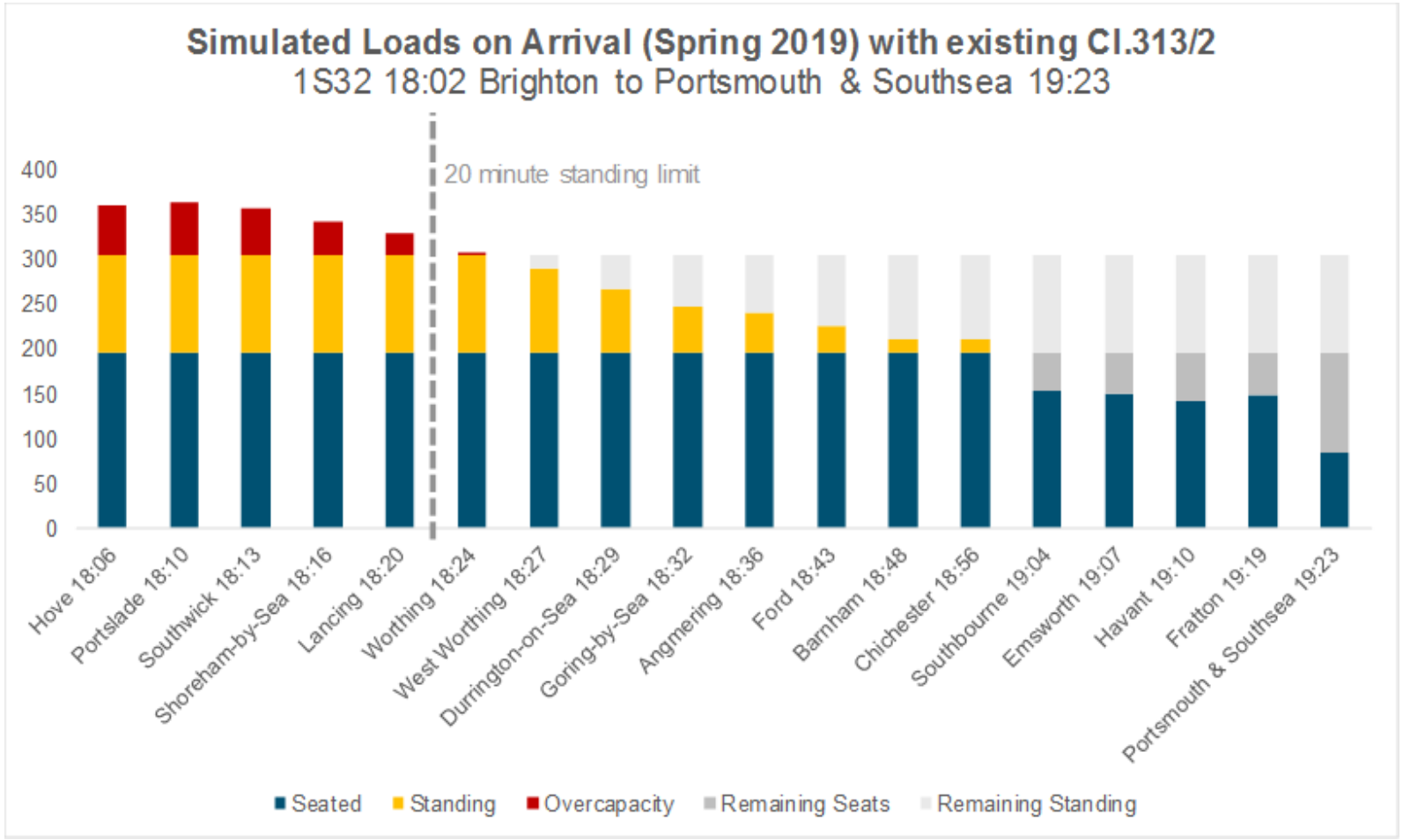
Trains are busy...





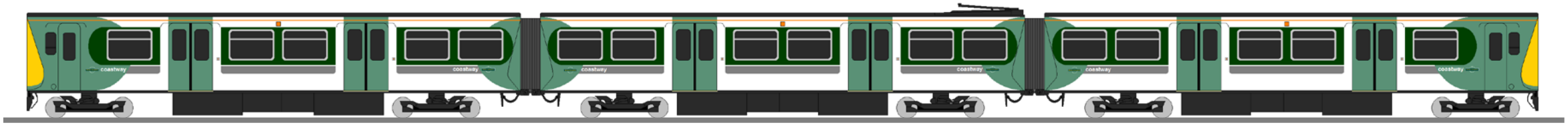
Map design accreditation: Andrew Smithers @ Project Mapping

And some trains have passengers standing for over 45 minutes



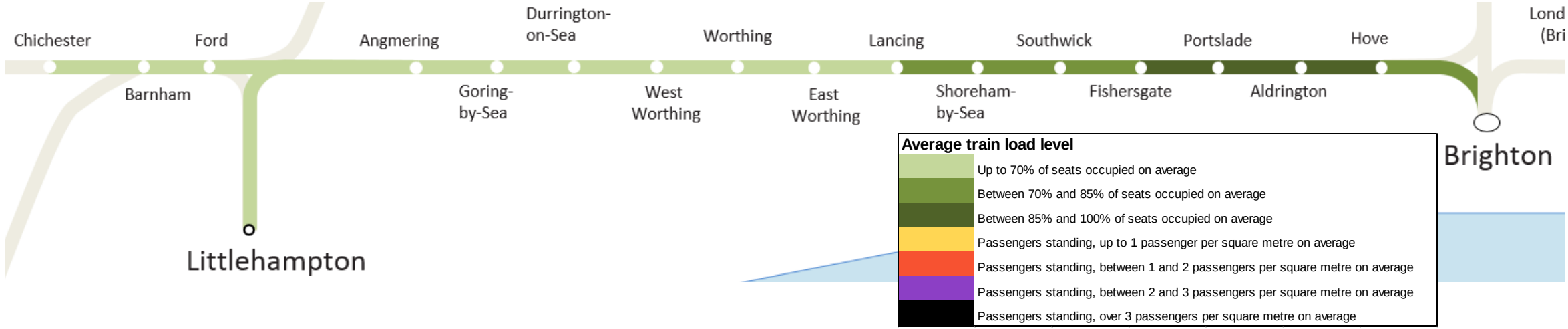
What’s stopping us sorting this out now?

2019: 18:02 Brighton – Portsmouth & Southsea using a 3-car Class 313



Class 313 by Feathers44 - *https://commons.wikimedia.org/wiki/File:Class_313_Southern_Diagram.png*

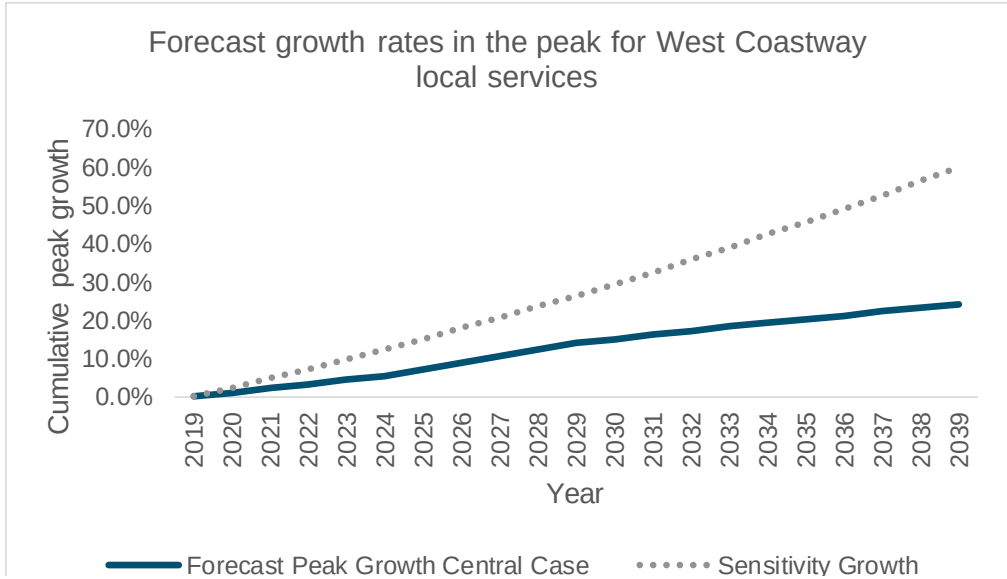
This problem can largely solved with 6-car trains

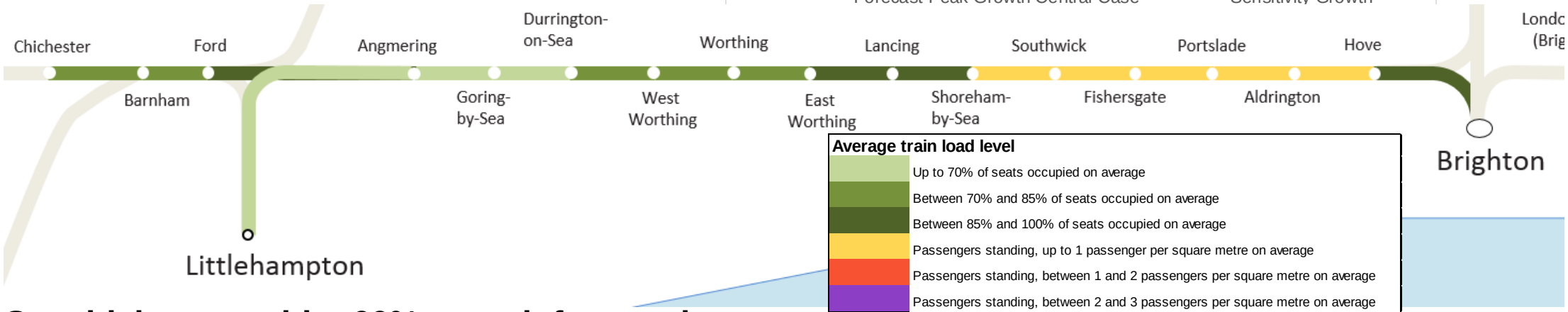


2039 Central Growth Forecast: 18:02 Brighton – Portsmouth & Southsea using 6-cars on all services

Map design accreditation: Andrew Smithers @ Project Mapping
Class 377/3 by WestRail642fan - *https://commons.wikimedia.org/wiki/File:Southern_Class_377-3.png*

…with capacity within planning limits even if even growth is triple our forecast.





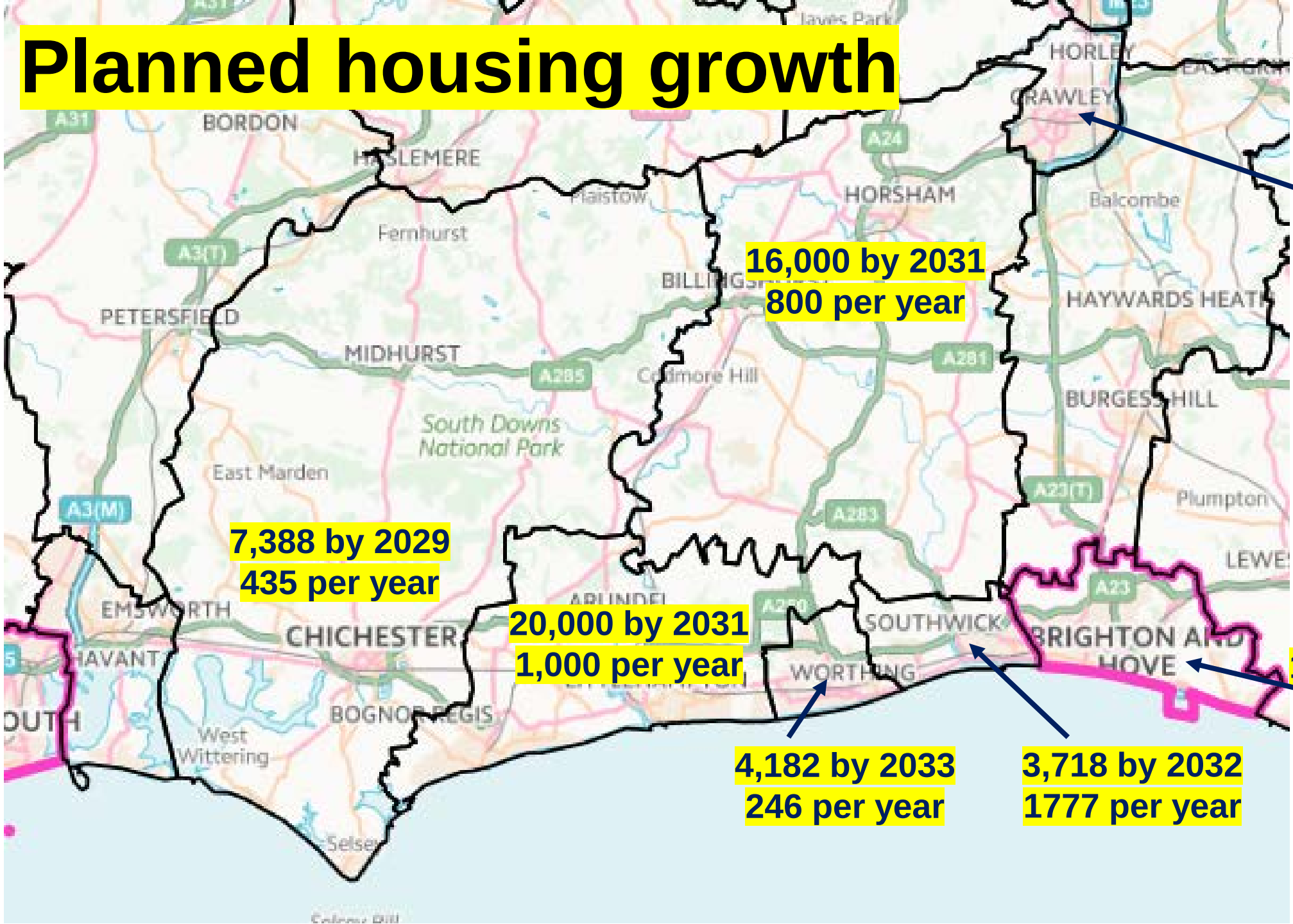
Sensitivity test with +60% growth from today

Map design accreditation: Andrew Smithers @ Project Mapping

Theme – Planning for growth

Q2: How can the rail service support the delivery of substantial amounts of new housing?

Planned housing growth



5,100 by 2030
340 per year

16,000 by 2031
800 per year

7,388 by 2029
435 per year

20,000 by 2031
1,000 per year

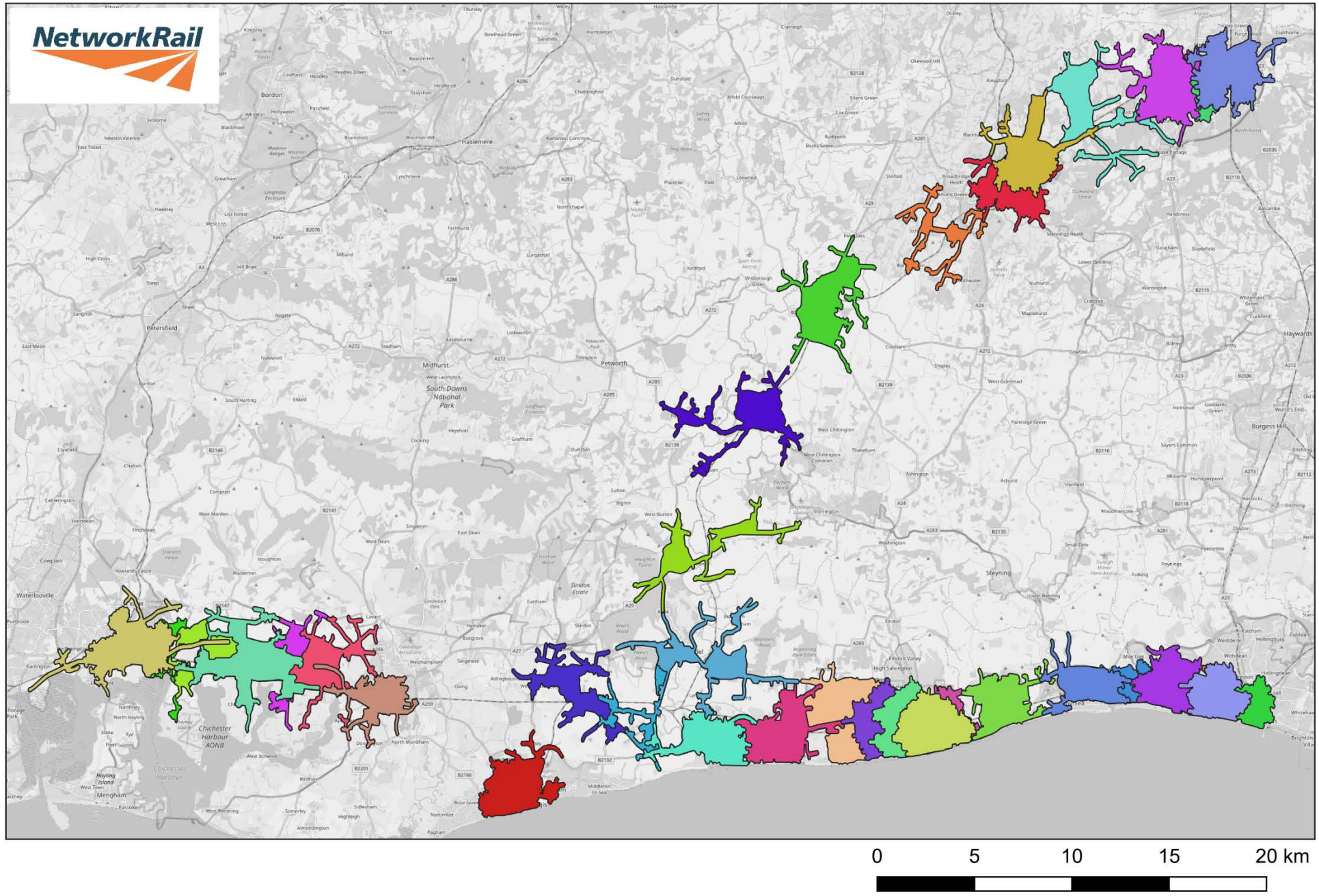
13,200 by 2030
660 per year

4,182 by 2033
246 per year

3,718 by 2032
1777 per year

West Sussex CMSP: 5 minute drivetimes

Arriving at 7:30am on a Wednesday

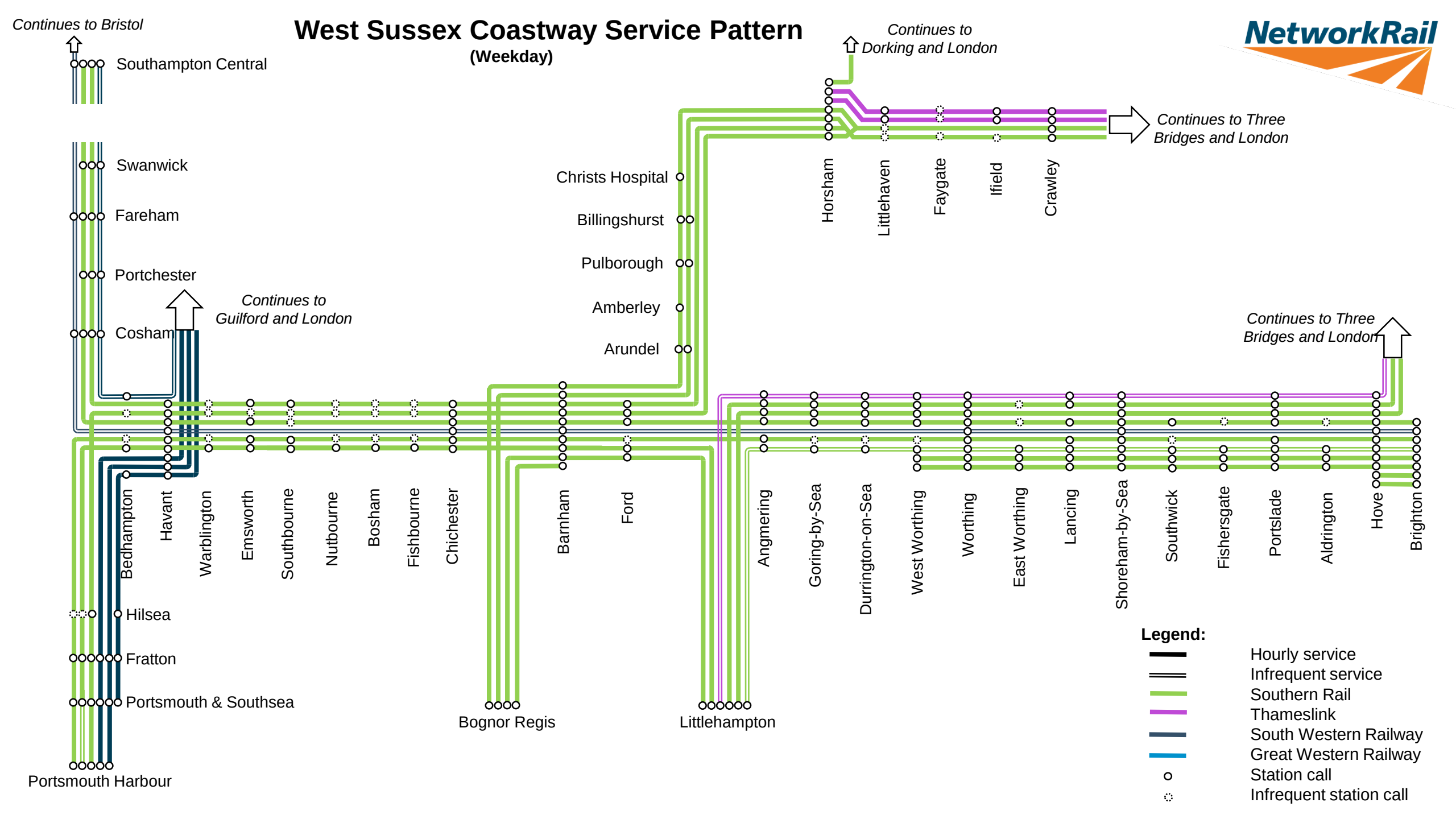


What's stopping us sorting this out now?

- New homes are planned where there is not a station – other public transport links may be the answer
- Understanding where the new residents will be working
- Understanding of the safety risk caused by new developments:
  - Housing close to the railway line
  - Increased use of level crossings

West Sussex Coastway Service Pattern

(Weekday)



Network Rail Design Delivery

Tackling infrastructure constraints by looking at the feasibility of:

- Passing loops
- Line speeds
- Platform lengthening
  - Level crossings
  - 6-car trains

Socioeconomic appraisal

- Potential **funders** such as the DfT will have many different schemes.
- Socioeconomic appraisal calculates **‘value for money’** of a scheme, considering the following ‘conventional transport impacts’ over 60 years:
  - Capital costs
  - Operational costs
  - Revenue from additional passengers
  - User benefits from additional and new users (‘valuation of time’)
  - Non-user benefits from fewer cars on the roads
  - Indirect tax impacts from less fuel duty and zero-rated train fares.
- Calculates a **Benefit Cost Ratio**. Return for each pound spent.
- High level WebTAG appraisal, reflecting the Pre-GRIP Feasibility stage of the work.

Why do we appraise CMSP projects?

- CMSPs present options for funders to **develop** schemes, not buy them yet.
- Helps to inform multiple funders whether to it is **worthwhile** to proceed to development stage. eg: Strategic Outline Business Case (SOBC).
- DfT require an **economic case** for investment decisions, provides an indicative range.
- Helps to focus planning activities upon **train service outputs** and **passenger and freight benefits**, rather than infrastructure inputs. Benefits are directly linked to the end customers' experiences.
- **BCR is not the determining factor**. Economic case is one of five cases; most important case is the Strategic case. Some benefits cannot be monetised.