

SAFE, SUSTAINABLE, ACCESSIBLE AND KIND



Hywel Dda University Health Board's A Healthier Mid and West Wales Programme Business Case Addendum Supplemental Appendix 13: Transport



SUPPLEMENTAL APPENDIX 13: TRANSPORT

Introduction

To support and inform the development of the Programme Business Case Addendum the health board has worked in partnership with the Welsh Ambulance Service Trust (WAST) and with Transport for Wales (TfW) on two types of transport analysis.

The WAST '999' travel time analysis was a re-run of the analysis previously undertaken in 2022 but this time focussing on the shortlisted sites at Whitland and St Clears, together with a third location, the Nant-y-Ci car park on the western outskirts of Carmarthen town. This additional location was chosen as a proxy as no site selection process has been undertaken outside the zone agreed in the strategy which was Narberth to St Clears.

The analysis considered the following:

- What percentage of 999 incidents were within 1 hour of the three locations being considered.
- The variation in average travel time for each of the site options compared to the current hospital configuration.

The WAST '999' travel time analysis report can be found in **Appendix 13a**.

The analysis undertaken by Transport for Wales was completed using 'Connectivity Tool' software developed by the UK Government's Department for Transport. The software uses key data (including transport network and land-use data) to calculate how well connected any location in England and Wales is to everyday services such as healthcare, education and retail within a 60-minute travel time window. The metric provides a score that allows a relative assessment of connectivity. The assessment included sustainable modes of transport (i.e. public transport) as well as by motor car using the highway network.

The technical note provided by TfW provides a 'connectivity' assessment of the shortlisted sites at Whitland and St Clears, together with a third location, the Nant-y-Ci car park on the western outskirts of Carmarthen town. This additional location was chosen as a proxy as no site selection process has been undertaken outside the zone agreed in the strategy which was Narberth to St Clears.

The TfW connectivity analysis technical note can be found in **Appendix 13b**.

The background of the slide is a photograph of the Aurora Borealis (Northern Lights) over a snowy, mountainous landscape at night. The lights are a vibrant green and blue, reflecting on the water in the foreground. There are some decorative elements: a teal rounded rectangle, a teal circle, and a white rounded rectangle on the left side of the slide.

APPENDIX 13a

WAST: '999' Travel Time Analysis

December 2025
Andrew Tallack

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2b. Analysis 2b (Including Prince Philip Hospital)

- Travel Time Heat Maps to closest ED hospital
- Travel Time from LSOAs to closest ED hospital (Baseline v Scenario difference)

0. Task Overview



Task Overview



- **Background:**
 - In May 2022, a report was created for WAST and Hywel Dda showing conveyance travel times from incidents in LSOAs to the nearest hospital with an Emergency Department (ED).
 - Various combinations of hospitals were used:
 - Current ED hospital configuration
 - New ED hospital configurations replacing certain current ED hospitals with a new ED hospital in a new location. 3 possible locations for the new hospital were used.
 - Now, in December 2025, a new hospital location is asked to be analysed.
- **Objective:**
 - Repeat the previous 2022 analysis using the new hospital location
 - To show the differences between travel times to the nearest hospital using the new configuration of ED hospitals and compare to previous new hospital outputs
 - Analysis 1: Travel Time Analysis within 1 hour of hospital EDs
 - Analysis 2: Travel Time Analysis to the closest hospital ED from LSOAs

1. Analysis 1

Volume & % Incidents within 1-hour of ED Hospitals



Analysis 1 – Volume & % of incidents within 1 hour of ED hospitals



Objective:

- To model 999 WAST incidents conveyed to hospital and calculate the % that can access an ED within a 1-hour travel time for the proposed new hospital configuration for each of the 4 site locations for the new Urgent & Emergency Care Centre

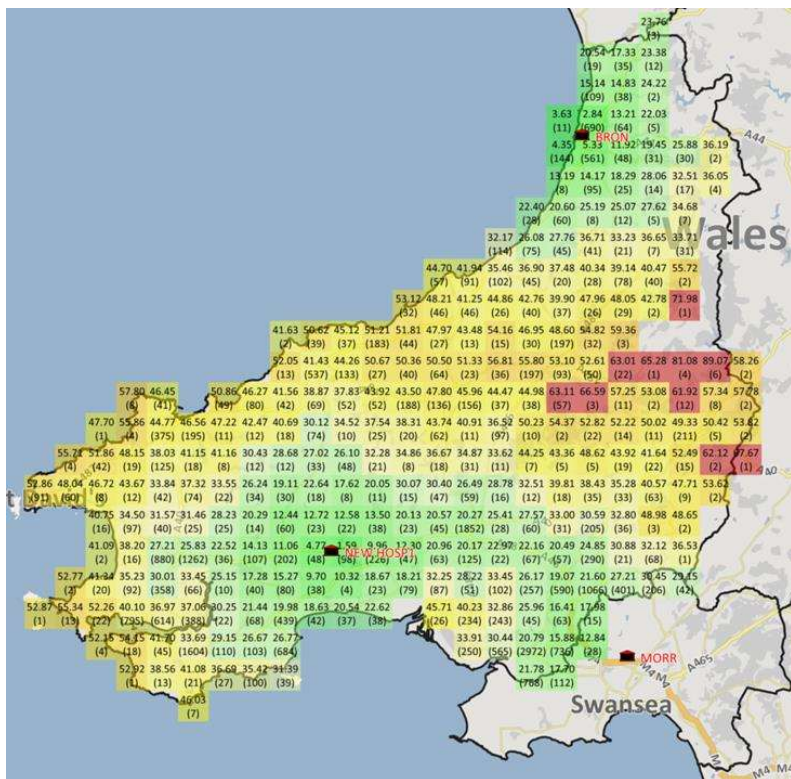
Approach:

- Source: Optima Ambulance Modelling Software
- Mapped historical WAST conveyance data for 2019
- A total of 33,808 '999' incidents are conveyed to a hospital within Hywel Dda or Morriston (Swansea) in 2019
- All incidents are mapped using 3x3 mile squares
- Average Road speeds applied
- The 4 proposed site options are mapped ([Whitland SA34 0AD](#) / [St Clears SA33 4AG](#) / [Carmarthen SA33 5DR](#)) along with Bronglais & Morriston hospitals
- Output = calculate the % of historical ambulance transport incidents that could access an ED within 1 hour

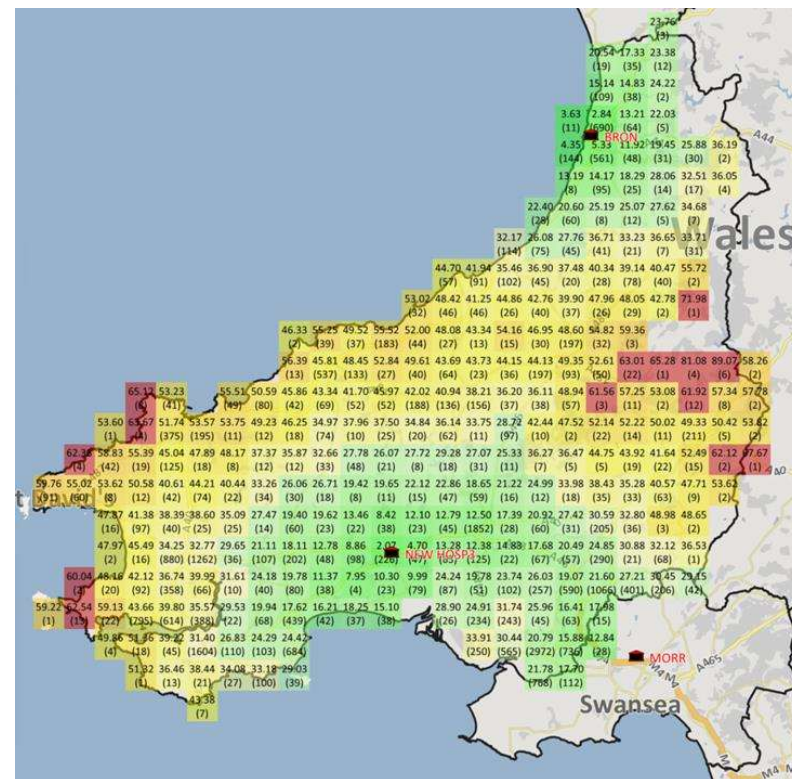
Analysis 1 - Travel Time within 1 hour of hospital EDs



Whitland SA34 0AD



St Clears SA33 4AG



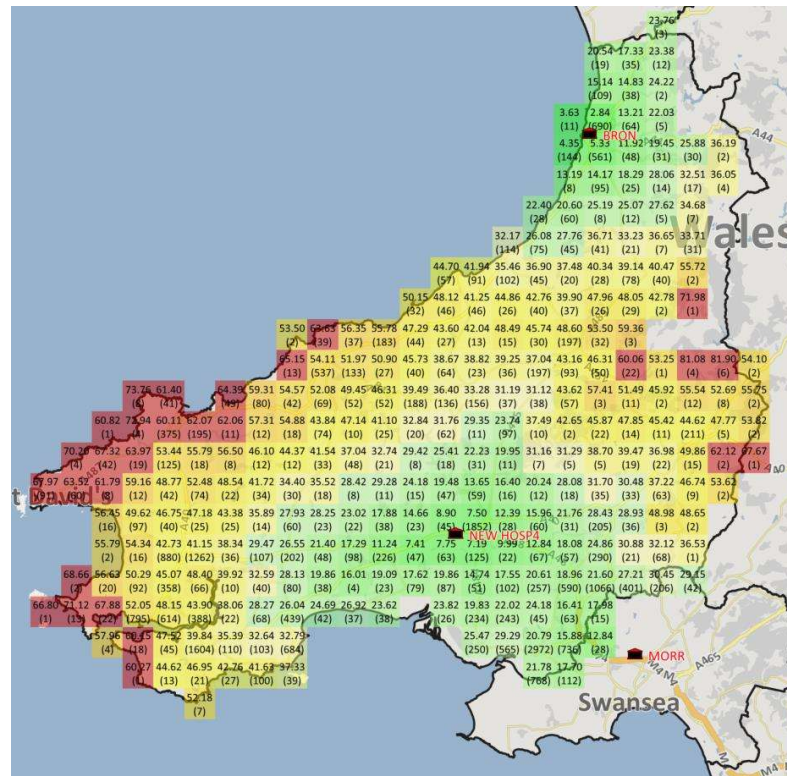
- **98.4%** of incidents are within 1hr of either SA34 0AD (Whitland) or Morriston or Bronglais
- A total of **535** incidents are outside 1hr average travel time

- **98.0%** of incidents are within 1hr of either SA33 4AG (St Clears) or Morriston or Bronglais
- A total of **679** incidents are outside 1hr average travel time

Analysis 1 - Travel Time within 1 hour of hospital EDs



Carmarthen SA33 5DR



- **95.6%** of incidents are within 1hr of either SA33 5DR (Carmarthen) or Morryston or Bronglais
- A total of **1471** incidents are outside 1hr average travel time

2a. Analysis 2a

Travel Time Heat Maps to closest ED hospital

- **Excluding** Prince Philip Hospital



Analysis 2a -Travel Time Heat Map from LSOAs to closest ED



Objective:

- Map the variation in average travel time to the closest hospital

Baseline:

- Bronglais, Morriston, Withybush, Glangwili

Scenarios:

- Bronglais, Morriston, new hospital {Whitland or St Clears or Carmarthen}

Assumptions:

- Lights & Sirens speed
- Friday 8am

Analysis 2a -Travel Time Heat Map from LSOAs to closest ED



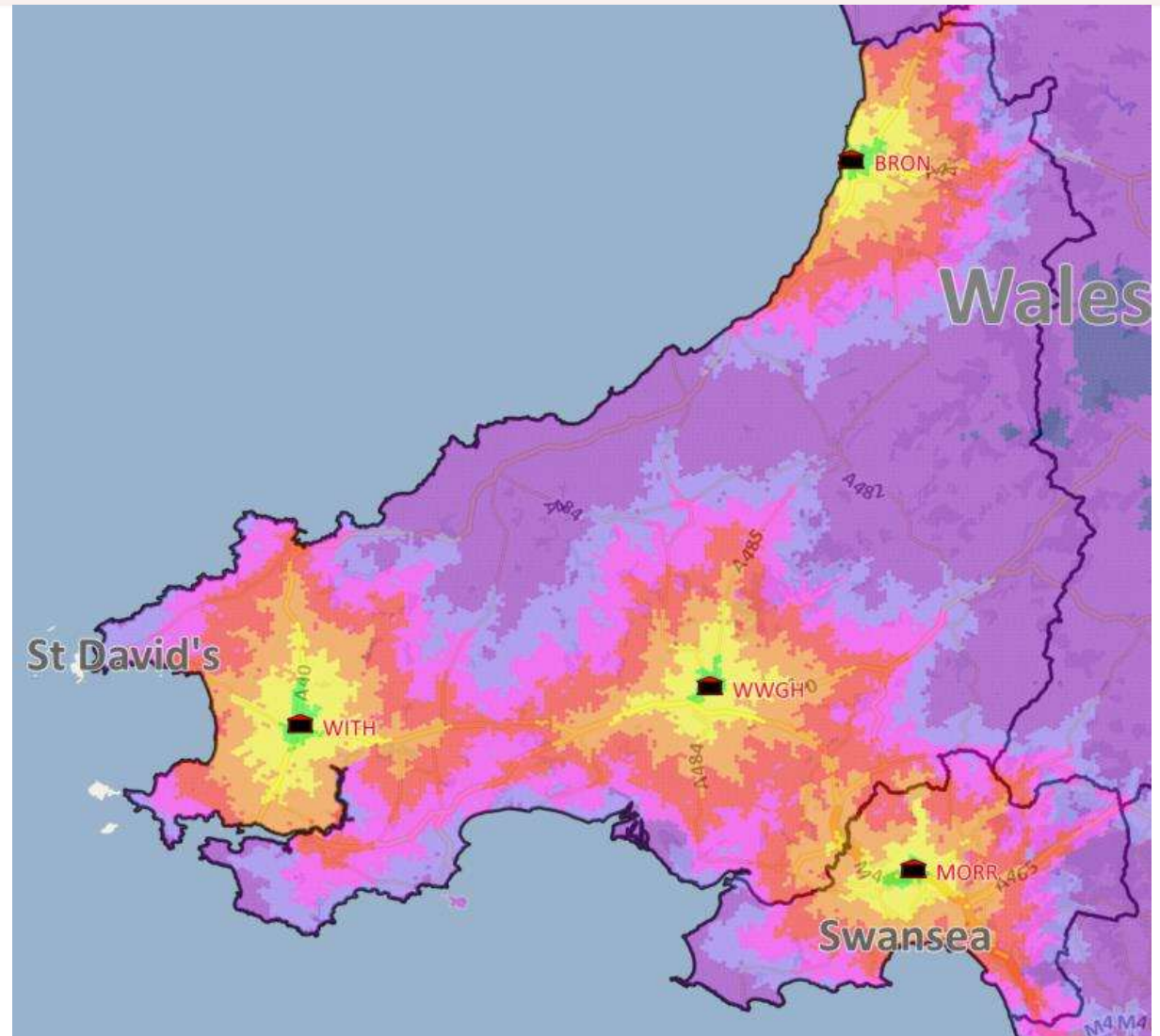
Assumptions:

- Lights & Sirens speed
- Friday 8am

Baseline 2a:

- Bronglais
- Morriston
- Withybush
- Glangwili

KEY	
0-5 mins	
5-10 mins	
10-15 mins	
15-20 mins	
20-25 mins	
25-30 mins	
30-60 mins	
60-90 mins	



Analysis 2a -Travel Time Heat Map from LSOAs to closest ED



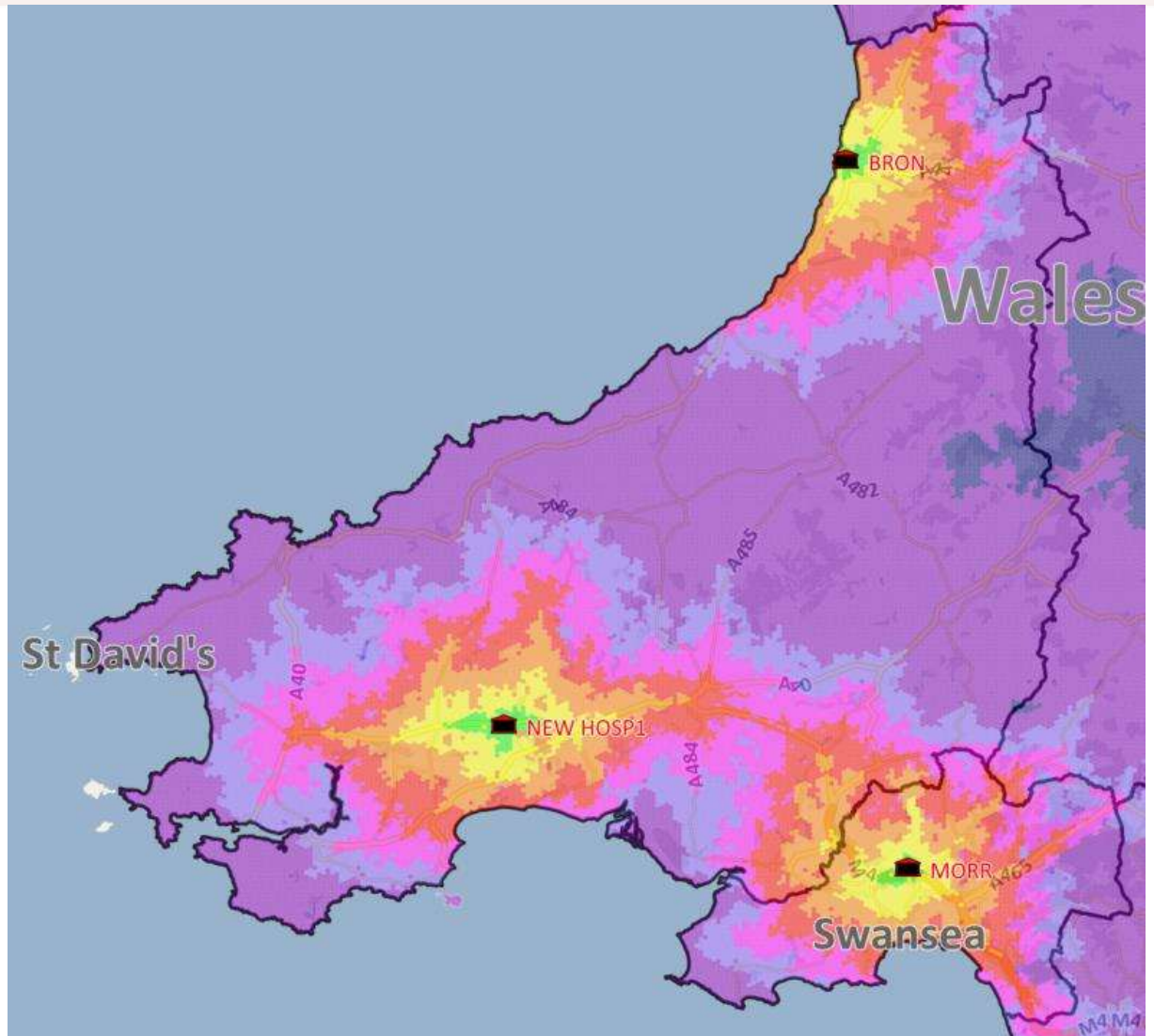
Assumptions:

- Lights & Sirens speed
- Friday 8am

Whitland Option:

- Bronglais
- Morriston
- Whitland (SA34 0AD)

KEY	
0-5 mins	
5-10 mins	
10-15 mins	
15-20 mins	
20-25 mins	
25-30 mins	
30-60 mins	
60-90 mins	



Analysis 2a -Travel Time Heat Map from LSOAs to closest ED



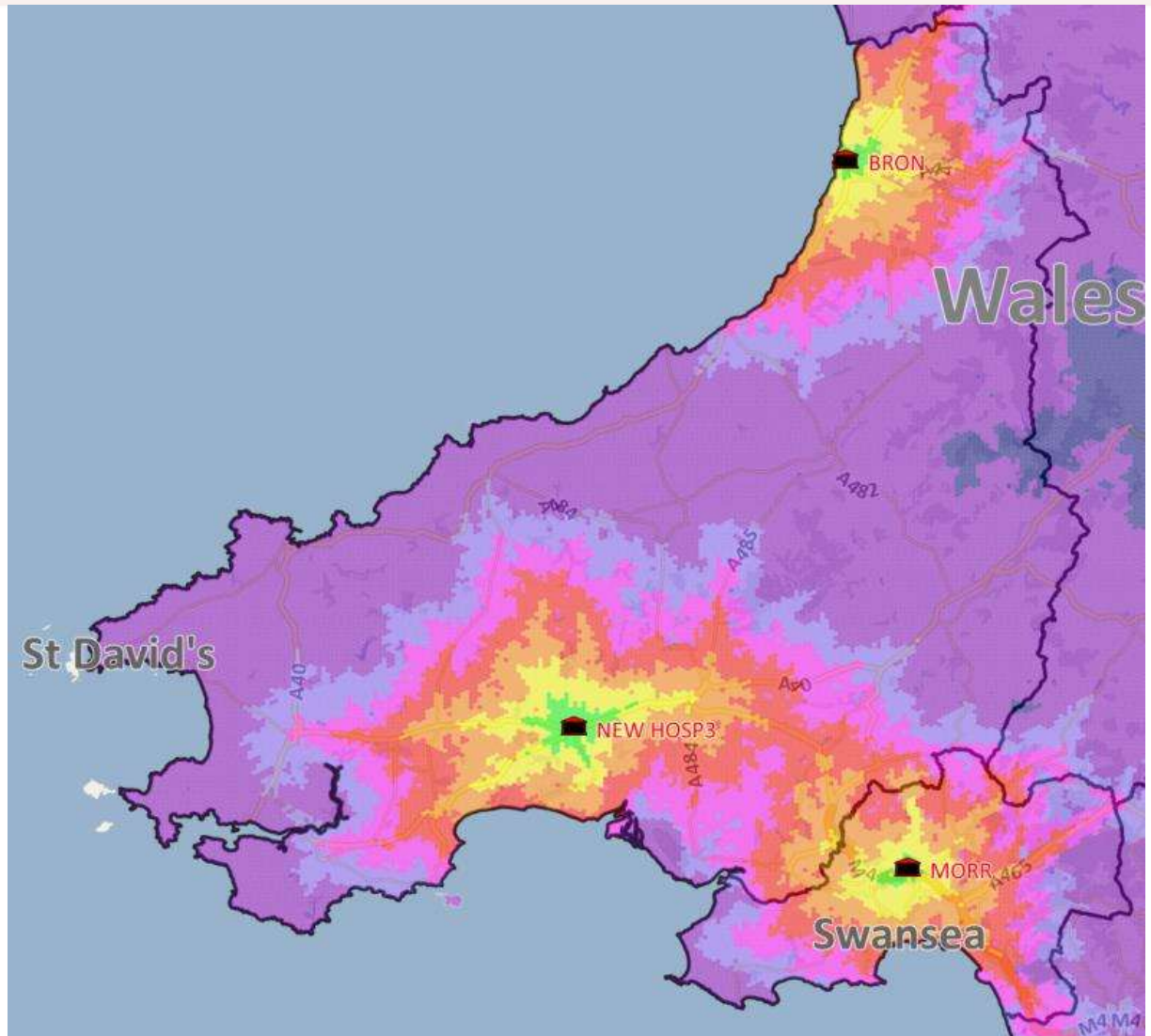
Assumptions:

- Lights & Sirens speed
- Friday 8am

St Clears Option:

- Bronglais
- Morriston
- **St Clears (SA33 4AG)**

KEY	
0-5 mins	
5-10 mins	
10-15 mins	
15-20 mins	
20-25 mins	
25-30 mins	
30-60 mins	
60-90 mins	



Analysis 2a -Travel Time Heat Map from LSOAs to closest ED



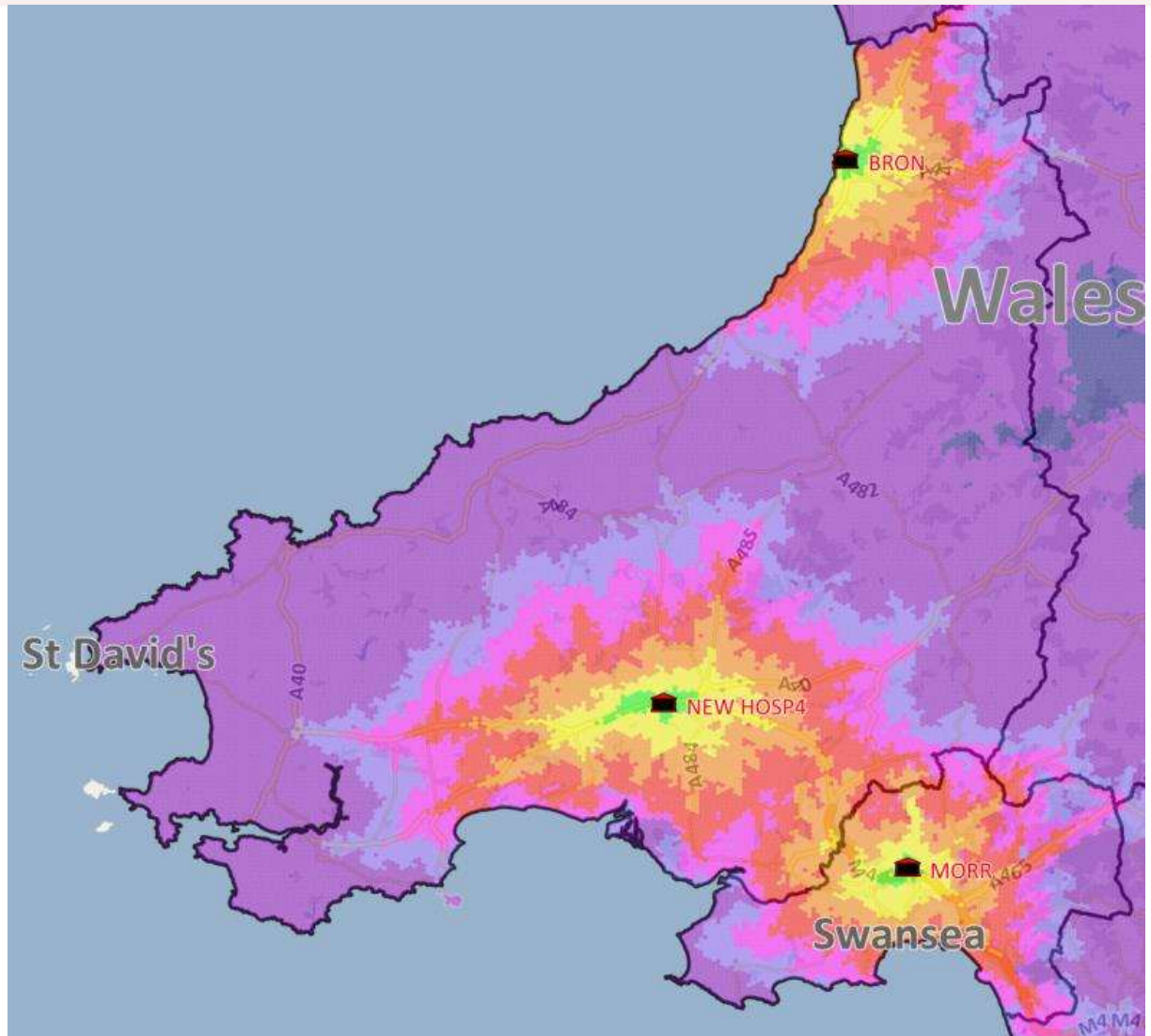
Assumptions:

- Lights & Sirens speed
- Friday 8am

Carmarthen Option:

- Bronglais
- Morriston
- Carmarthen (SA33 5DR)

KEY	
0-5 mins	
5-10 mins	
10-15 mins	
15-20 mins	
20-25 mins	
25-30 mins	
30-60 mins	
60-90 mins	



2a. Analysis 2a

Travel Time from LSOAs to closest ED hospital (Baseline v Scenario difference)

- **Excluding** Prince Philip Hospital



Analysis 2a – Travel Time from LSOAs to closest ED



Objective:

- Map the variation in the average travel time by LSOA for each proposed site option compared with the Baseline (current hospital configuration)

Baseline:

- Bronglais, Morriston, Withybush, Glangwili

Scenarios:

- Bronglais, Morriston, new hospital {Whitland or St Clears or Carmarthen}

Assumptions:

- Lights & Sirens speed
- Friday 8am

Analysis 2a - Travel Time from LSOAs to closest ED (Baseline v Scenario)



Assumptions:

- Lights & Sirens speed
- Friday 8am

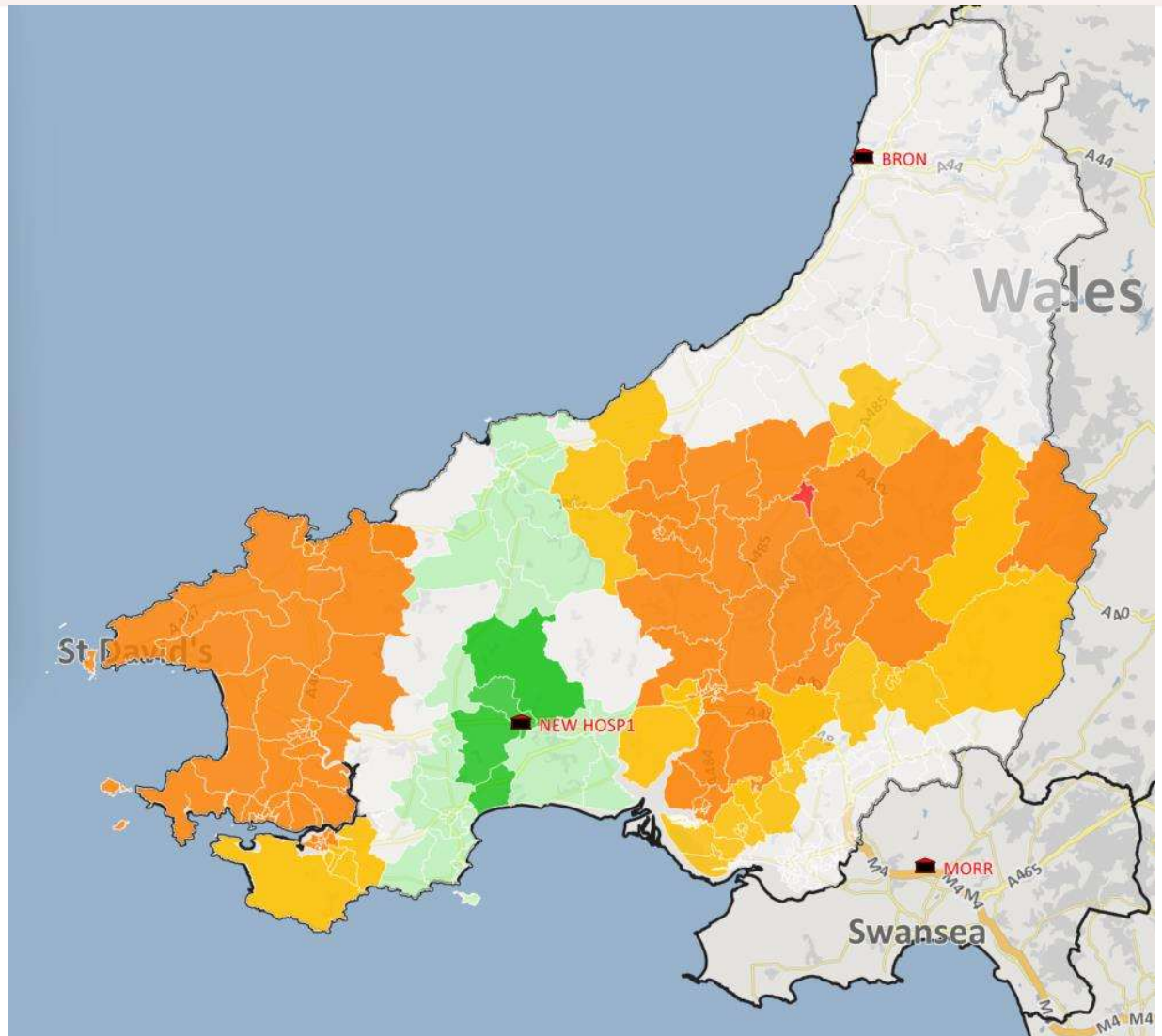
Whitland Option:

- Bronglais
- Morriston
- Whitland (SA34 0AD)

KEY	# LSOAs	% HD Population
20+ mins faster	0	0%
10-20 mins faster	4	1%
1-10 mins faster	27	5%
1 min either side of 0	92	20%
1-10 mins slower	32	57%
10-20 mins slower	74	16%
20+ mins slower	1	0%

Baseline Hospital Configuration

Bronglais / Morriston / Glangwili / Withybush)



Analysis 2a - Travel Time from LSOAs to closest ED (Baseline v Scenario)



Assumptions:

- Lights & Sirens speed
- Friday 8am

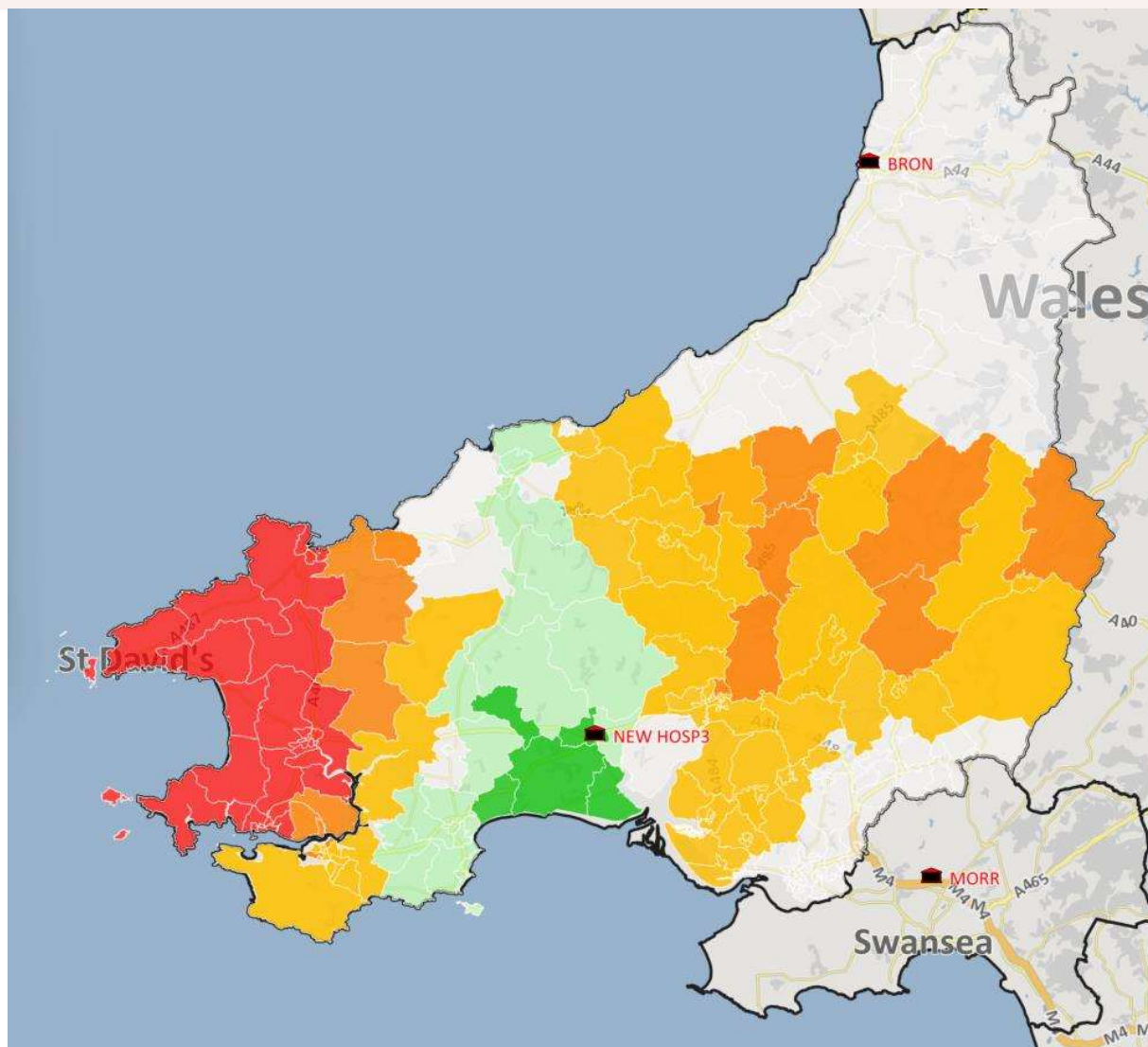
St Clears Option:

- Bronglais
- Morriston
- **St Clears (SA33 4AG)**

KEY	# LSOAs	% HD Population
20+ mins faster	0	0%
10-20 mins faster	5	1%
1-10 mins faster	23	5%
1 min either side of 0	93	20%
1-10 mins slower	62	63%
10-20 mins slower	17	4%
20+ mins slower	30	7%

Baseline Hospital Configuration

Bronglais / Morriston / Glangwili / Withybush)



Analysis 2a - Travel Time from LSOAs to closest ED (Baseline v Scenario)



Assumptions:

- Lights & Sirens speed
- Friday 8am

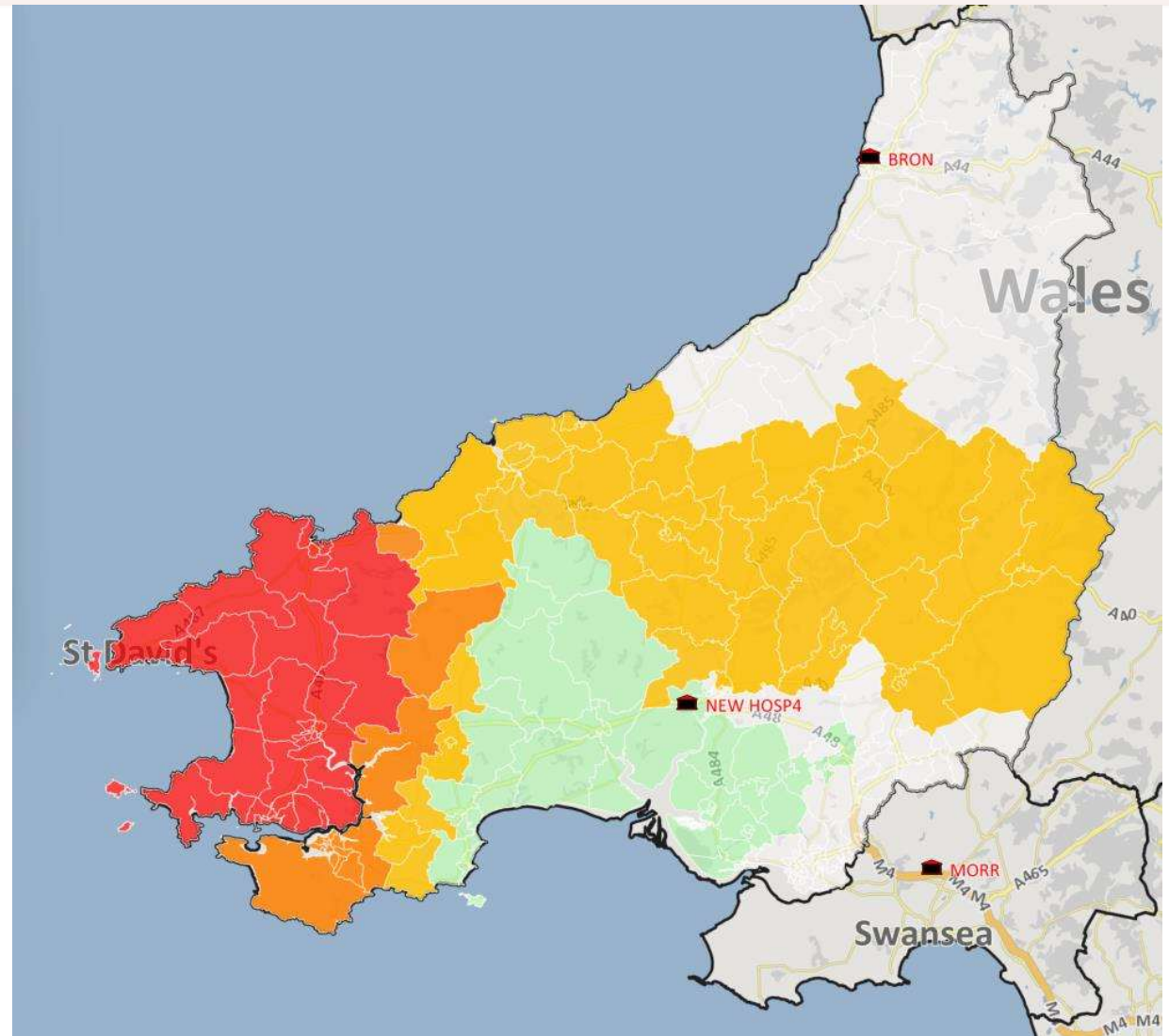
Carmarthen Option:

- Bronglais
- Morriston
- Carmarthen (SA33 5DR)

KEY	# LSOAs	% HD Population
20+ mins faster	0	0%
10-20 mins faster	0	0%
1-10 mins faster	40	9%
1 min either side of 0	91	20%
1-10 mins slower	49	60%
10-20 mins slower	15	3%
20+ mins slower	35	9%

Baseline Hospital Configuration

Bronglais / Morriston / Glangwili / Withybush)



Analysis 2a - Travel Time from LSOAs to closest ED (Baseline v Scenario)



Summary (Excluding Prince Philip)

What % of Hywel Dda Population is affected in a positive / negative way of Travel Time ?

Population Weighted Average:

Shows the average travel time change from Baseline per person for each scenario

E.g. The average person has a travel time of 4.9 minutes slower in the Whitland scenario than in the baseline.

Scenario:	Scenario 2a (Exc PP)		
New Hosp:	Whitland	St Clears	Carmarthen
20+ mins Quicker	0%	0%	0%
10-20 mins Quicker	1%	1%	0%
1-10 mins Quicker	5%	5%	9%
1 min either side of 0	20%	20%	20%
1-10 mins slower	57%	63%	60%
10-20 mins Slower	16%	4%	3%
20+ mins Slower	0%	7%	9%
Total	100%	100%	100%
Pop. Weighted Avg	+4.9	+4.9	+6.0

This says that 0% of the Hywel Dda population are in an LSOA that has an average travel time to hospital 10-20 mins quicker in the Carmarthen Scenario than in the baseline.

2b. Analysis 2b

Travel Time Heat Maps to closest ED hospital

- **Including** Prince Philip Hospital



Analysis 2b -Travel Time Heat Map from LSOAs to closest ED



Objective:

- Map the variation in average travel time to the closest hospital

Baseline:

- Bronglais, Morriston, Withybush, Glangwili, Prince Philip

Scenarios:

- Bronglais, Morriston, Prince Philip, new hospital {Whitland or St Clears or Carmarthen}

Assumptions:

- Lights & Sirens speed
- Friday 8am

Analysis 2b -Travel Time Heat Map from LSOAs to closest ED



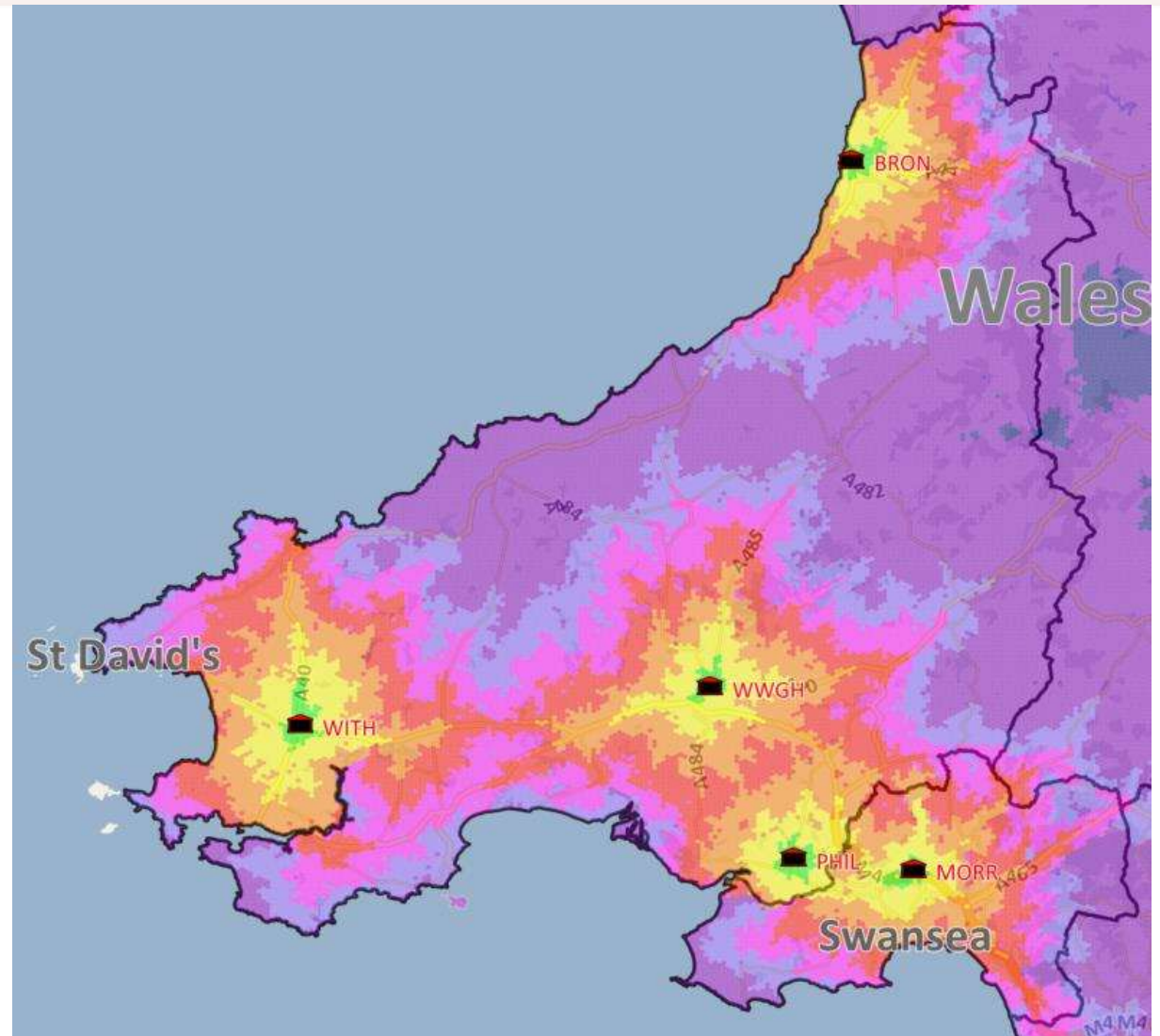
Assumptions:

- Lights & Sirens speed
- Friday 8am

Baseline 2b:

- Prince Philip
- Bronglais
- Morriston
- Withybush
- Glangwili

KEY	
0-5 mins	
5-10 mins	
10-15 mins	
15-20 mins	
20-25 mins	
25-30 mins	
30-60 mins	
60-90 mins	



Analysis 2b -Travel Time Heat Map from LSOAs to closest ED



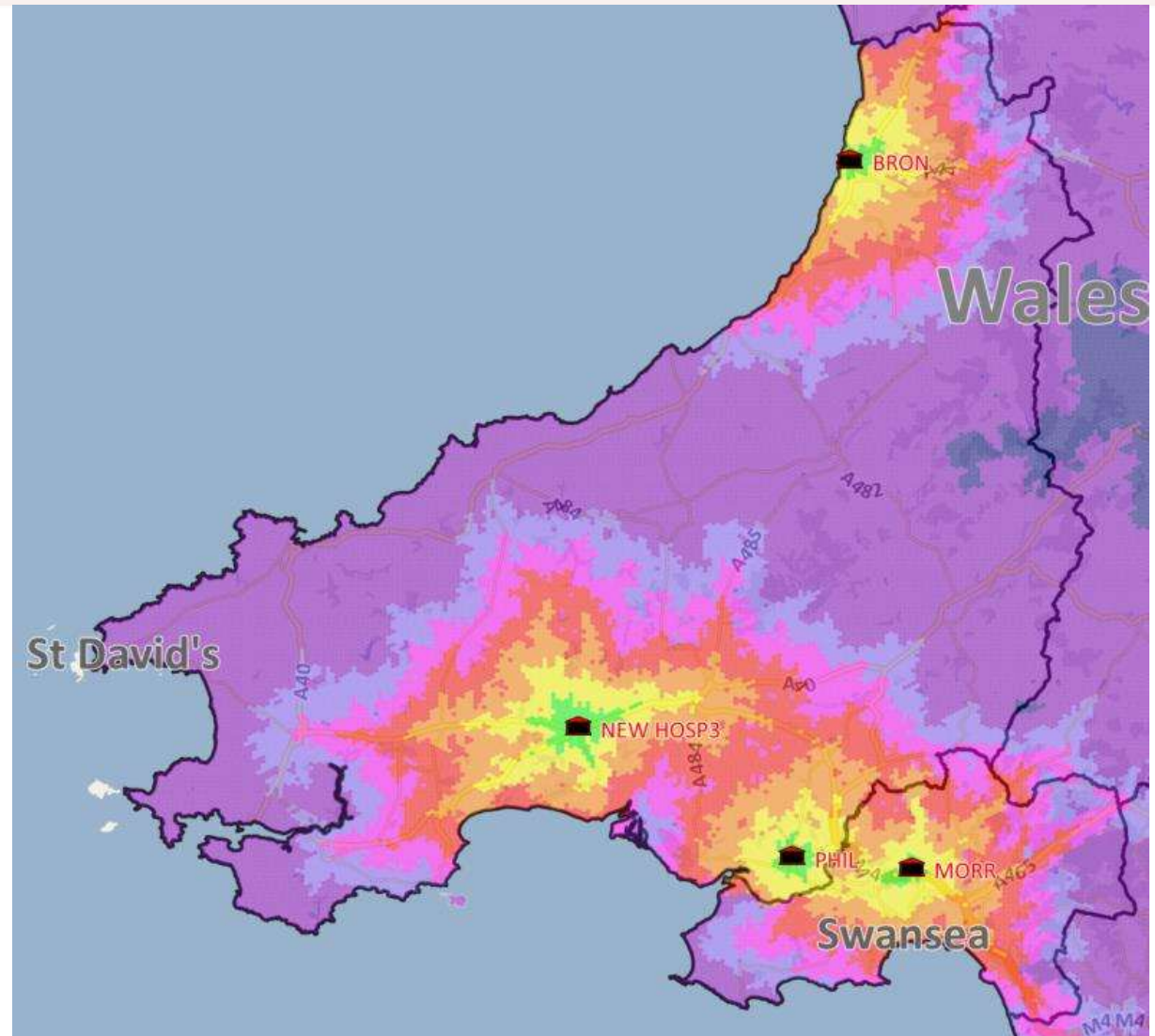
Assumptions:

- Lights & Sirens speed
- Friday 8am

St Clears Option:

- Prince Philip
- Bronglais
- Morryston
- **St Clears (SA33 4AG)**

KEY	
0-5 mins	
5-10 mins	
10-15 mins	
15-20 mins	
20-25 mins	
25-30 mins	
30-60 mins	
60-90 mins	



Analysis 2b -Travel Time Heat Map from LSOAs to closest ED



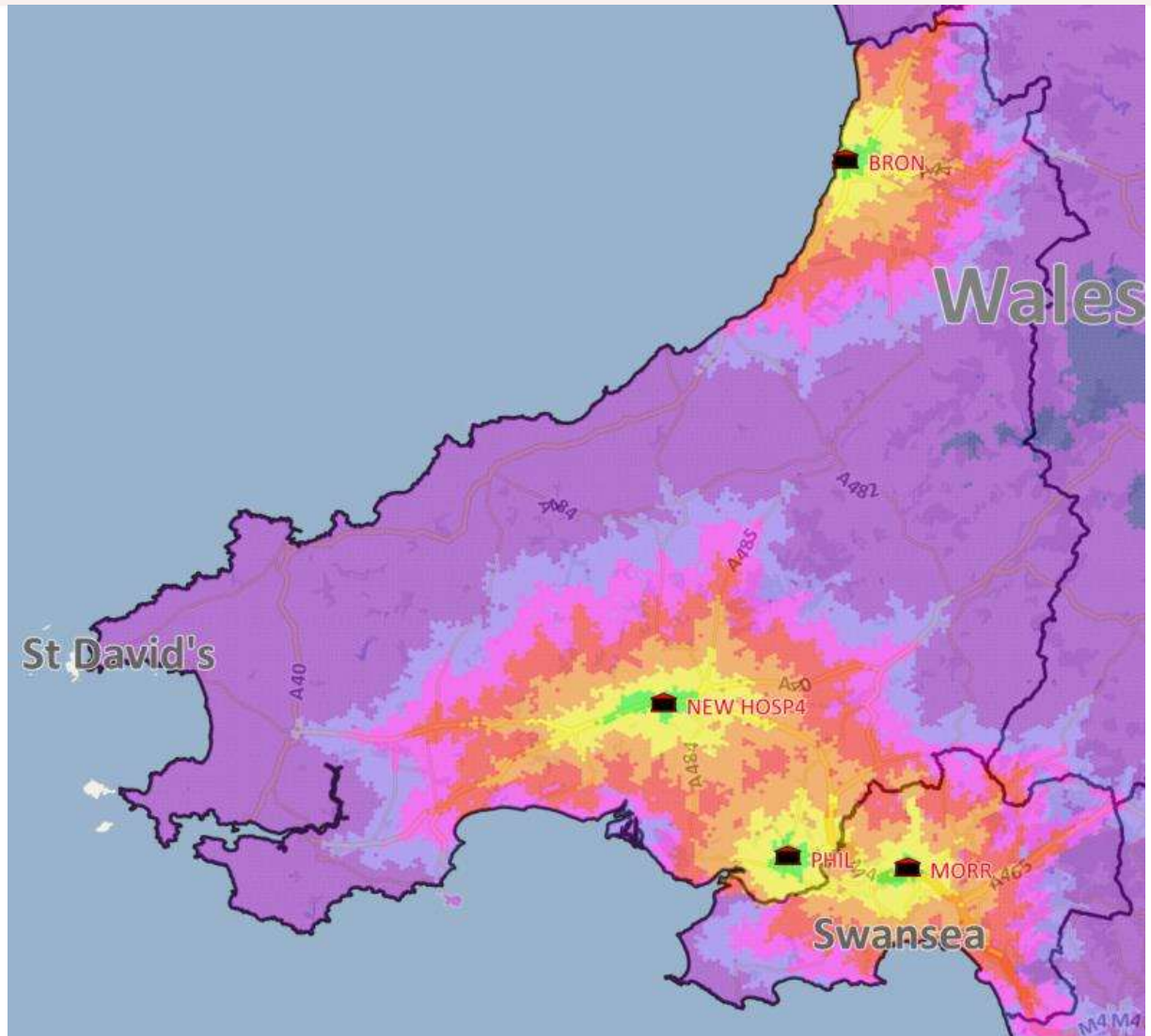
Assumptions:

- Lights & Sirens speed
- Friday 8am

Carmarthen Option:

- Prince Philip
- Bronglais
- Morryston
- Carmarthen (SA33 5DR)

KEY	
0-5 mins	
5-10 mins	
10-15 mins	
15-20 mins	
20-25 mins	
25-30 mins	
30-60 mins	
60-90 mins	



2b. Travel Time from LSOAs to closest ED hospital (Baseline v Scenario difference)

- Including Prince Philip Hospital



Analysis 2b – Travel Time from LSOAs to closest ED



Objective:

- Map the variation in the average travel time by LSOA for each proposed site option compared with the Baseline (current hospital configuration)

Baseline:

- Bronglais, Morriston, Withybush, Glangwili, Prince Philip

Scenarios:

- Bronglais, Morriston, Prince Philip, new hospital {Whitland or St Clears or Carmarthen}

Assumptions:

- Lights & Sirens speed
- Friday 8am

Analysis 2b - Travel Time from LSOAs to closest ED (Baseline v Scenario)



Assumptions:

- Lights & Sirens speed
- Friday 8am

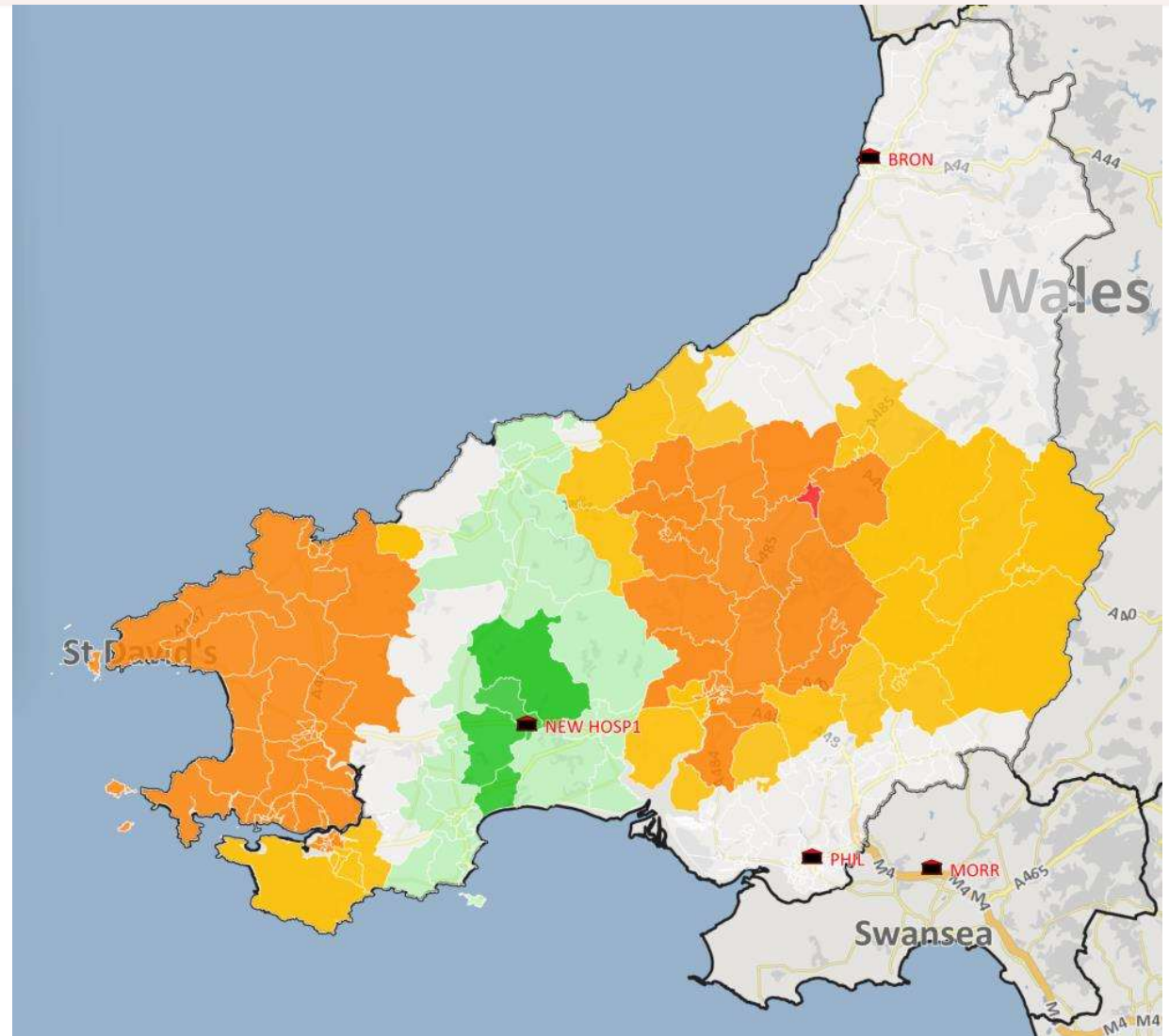
Whitland Option:

- Prince Philip
- Bronglais
- Morryston
- Whitland (SA34 0AD)

KEY	# LSOAs	% HD Population
20+ mins faster	0	0%
10-20 mins faster	4	1%
1-10 mins faster	28	6%
1 min either side of 0	101	22%
1-10 mins slower	30	56%
10-20 mins slower	66	15%
20+ mins slower	1	0%

Baseline Hospital Configuration

Bronglais / Morryston / Glangwili / Withybush / Prince Philip)



Analysis 2b - Travel Time from LSOAs to closest ED (Baseline v Scenario)



Assumptions:

- Lights & Sirens speed
- Friday 8am

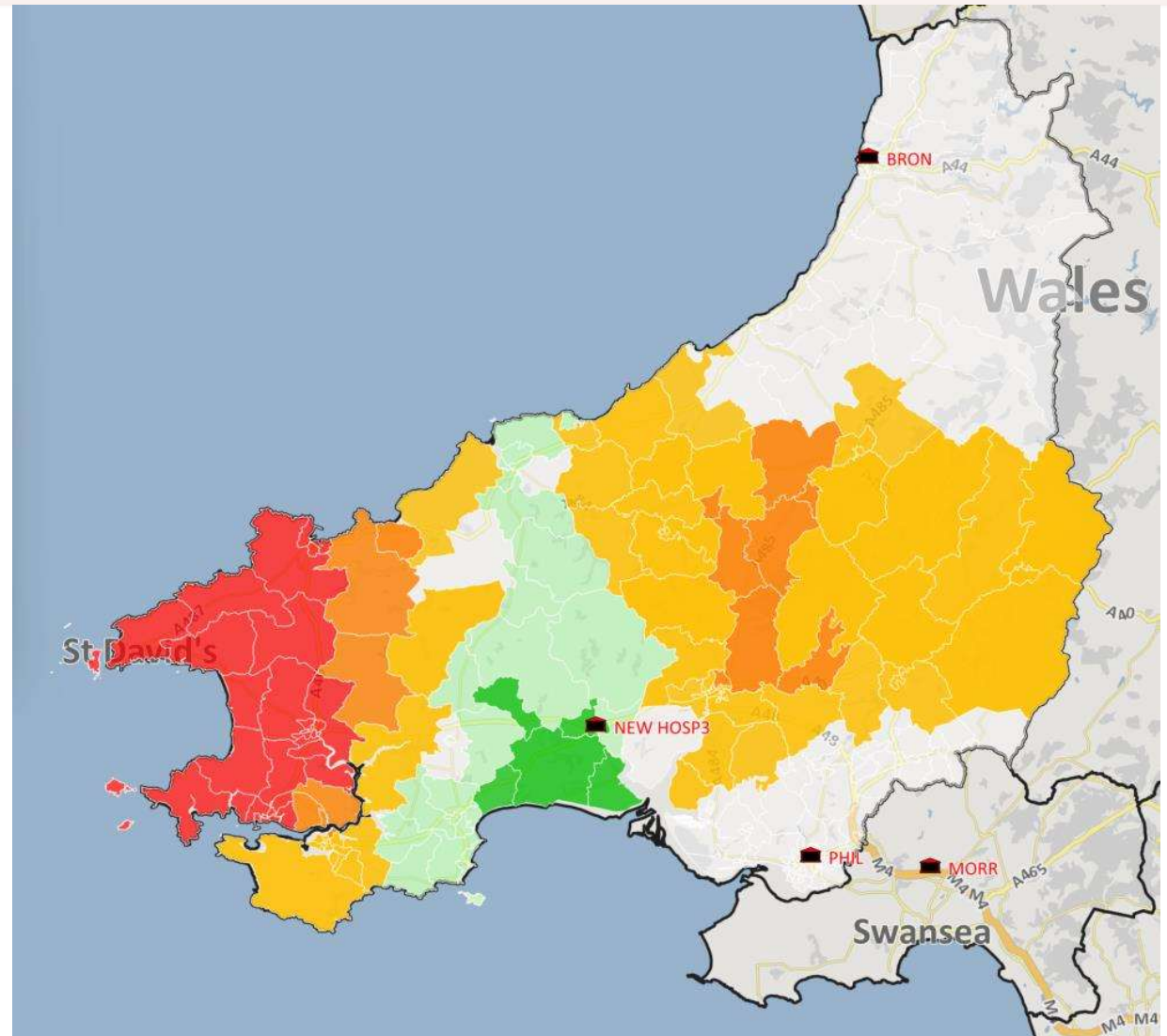
St Clears Option:

- Prince Philip
- Bronglais
- Morriston
- **St Clears (SA33 4AG)**

KEY	# LSOAs	% HD Population
20+ mins faster	0	0%
10-20 mins faster	5	1%
1-10 mins faster	24	5%
1 min either side of 0	101	22%
1-10 mins slower	55	62%
10-20 mins slower	15	3%
20+ mins slower	30	7%

Baseline Hospital Configuration

Bronglais / Morriston / Glangwili / Withybush / Prince Philip)



Analysis 2b - Travel Time from LSOAs to closest ED (Baseline v Scenario)



Assumptions:

- Lights & Sirens speed
- Friday 8am

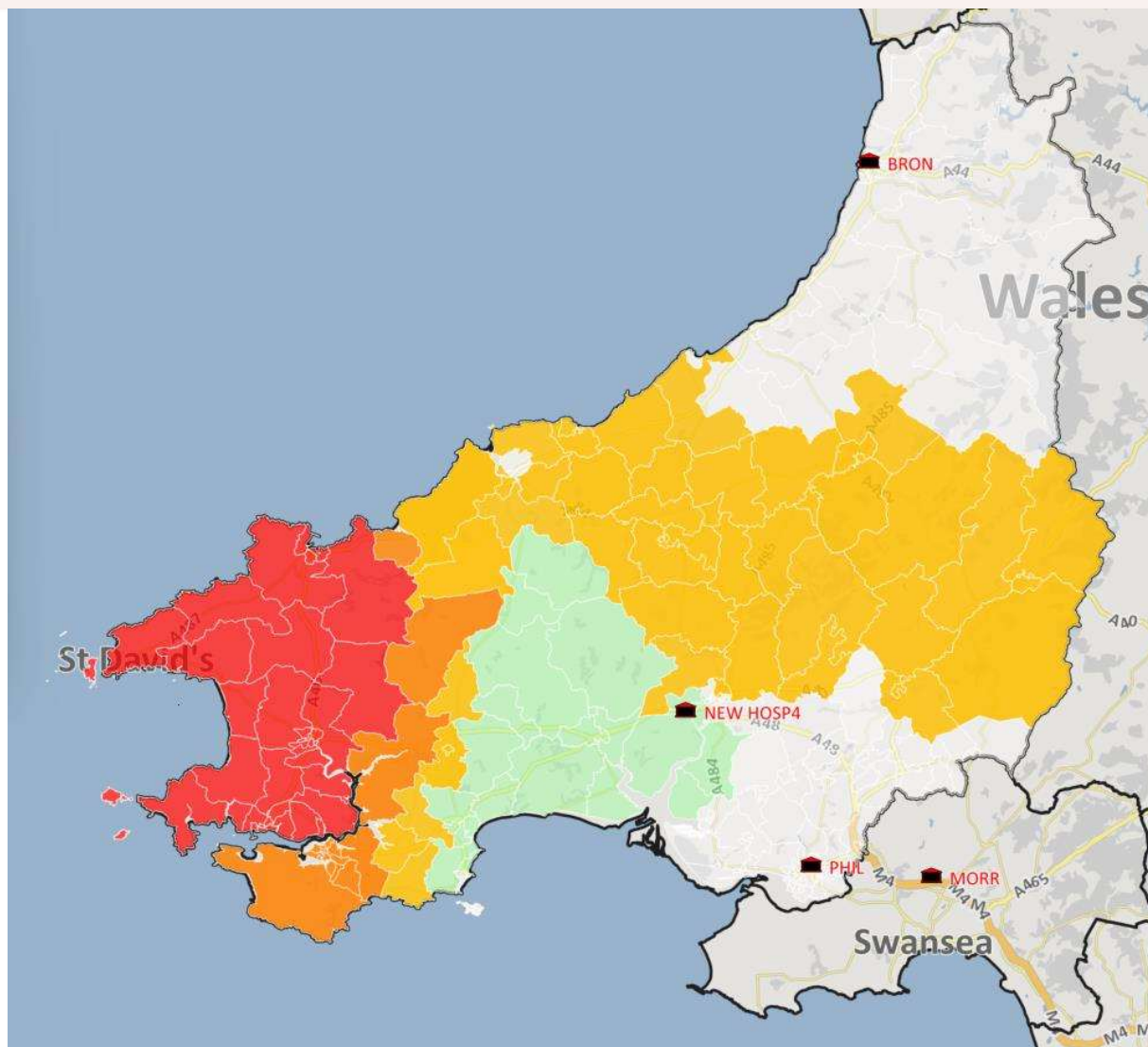
Carmarthen Option:

- Prince Philip
- Bronglais
- Morriston
- Carmarthen (SA33 5DR)

KEY	# LSOAs	% HD Population
20+ mins faster	0	0%
10-20 mins faster	0	0%
1-10 mins faster	25	5%
1 min either side of 0	107	23%
1-10 mins slower	48	59%
10-20 mins slower	15	3%
20+ mins slower	35	9%

Baseline Hospital Configuration

Bronglais / Morriston / Glangwili / Withybush / Prince Philip)



Analysis 2b – Travel Time from LSOAs to closest ED (Baseline v Scenario)



Summary (Including Prince Philip)

What % of Hywel Dda Population is affected in a positive / negative way of Travel Time ?

Population Weighted Average:

Shows the average travel time change from Baseline per person for each scenario

E.g. The average person has a travel time of 4.5 minutes slower in the Whitland scenario than in the baseline.

Scenario:	Scenario 2b (Inc PP)		
New Hosp:	Whitland	St Clears	Carmarthen
20+ mins Quicker	0%	0%	0%
10-20 mins Quicker	1%	1%	0%
1-10 mins Quicker	6%	5%	5%
1 min either side of 0	22%	22%	23%
1-10 mins slower	56%	62%	59%
10-20 mins Slower	15%	3%	3%
20+ mins Slower	0%	7%	9%
Total	100%	100%	100%
Pop. Weighted Avg	+4.5	+4.7	+6.1

This says that 0% of the Hywel Dda population are in an LSOA that has an average travel time to hospital 10-20 mins quicker in the Carmarthen Scenario than in the baseline.

APPENDIX 13b

TfW CONNECTIVITY ANALYSIS FOR HYWEL DDA HEALTH BOARD

In October 2025 TfW undertook public transport accessibility analysis for the Hywel Dda Health Board using the DfT (Department for Transport) Connectivity Tool. This provided a strategic assessment of public transport connectivity to existing and potential hospital sites in the region.

In December 2025 the Hywel Dda Health Board requested additional analysis of the shortlisted sites at Whitland and St Clears, together with a third location, the Nant-y-Ci car park on the western outskirts of Carmarthen town. This additional location was chosen as a proxy as no site selection process has been undertaken outside the zone agreed in the strategy which was Narberth to St Clears.

1. Connectivity analysis in terms of public transport and access by motor car for the following sites.

A. Nant-y-Ci car park, Carmarthen

The DfT connectivity analysis highlights driving as the dominant mode of accessibility, with a consistent mean score of 70, significantly higher than all other options. Cycling and walking register mean scores of 49 and 44 respectively, suggesting relatively strong access for active travel modes. Public transport, however, shows limited connectivity with a static mean score of 39, while the overall score for all modes excluding driving stands at 43.

Figure 1: Private Vehicle connectivity to residential areas for the Nant-y-Ci car park



Figure 2: Public Transport connectivity to residential areas for the Nant-y-Ci car park



B. St Clears (SA33 4JW)

The DfT connectivity analysis reveals that driving offers the highest level of accessibility, with a mean score of 67, far surpassing all other modes. Cycling and walking follow with mean scores of 39 and 37 respectively, indicating moderate accessibility for active travel options. Public transport trails behind at a mean score of 31, while the overall score for all modes excluding driving stands at 34.

Figure 3: Public transport connectivity to residential areas to the St Clears site

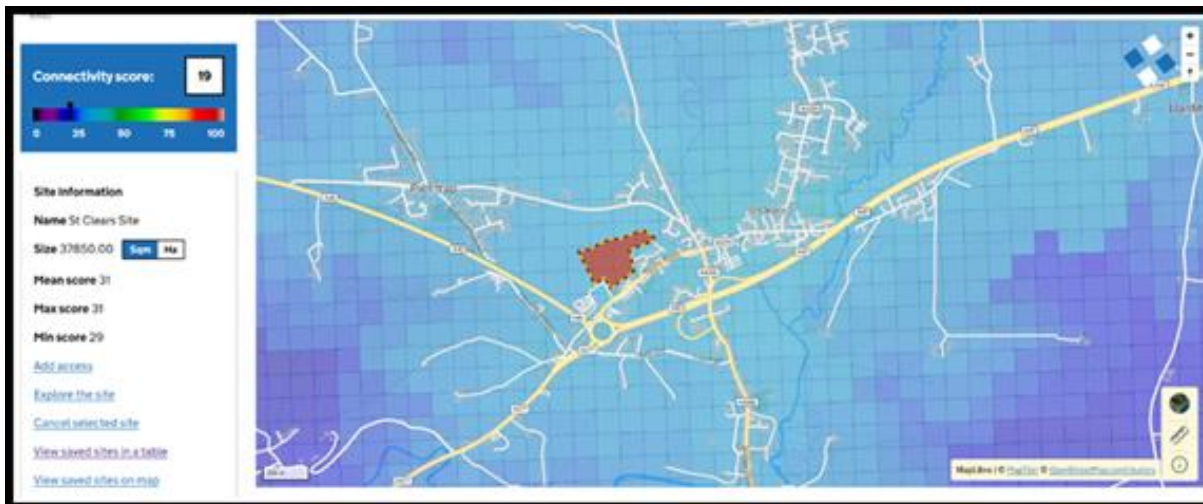


Figure 4: Private Vehicle connectivity to residential areas to the St Clears site



C. Whitland (SA34 0HZ)

The DfT connectivity analysis indicates that driving provides the highest level of accessibility, with a mean score of 62, significantly outperforming all other modes. Cycling and walking follow with mean scores of 37 and 35 respectively, reflecting moderate levels of accessibility. Public transport lags behind at a mean score of 28, while the overall score for all modes excluding driving stands at 32.

Figure 5: Public transport connectivity to residential areas for the Whitland site

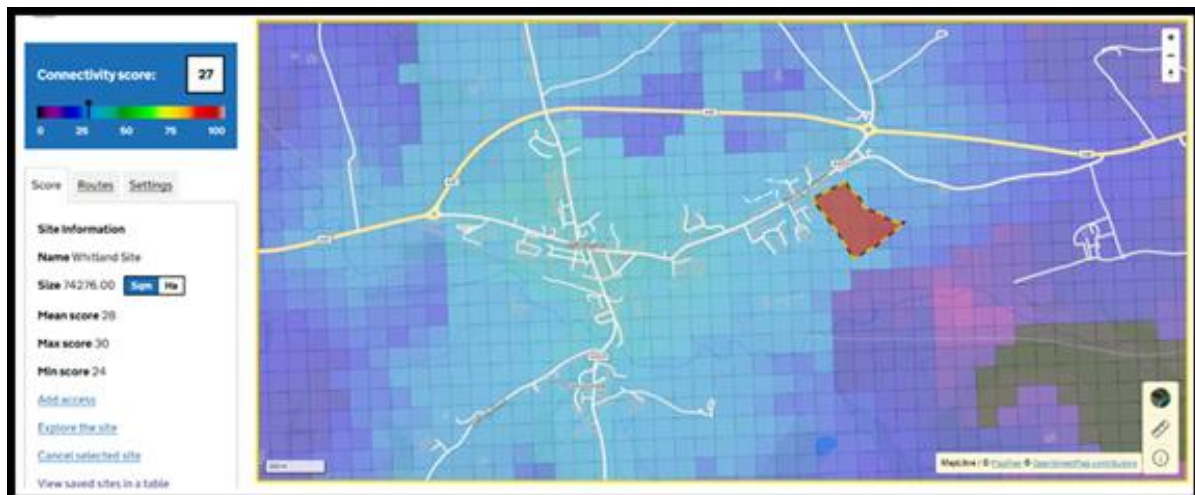
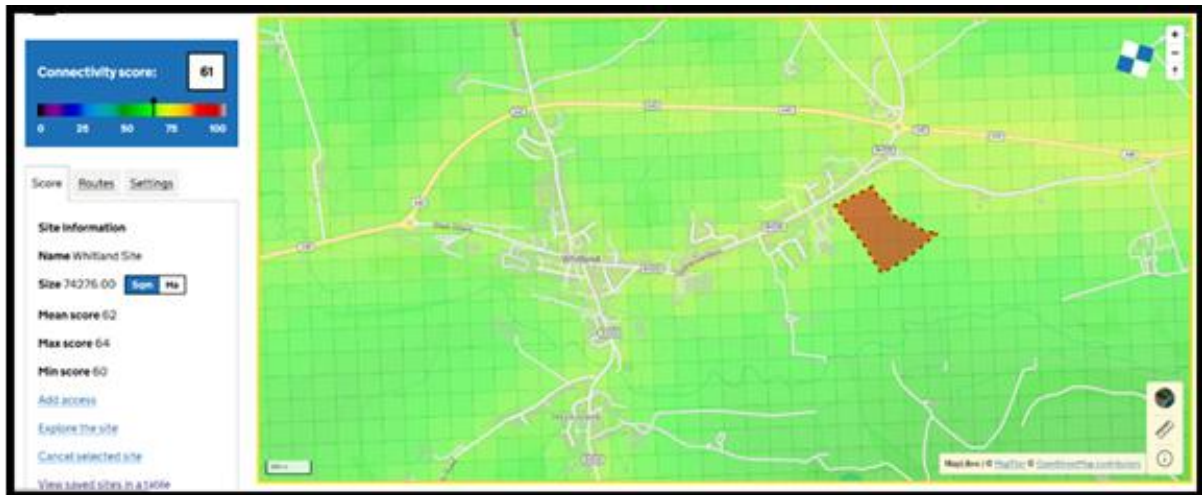


Figure 6: Private vehicle connectivity to residential areas for the Whitland site



The table below summarises the connectivity scores for each location by mode:

Mode of Transport	Nant y Ci			St Clears			Whitland		
	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min
Overall (exc driving)	43	43	42	34	35	33	32	34	28
Public Transport	39	39	39	31	31	29	28	30	24
Walking	44	45	42	37	38	36	35	37	31
Cycling	49	50	47	39	40	38	37	39	34
Driving	70	70	70	67	68	65	62	64	60

The connectivity scores shows that the Nant y Ci car park has the highest connectivity score to residential areas. This is the case for all modes.

It can also be seen that driving consistently delivers the highest accessibility across all three locations, with mean values ranging from 62 to 70. Cycling and walking provide moderate levels of accessibility, with mean scores between 37–49 and 35–44 respectively, though Whitland shows a notably low minimum cycling score, indicating poor provision. Public transport performs weakest overall, with mean scores of 28–39 and particularly low minimum values in Whitland.

Furthermore, the table below summarises journey time accessibility examples for both public transport and motor car combined with the population estimates for each journey time range.

		HDUHB total population (2024, ONS):			388,722	
Site	Mode	Journey time range	Population estimate (2024, ONS)	% of total HDUHB population (2024, ONS)		
Nant-Y-Ci Car Park (Carmarthen)	PT*	0-20 mins	12,598	3.2%		
		20-40 mins	16,094	4.1%		
		40-60 mins	44,394	11.4%		
		Total up to 60 mins	73,086	18.8%		
	Car	0-20 mins	66,797	17.2%		
		20-40 mins	182,882	47.0%		
		40-60 mins	106,081	27.3%		
		Total up to 60 mins	355,760	91.5%		
	St Clears (SA33 4JW)	PT*	0-20 mins	5,638	1.5%	
			20-40 mins	23,288	6.0%	
40-60 mins			12,763	3.3%		
Total up to 60 mins			41,689	10.7%		
Car		0-20 mins	48,235	12.4%		
		20-40 mins	235,916	60.7%		
		40-60 mins	68,278	17.6%		
		Total up to 60 mins	352,429	90.7%		
Whitland (SA34 0HZ)		PT*	0-20 mins	3,860	1.0%	
			20-40 mins	13,470	3.5%	
	40-60 mins		46,643	12.0%		
	Total up to 60 mins		63,973	16.5%		
	Car	0-20 mins	40,965	10.5%		
		20-40 mins	196,806	50.6%		
		40-60 mins	109,260	28.1%		
		Total up to 60 mins	347,031	89.3%		

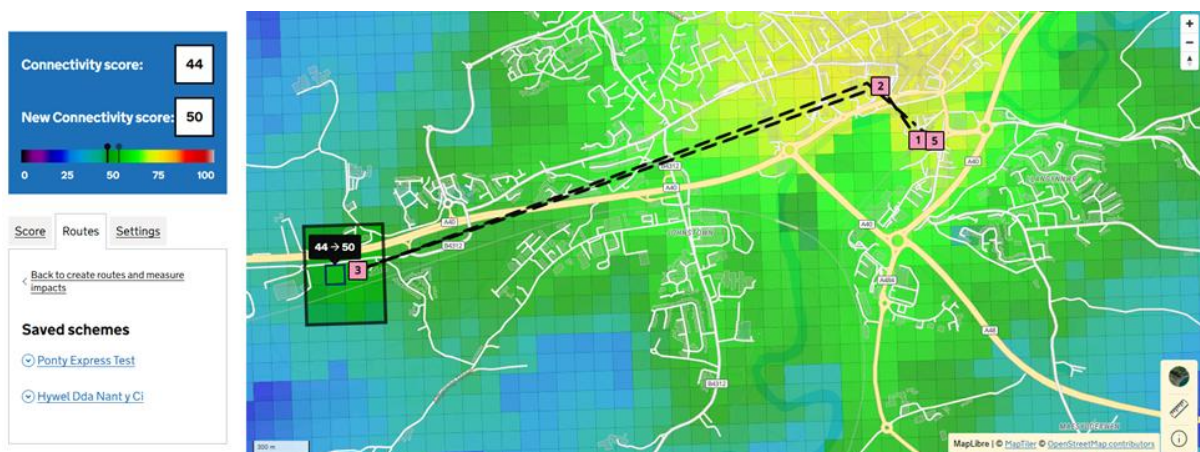
(* Based on Q4 2025 public transport timetables (bus & rail))

2. Determine what impact a new bus service (e.g. 30-minute frequency) linking the Carmarthen bus and rail station to the Nant-y-Ci car park site would have on the connectivity score.

Introducing a 30-minute bus service between Carmarthen station and the Nant-y-Ci car park results in a maximum uplift of 6 connectivity points. In practical terms, such a service would be expected to provide a useful connection for people travelling to any hospital located on the site. The overall site connectivity change is presented below:

Mode of Transport	Nant y Ci (Existing)	Nant y Ci (Improved)
Overall	44	50

Figure 7: Nant y Ci car park site analysis with 30-minute bus service



3. Connectivity analysis to consider what impact a new rail station near to the Nant-y-Ci site would have on the connectivity score | Connectivity analysis to consider what impact a new rail station near to the St Clears site would have on the connectivity score.

We explored the option of introducing a new railway station; however, the tool only supports additive changes to the transport network. While we can model the inclusion of a new railway station, the tool does not account for existing rail services, and incorporating current services manually would result in double counting. Therefore, it would not adequately reflect the current transport circumstances.

It is our understanding that DfT intend to improve the functionality of the Connectivity Tool. Should improve functionality address this we would be happy to undertake this analysis.