Swansea Bay & West Wales
Regional Transport Overview

CJC Transport Sub Committee | 12th February 2024

South West Regional Transport Study (Early Stages)

THE AIM

To collaboratively produce an informed list with each local authority, and collectively regionally, of improvements to increase the desirability of multi modal transport.

THE INTENTION

BUS
To understand where points of unwanted delay are (CitySwift data), explore what may be the cause of delay, consider whether infrastructure changes could improve journey times. Understand whether frequency and routes reflect demand.

CAR
To analyse travel patterns and destinations (INRIX data) and whether this is reflected in the bus routes.

ACTIVE TRAVEL
Consider where existing and proposed active travel routes are, where do these intersect with bus stops/routes and proposed metro stations.

RAIL
Explore bus/rail connectivity and timetables.

OTHER
Could development areas proposed within LDP's consider incorporating identified improvements?
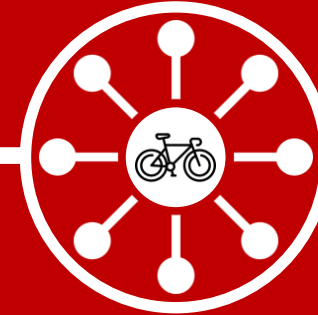
Programme

Initial CitySwift
Data Analysis

INRIX & Mobile Phone
Data Cross-Check

Initial Report and
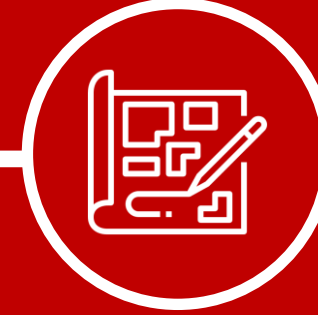Share with Local Gov

Active Travel Integration
with Bus Routes

Final Report &
RTP Delivery

Local Development Plan
Integration

Local Development
Plan Commitments

How?

City Swift database provides real-time information.

Data from October 2022 to October 2023 utilised and includes the majority of bus routes in the South West Wales region.
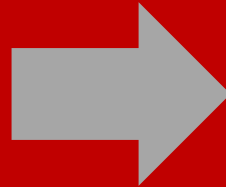
Ranking bus routes by:

- Demand
- Profitability
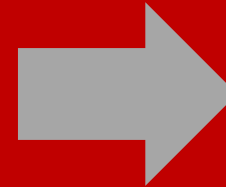- Unwanted Dwell Time
- Concessionary

Study Output

Prioritisation by Passenger Demand and Dwell Time

→

Identify the areas where journey speeds are slowest

→

Identify the areas in greatest need of improvement to deliver the greatest benefit

Bus route ranking example:

Bus Routes	Rank Demand	Rank Profitability	Rank Dwell Time	Rank Concessionary	Dwell Time + Demand
SW-4	1	2	1	100	2
SW-8	2	1	7	122	9
SW-X6	3	165	3	73	6
SW-36	4	66	6	77	10
BR-X2	5	171	5	49	10
BR-63	6	170	12	58	18
PT-87	7	164	4	43	11
PT-X1	8	166	2	62	10
SW-111	9	155	9	86	18
SW-25	10	5	11	93	21
SW-16	11	148	18	94	29
SW-3A	12	126	14	67	26
PT-34	13	146	15	97	28
SW-10	14	6	10	116	24
PT-70	15	161	17	44	32
PT-X7	16	122	26	69	42
BR-74	17	159	38	66	55
SW-31	18	157	20	98	38
SW-9	19	3	13	116	32
SW-20	20	4	29	90	49

How to get a regional perspective?

- This initial approach pre-selects high density populations.

- Swansea Bay bus routes have therefore dominated the initial ranking and analysis due to the data using absolute numbers.

- To counter this and provide a regional perspective, the analysis has been repeated with the exclusion of bus routes that engage with Swansea bus depots.
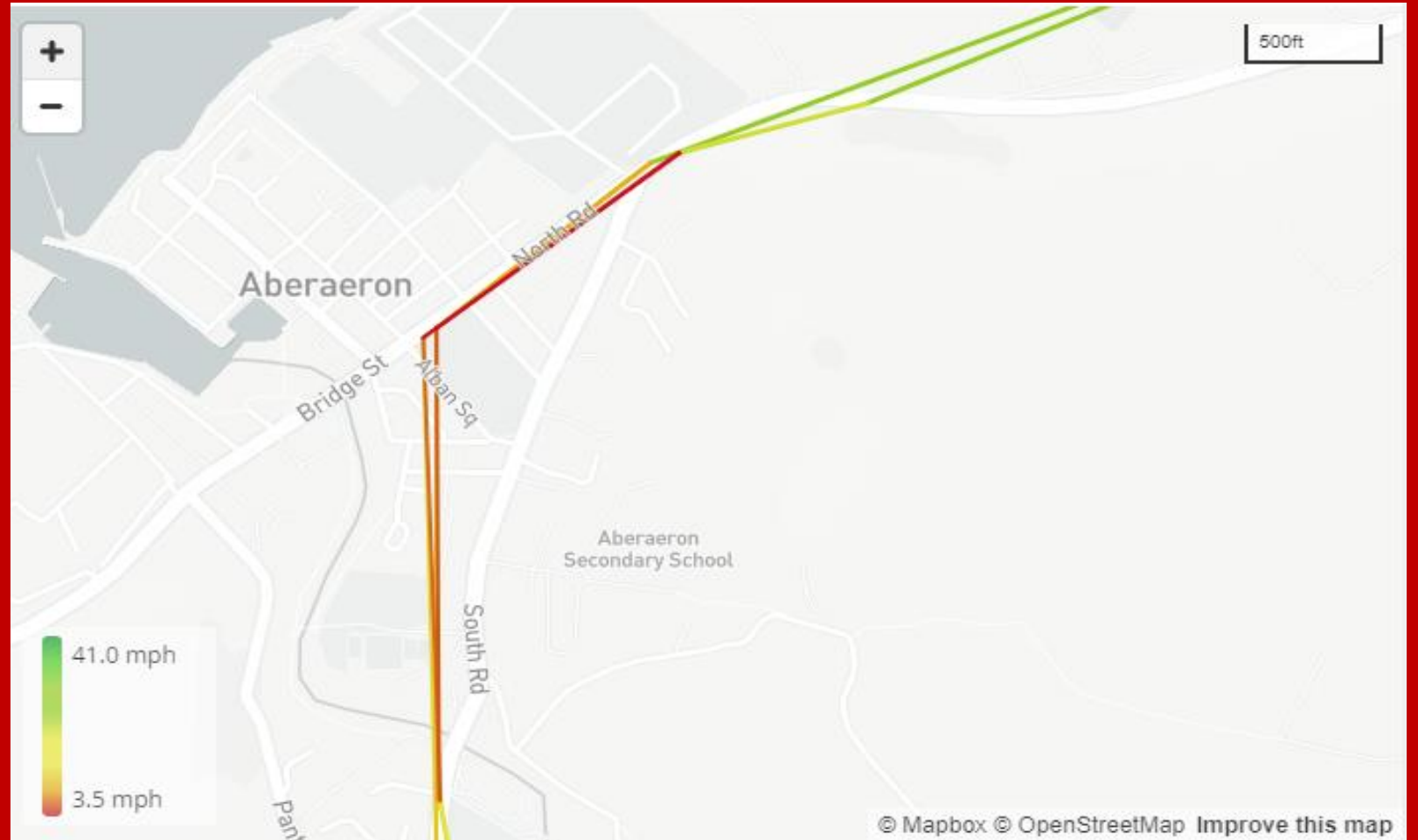
Examples of output of study

| Bus Routes	Total Demand	% Concessionary	Average Passengers Per Trip	Profitability	Est. Total Revenue	Est. Total OPEX	Dwell Time at TP	Dwell Time at Non-TP	Unneeded Dwell Time	Rank Demand	Rank Profitability	Rank Unneeded Dwell Time	Rank Concessionary	Rank +Dwell Time
CA-T1	115303	36.2	13.08	-194745.2	184484.8	379230	166.64	122.29	142.93	9	114	8	65	17

Average time between stops

This is the area of slowest average speed and most unwanted delay that is impacting the operation of the bus route.

Examples of output of study

| Bus Routes	Total Demand	% Concessionary	Average Passengers Per Trip	Profitability	Est. Total Revenue	Est. Total OPEX	Dwell Time at TP	Dwell Time at Non-TP	Unneeded Dwell Time	Rank Demand	Rank Profitability	Rank Unneeded Dwell Time	Rank Concessionary	Rank +Dwell Time
PT-87	259297	50.8	15.78	-108373	414875.2	523248	337.62	321.87	325.28	3	110	2	38	5
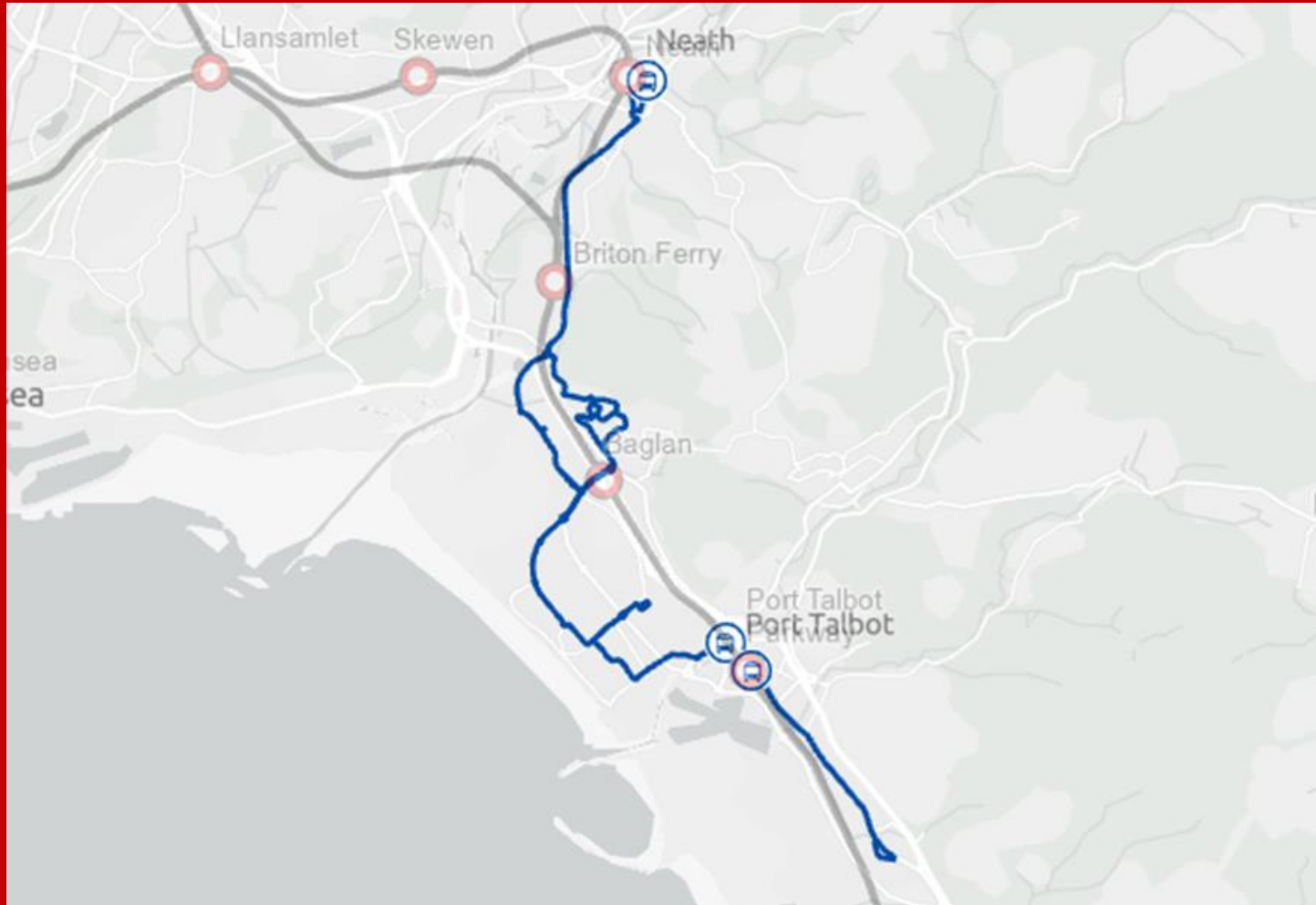
Average Time between stops
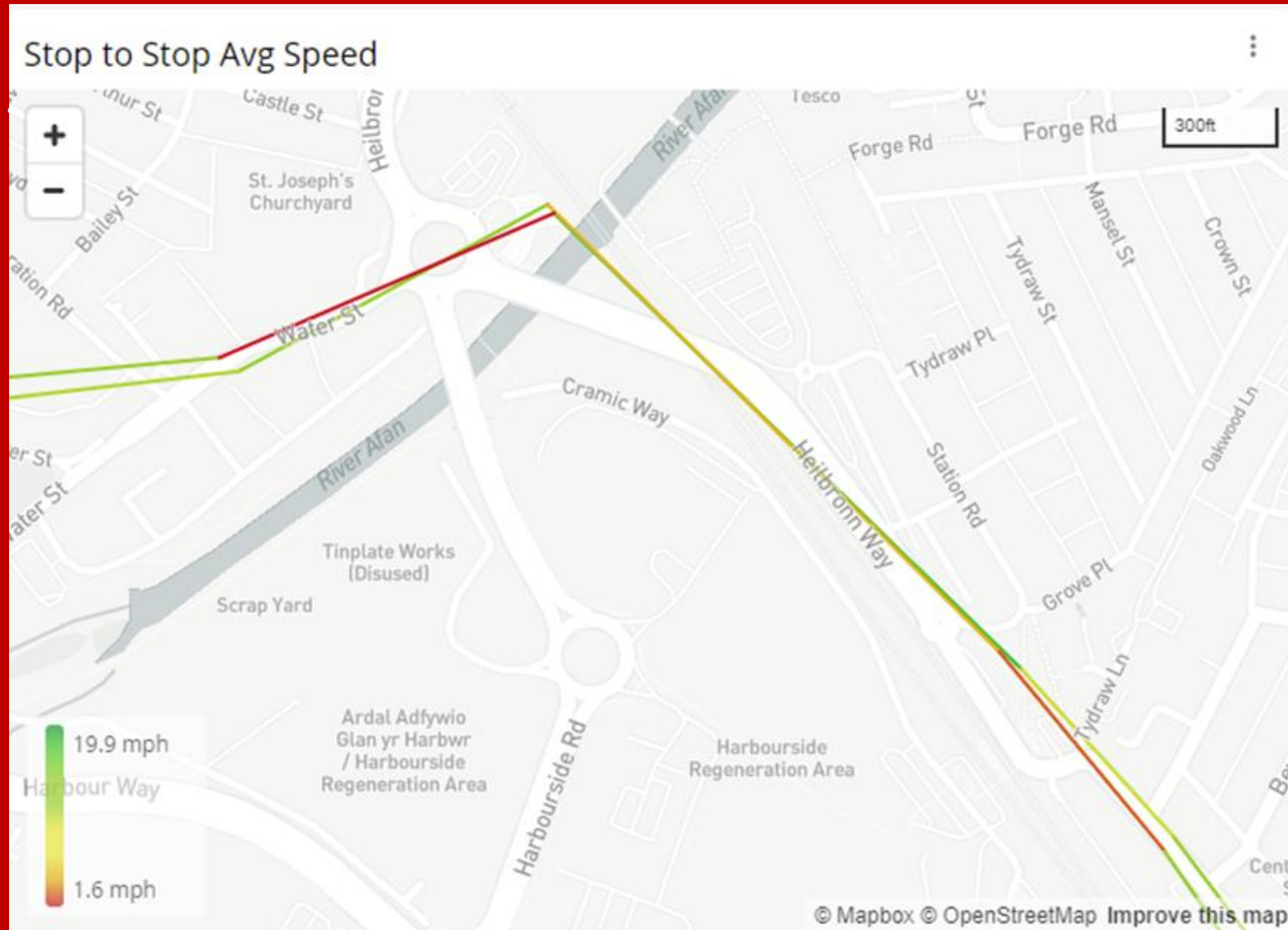
Timepoints along each route assess if the bus is running on time.
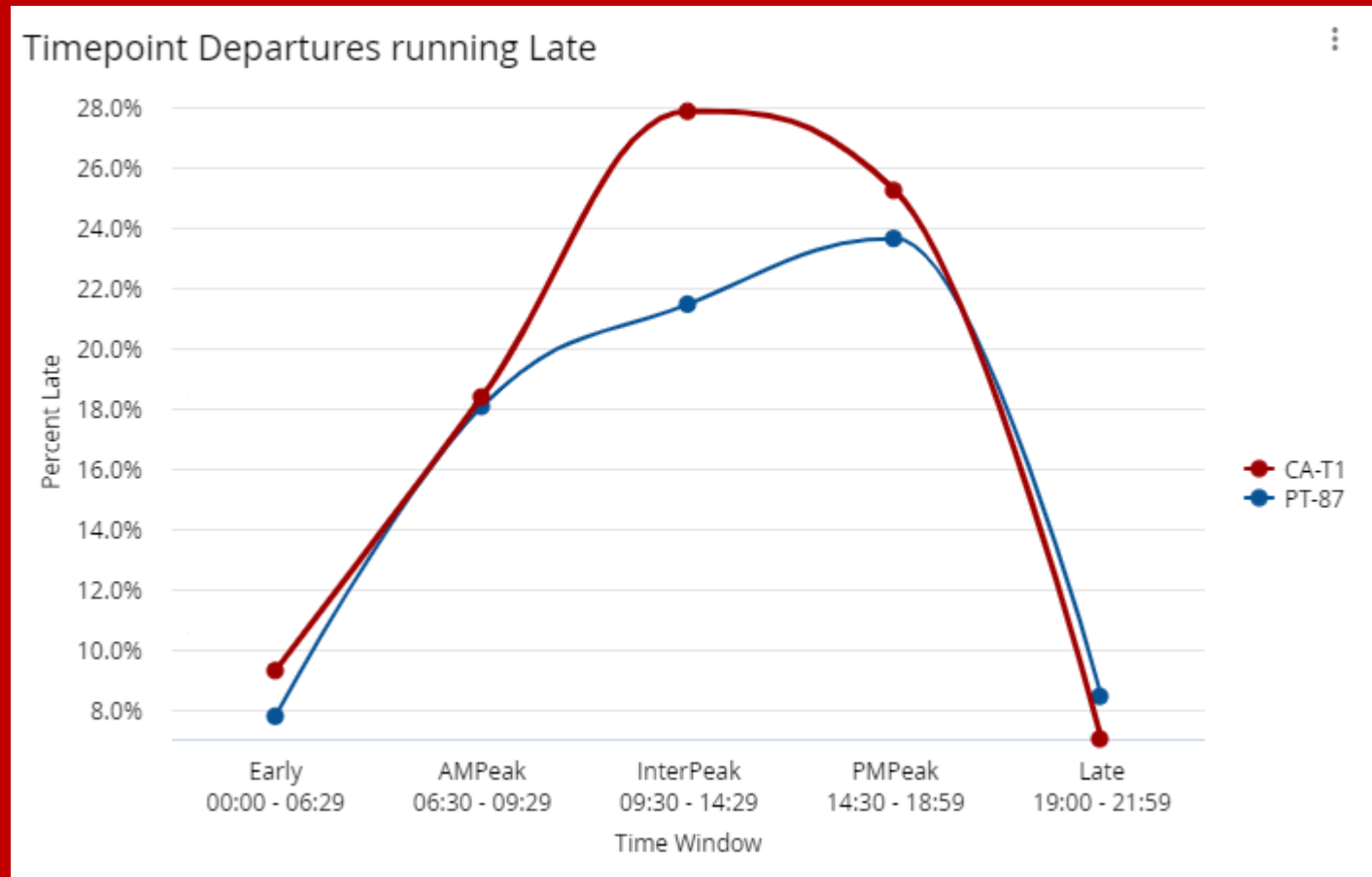
Cross Referenced with INRIX
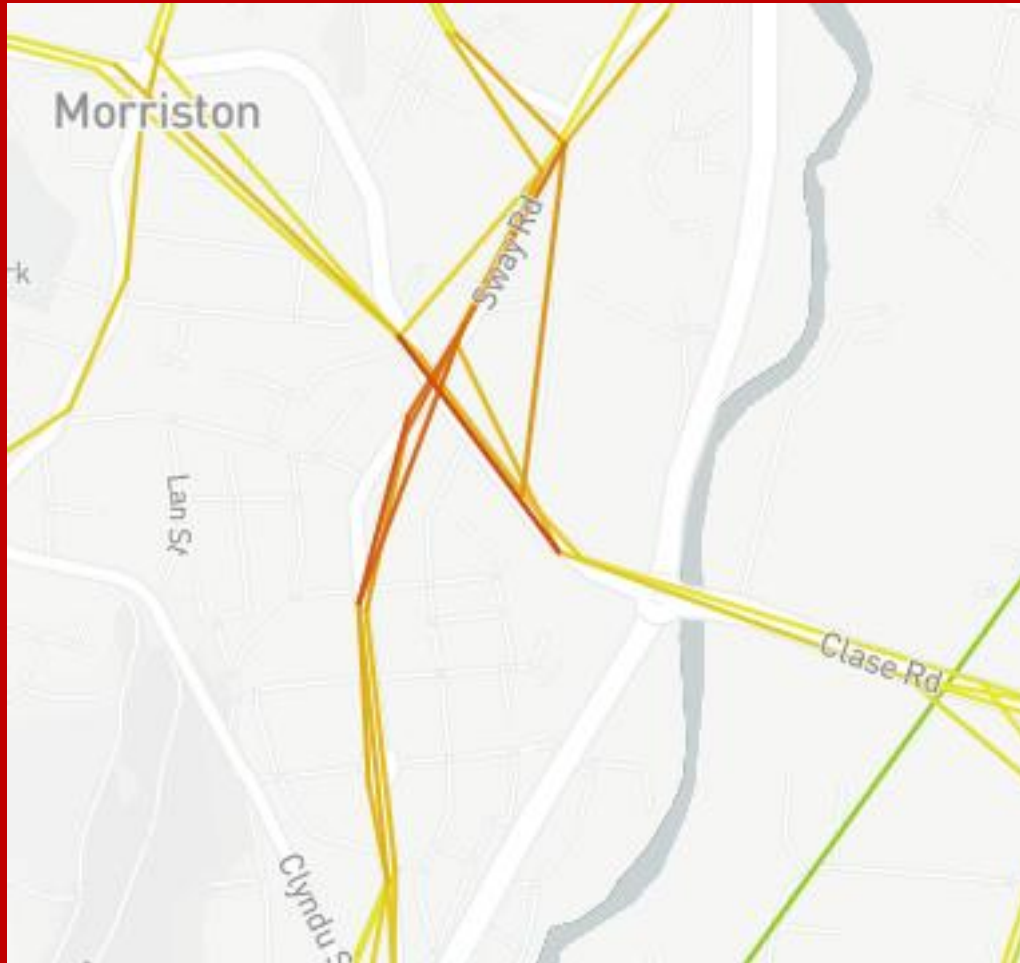
40% of free flow speed

Time: 15:45
Segment: [N] B4603 (0.24km)
Public Segment Id: 432197408
(B4603)

Output

- This project is trying to give a regional perspective of the bus network.

- Bring local knowledge and data together to create to a solid starting point on how to improve the bus network

- Identify the problems and start the process for finding solutions

Next Steps

Engage with local government colleagues and stakeholders to understand the routes and local needs
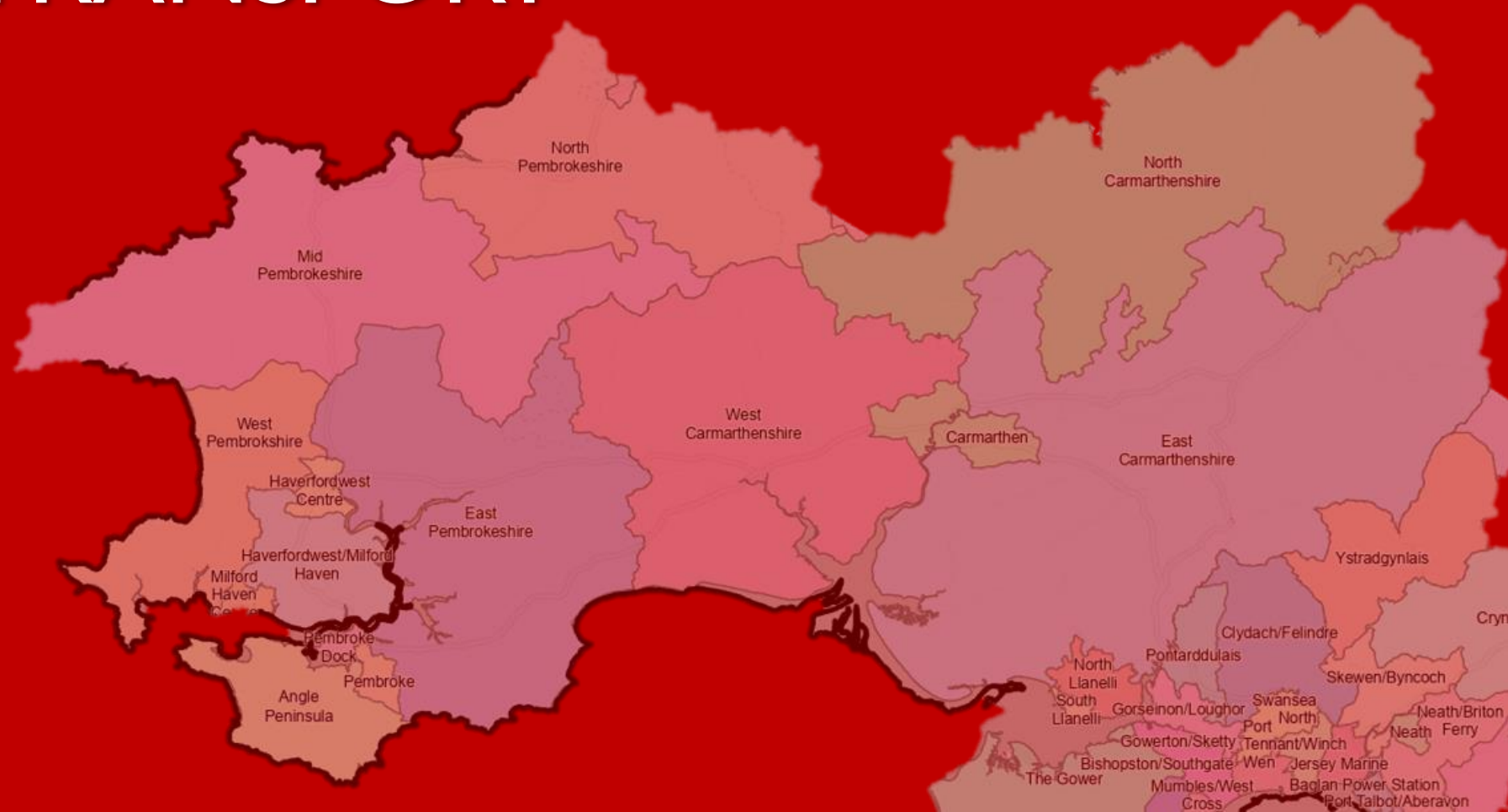
Understand operational cost savings that could be achieved by improving the bus route infrastructure

Engage with local government colleagues and stakeholders to understand the routes and local needs

STRATEGIC TRANSPORT ANALYSIS

South West & Mid Wales Transport Model (SWMWTM)

The South West & Mid Wales Transport Model includes four areas of detailed modelling:

- Swansea, Llanelli, Neath, Port Talbot
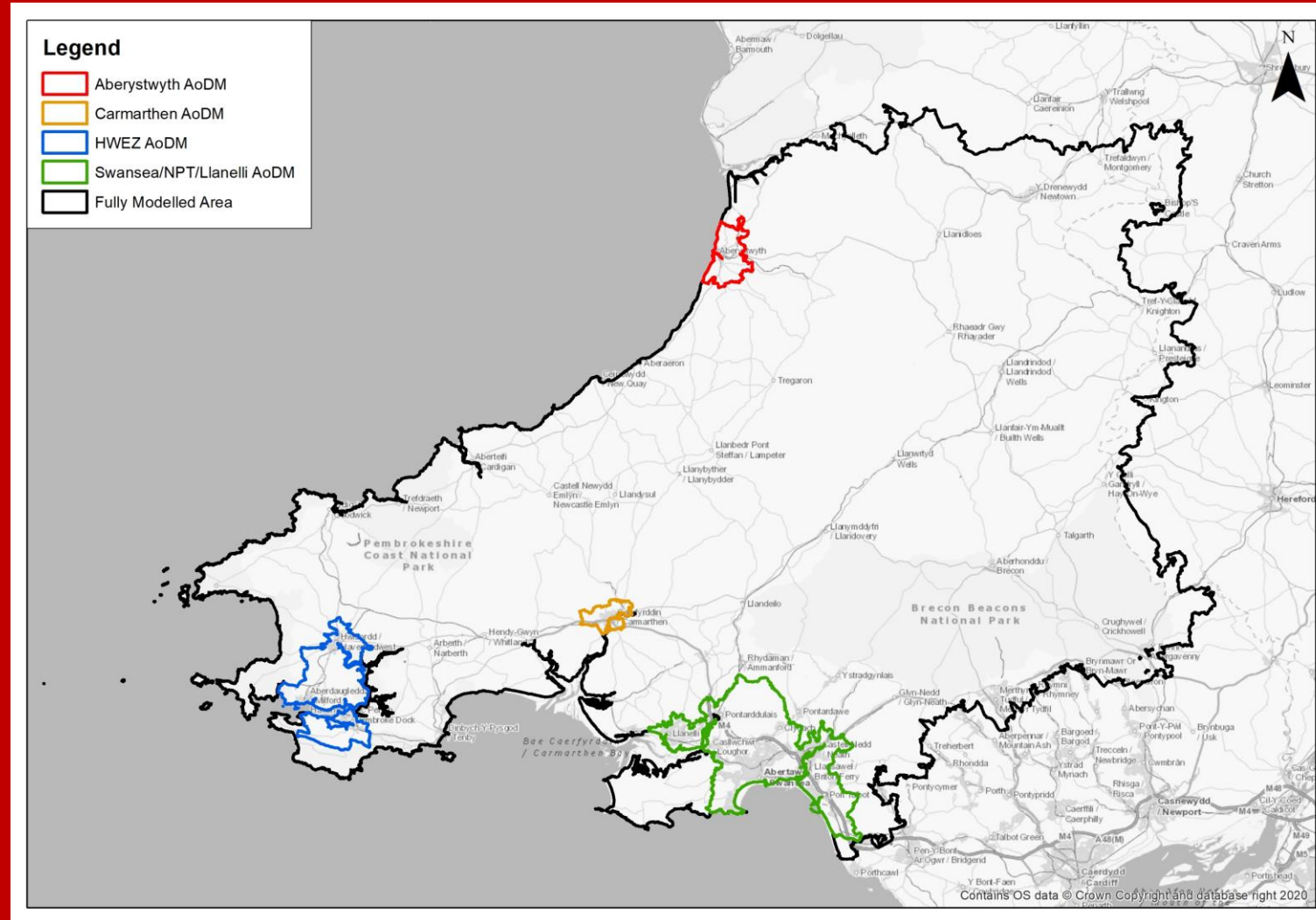- Carmarthen
- Aberystwyth
- Haven Waterways Enterprise Zone (Haverfordwest, Pembroke, Pembroke Dock and Milford Haven)

<u>Multi-modal</u> (car, bus, rail) and some walking and cycling is included in this model.

The model replicates a 2019 base year and forecasting to 2027 and 2042.

Key time periods
- AM 8am-9am (peak hour)
- Inter-Peak 10am-3pm (averaged)
- PM 5pm-6pm (peak hour)

Trips to/from/within South West Wales – estimated trip numbers

- Private car & public transport (bus/rail) combined, 24-hour

- Intra-sector trip total included for context – these are trips that start and end in the same sector. Intra-sector trips represent 32% of all the 737,500 trips to, from or within SW Wales

- The table below provides totals for trips made in both directions, e.g. for Swansea North – Swansea Central the total also includes trips made in the opposite direction Swansea Central – Swansea North

- Only the top 20 bi-directional origin-destination pairs are included in the table.

Rank	From/To Sector A	From/To Sector B	Daily Flow
	Intra-sector trips		*237,924*
1	Swansea North	Swansea Central	20,177
2	Gowerton/Sketty	Swansea Central	16,900
3	East Carmarthenshire	North Llanelli	15,889
4	East Carmarthenshire	Carmarthen	9,774
5	Gorseinon/Loughor	Swansea Central	8,008
6	Clydach/Felindre	Swansea North	7,679
7	Gorseinon/Loughor	Gowerton/Sketty	7,663
8	Swansea North	Gowerton/Sketty	7,233
9	Gorseinon/Loughor	Swansea North	6,956
10	Port Tennant/Winch Wen	Swansea Central	6,943
11	Swansea North	Port Tennant/Winch Wen	6,816
12	Haverfordwest/Milford Haven	Haverfordwest Centre	6,463
13	Skewen/Byncoch	Neath	6,150
14	East Pembrokeshire	Haverfordwest Centre	5,437
15	Neath/Briton Ferry	Bridgend	5,202
16	Neath/Briton Ferry	Port Talbot/Aberavon	5,185
17	Gorseinon/Loughor	North Llanelli	4,617
18	Swansea East	Bridgend	4,577
19	West Carmarthenshire	Carmarthen	4,448
20	Mumbles/West Cross	Swansea Central	4,407

Notes: At least 17% of all trips in SW Wales are within Swansea area of detailed modelling

Source: South West and Mid Wales Transport Model (SWMWTM), 2019 base year

See next slide for sector maps

South West Wales Sectors
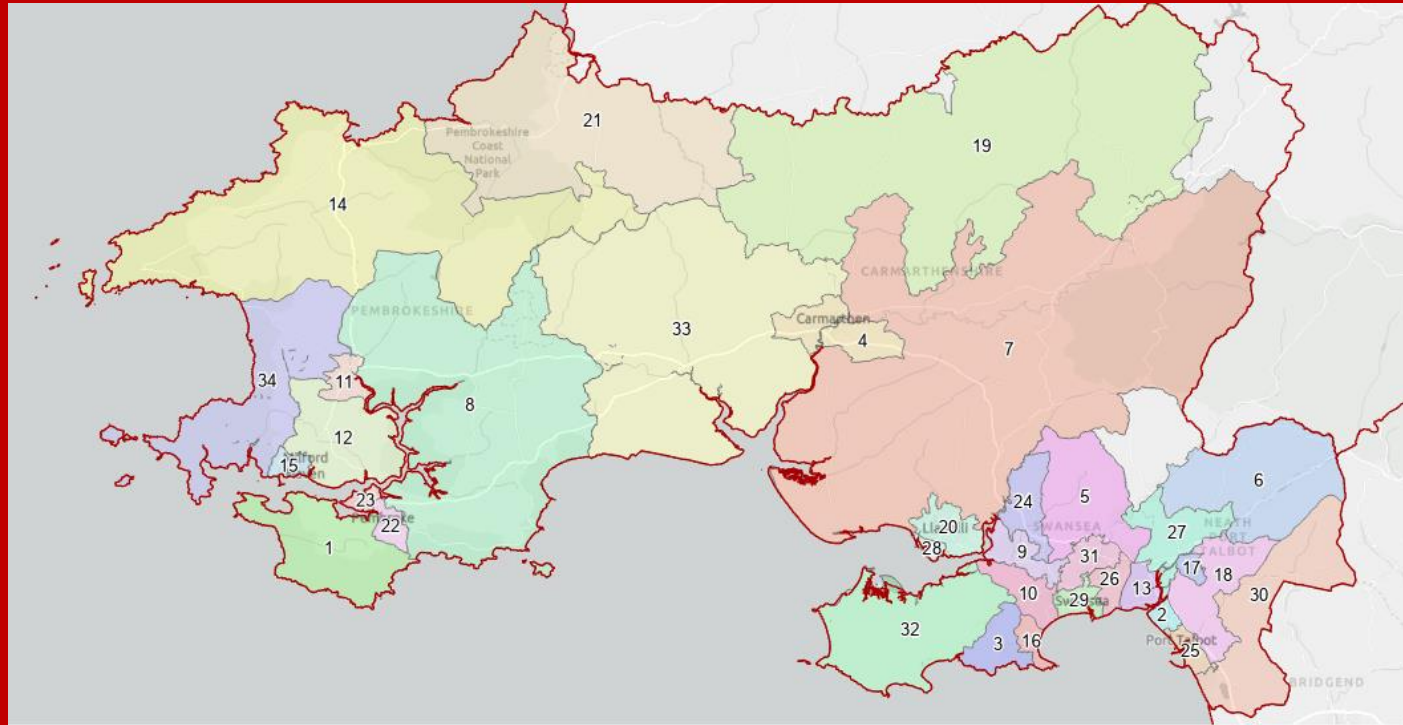
Sector	Number	Sector	Number
Angle Peninsula	1	Neath/Briton Ferry	18
Baglan Power Station	2	North Carmarthenshire	19
Bishopston/Southgate	3	North Llanelli	20
Carmarthen	4	North Pembrokeshire	21
Clydach/Felindre	5	Pembroke	22
Crynant	6	Pembroke Dock	23
East Carmarthenshire	7	Pontarddulais	24
East Pembrokeshire	8	Port Talbot/Aberavon	25
Gorseinon/Loughor	9	Port Tennant/Winch Wen	26
Gowerton/Sketty	10	Skewen/Byncoch	27
Haverfordwest Centre	11	South Llanelli	28
Haverfordwest/Milford Haven	12	Swansea Central	29
Jersey Marine	13	Swansea East	30
Mid Pembrokeshire	14	Swansea North	31
Milford Haven Centre	15	The Gower	32
Mumbles/West Cross	16	West Carmarthenshire	33
Neath	17	West Pembrokeshire	34

What has the model been used for?

RAIL
- Infrastructure (new/altered)
- Frequency improvements

BUS
- Frequency improvements
- Prioritisation

AIR QUALITY
- Investigative scenarios
- Intervention assessment

HIGHWAY
- Road space reallocation
- Infrastructure (new/altered)
- Safety schemes
- Traffic management

ALTERNATIVE DEMAND
- COVID-19 impacts
- Development levels/locations

Data Available to support CJCs –

- Journey time accessibility mapping by region

- Origin and Destination Movements using MND 2022/2023

- Travel Patterns for the region by mode share using the Regional Transport Model (2019/2027/2042)

- Public transport catchment analysis by region

- Public Transport Routes/Demand – *Example of public transport demand shown in figure to the right for AM peak*

- Highway Travel Patterns – Demand/routes/congestion points

- Trip Rate Distribution for the Region – *Example of AM Trip Length for car trips shown in table to the right*
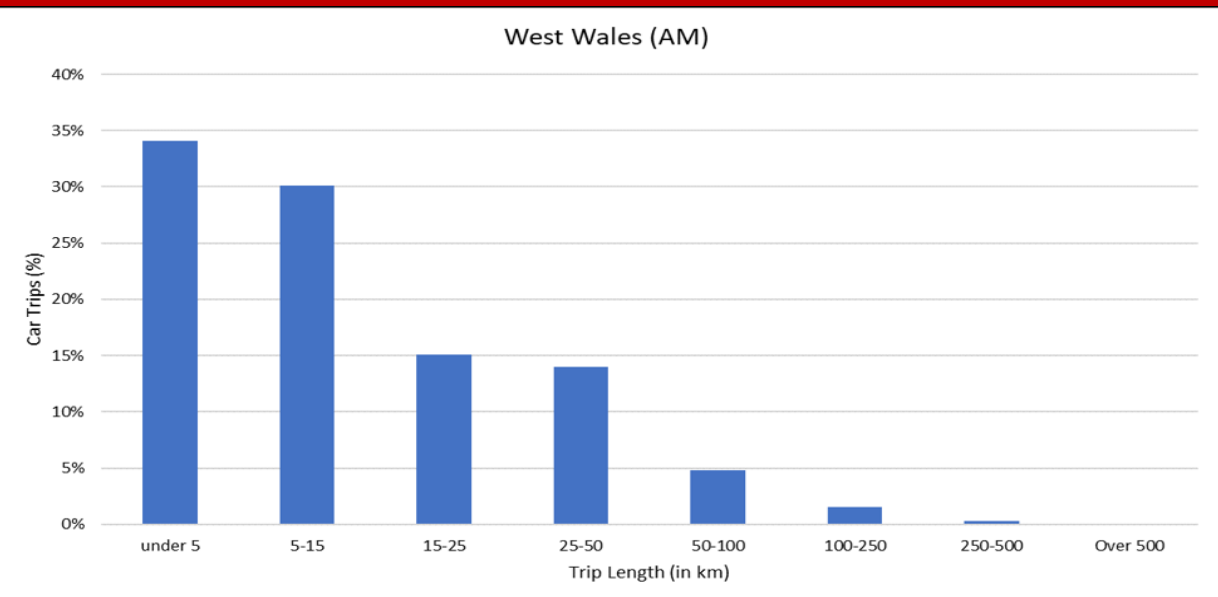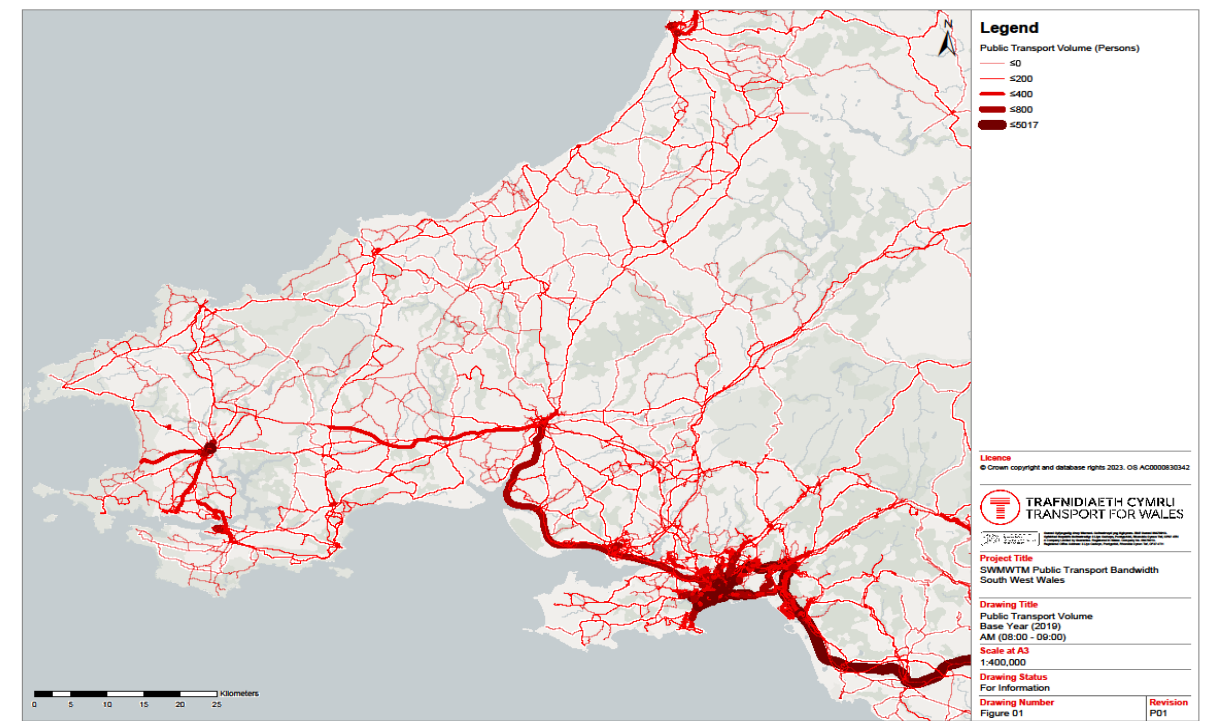
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