

A483 Llandeilo and Ffairfach Transport Study WeITAG Stage 2

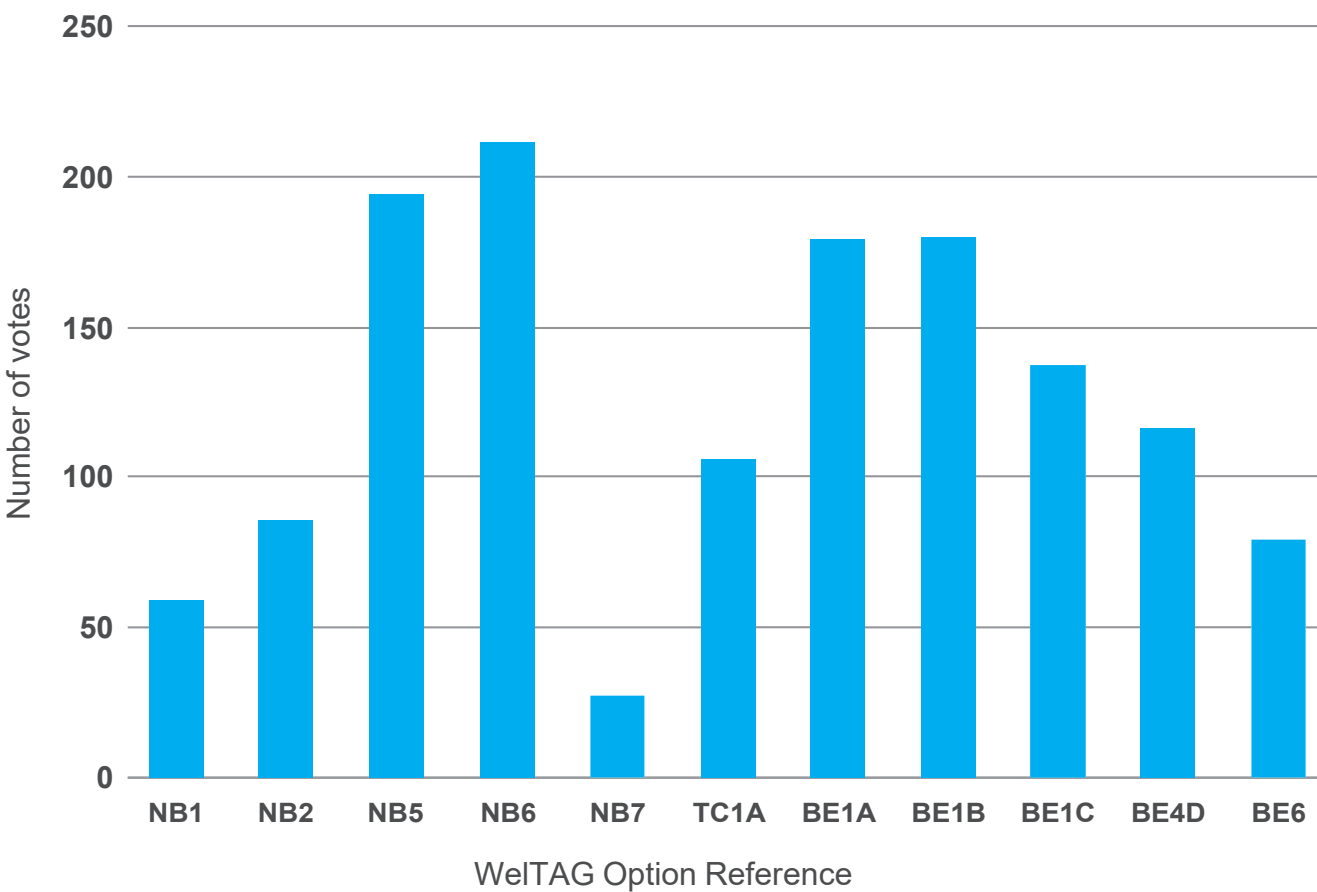
Welcome to the Consultation

The WeITAG Stage 1 study identified 11 shortlisted options which were presented to you at the Public Consultation Event in April 2019 (links to the stage 1 consultation material can be found at <https://gov.wales/a483-llandeilo-and-ffairfach-transport-study>). Each of 11 options was allocated into cost bands and shown below:

(Low) Less than £50m (Medium) £50m to £60m (High) Greater than £60m

Option Reference	Option Description
NB1	Traffic lights on Rhosmaen Street, no relief road
NB2	Removal of parking on Rhosmaen Street, no relief road
NB5	HGV Restriction (legal sanction on Bridge Street and Rhosmaen Street) no relief road, plus one-way system
NB6	Combined (NB1 & NB2) no relief road (with HGV restriction)
NB7	Combined (NB1 & NB2) no relief road (No HGV restriction)
TC1A	One-way system and relief road
BE1A	Eastern Relief Road Option 1 (A)
BE1B	Eastern Relief Road Option 1 (B)
BE1C	Eastern Relief Road Option 1 (C)
BE4D	Mid Rhosmaen Eastern Relief Road Option 4 (D)
BE6	Eastern Relief Road Option 6

We thank you for the feedback received and we have listened to your suggestions, concerns and preferences. Below is a summary of your option preferences received in April 2019 (<https://gov.wales/a483-llandeilo-and-ffairfach-transport-study>).



The purpose of this consultation is to seek your views on the developed shortlist options and additional complementary opportunities for both Llandeilo and Ffairfach.

Please take time to review the consultation material and share your views with us. If you have any queries relating to the information please use the Q&A section to submit your question. The Project Team are happy to answer any questions you may have or meet with you to discuss specific problems.

We request that you please complete the consultation response form and questionnaire provided.

WeITAG Stage 2 Assessment

Since the consultation event in April 2019, we have undertaken further work and held discussions with a wide range of stakeholders. Each option has been measured against the project objectives and our findings have also been evaluated by an Independent Review Panel consisting of several experts in their field.

Project Objectives

- Preserve strategic function of the A483
- Improve pedestrian and cyclist safety within Llandeilo and Ffairfach, including safe routes to school;
- Reduce community severance within Llandeilo and Ffairfach;
- Improve journey time reliability through Llandeilo and Ffairfach;
- Reduce congestion through Llandeilo and Ffairfach;
- Contribute to sustainable economic growth and tourism and cultural opportunities in Llandeilo;
- Reduce exposure to air pollution for sensitive receptors; and
- Support transition to a low carbon society ensuring the solution is sustainable and resilient which minimises carbon emissions associated with the transport infrastructure which includes improving access to, and provision of public transport.

Although options NB5 and NB6 scored highly at the last consultation we have reviewed the practicalities for removing HGV's (Option's NB5 and NB6) from both Llandeilo and Ffairfach and conclude this would be very difficult to implement without additional infrastructure, as there are no viable alternatives at present. Furthermore, enforcing and or controlling any HGV ban would be difficult, as there would still be a need for some large vehicles to provide deliveries in Llandeilo and Ffairfach, together with local agricultural vehicles and buses needing to access the surrounding areas.

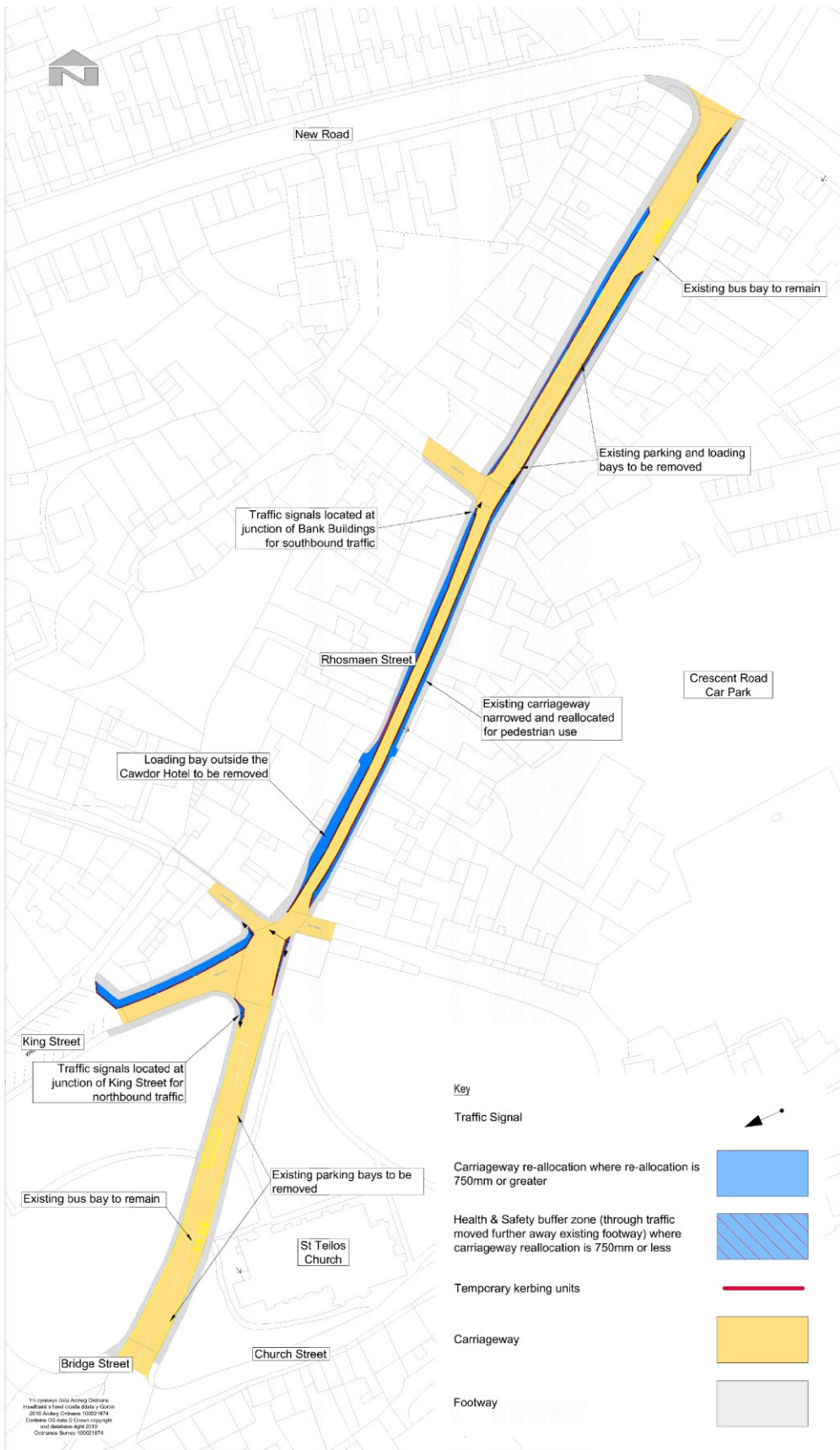
As a result the WeITAG Stage 2 process has short-listed the following developed scheme options for consultation. The options together with a series of complementary enhancements will be discussed in further detail over the following Exhibition Boards.

NB7 - Combined (NB1 & NB2) no bypass (No HGV restriction)

TC1A - One-way System combined with either of Relief Road Options:

- **BE1A** - Eastern Relief Road Option 1 (A)
- **BE1B** - Eastern Relief Road Option 1 (B)
- **BE1C** - Eastern Relief Road Option 1 (C)

NB7: Combined (NB1 & NB2) No Relief Road (No HGV restriction)



This option provides a local Llandeilo town centre improvement with no relief road. The option would be delivered as a trial and if successful could be modified into a longer term solution.

Traffic signal control would be introduced on Rhosmaen Street between the junction of King Street and Bank Buildings (shown green on the image below) This would reduce vehicular conflict by removing two-way traffic flow through the main high street and present an opportunity to narrow the carriageway and create a safer pedestrian environment with widened footways. During the WeITAG Stage 2 commission we have undertaken local measurement surveys to throughout the town centre to determine the physical dimensions available.

The 160m distance between the traffic signal heads results in a green/red time running in two minute cycles. The traffic modelling is predicting opening year traffic queues (shown red on the image below) to be 120m for north bound traffic (from the junction with King Street to the Junction with Church Street) and 90m for southbound traffic (from the junction with Bank Buildings to Hugh Williams, Son & Co Solicitors). The queue lengths are expected to increase in 15 years (shown orange on the image below) with queuing extended to 207m for northbound traffic and 115m for southbound traffic.

Forecast traffic queues result in the loading bay outside the Cawdor Hotel, the disabled parking and loading bays adjacent to the Post Office and the parking near St Teilo's Church being removed. However, there is scope (subject to agreement with Carmarthenshire County Council) to reallocate space within Crescent Road Car Park for loading and disabled parking; a change in the parking charge regime could also be considered. Any stopping or parking on the highway between the signals would restrict through movement and enforcement would need to be increased. There is no change to current public bus services.

Other Opportunities

Walking and cycling improvements (Ref CL3)

Improvements could be made to the wider pedestrian network of Llandeilo enhancing pedestrian links between the town centre, railway station and residential areas of the town. Audits and surveys have identified Carmarthen Road, Rhosmaen Street, New Road, Crescent Road, Latimer Road, Alan Road, Thomas Street, Blende Road and Station Road as candidates for improvement where road space could be reallocated for use by pedestrians and cyclists. The enhancements could link into the potential railway station access improvement identified on board no. 9.

Electric cycle scheme (eBike) (Ref CF2)

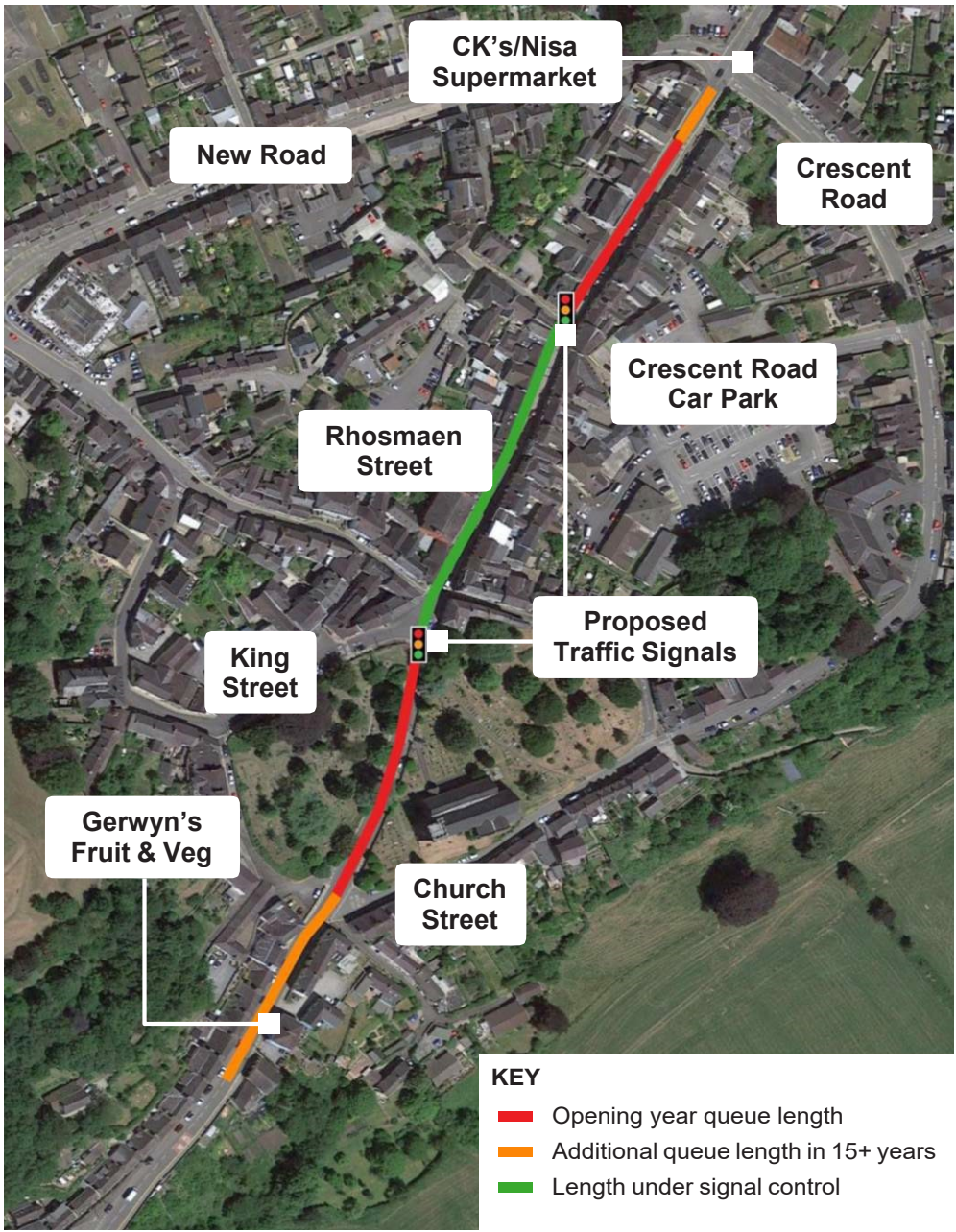
The topography of Llandeilo does not contribute towards inclusive mobility. We have undertaken surveys and the majority of the streets and roads would not meet the current Active Travel standards. To promote active travel a pilot electric cycle scheme could be introduced. Docking stations could be situated at strategic locations in Llandeilo and Ffairfach (refer to board no. 12) to discourage unnecessary car journeys into the town centre.

Public transport improvements (Ref CL4)

The current NB7 option does not impact on the public bus service in Llandeilo. However, there is an opportunity to provide better integration between the bus and rail services, as currently there is only one service a week that stops at Llandeilo railway station.

Lower Carbon (Ref CL5)

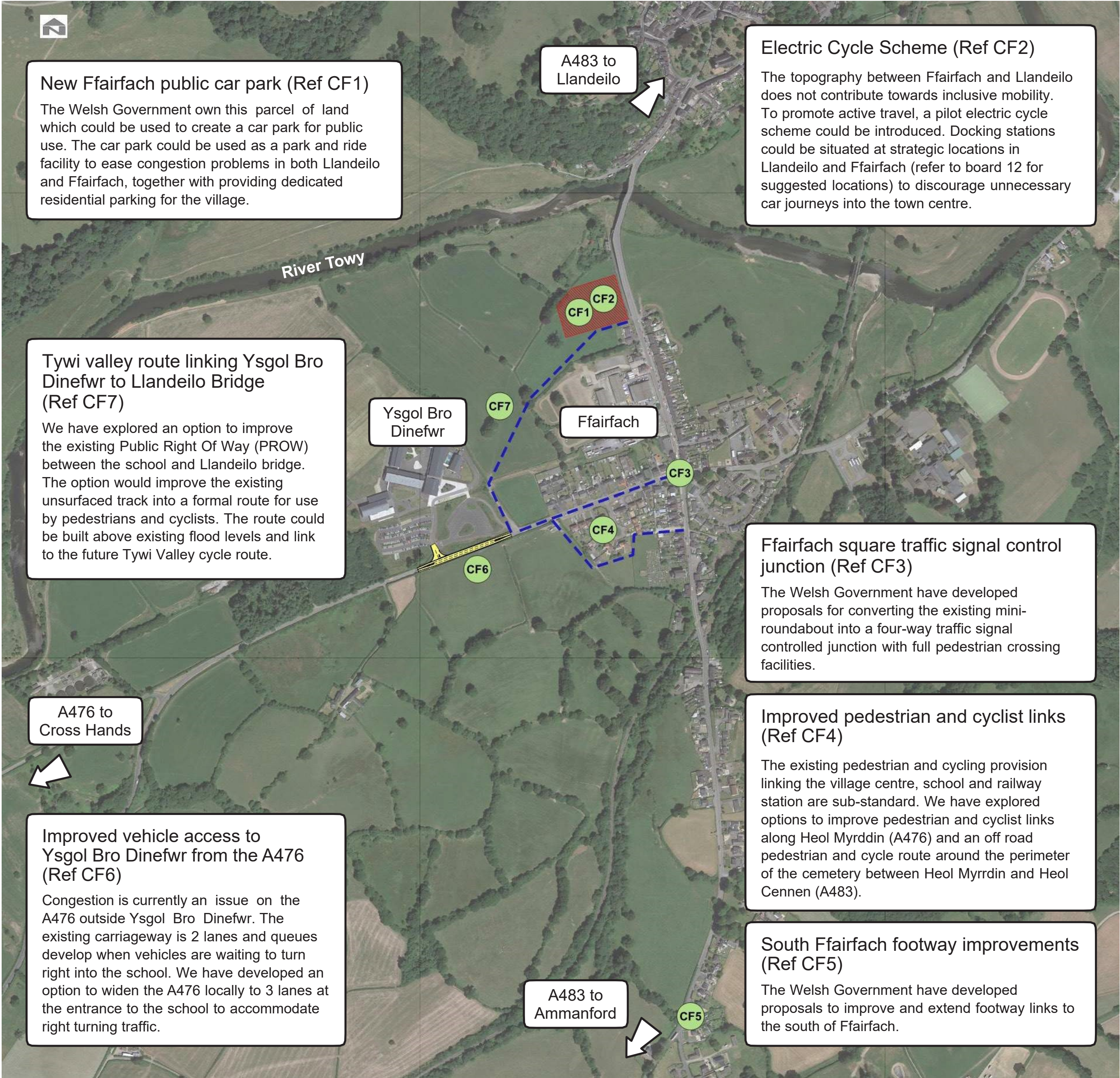
The Welsh Government is committed to working with public transport providers and assessing how to decrease the carbon footprint of the transport sector.



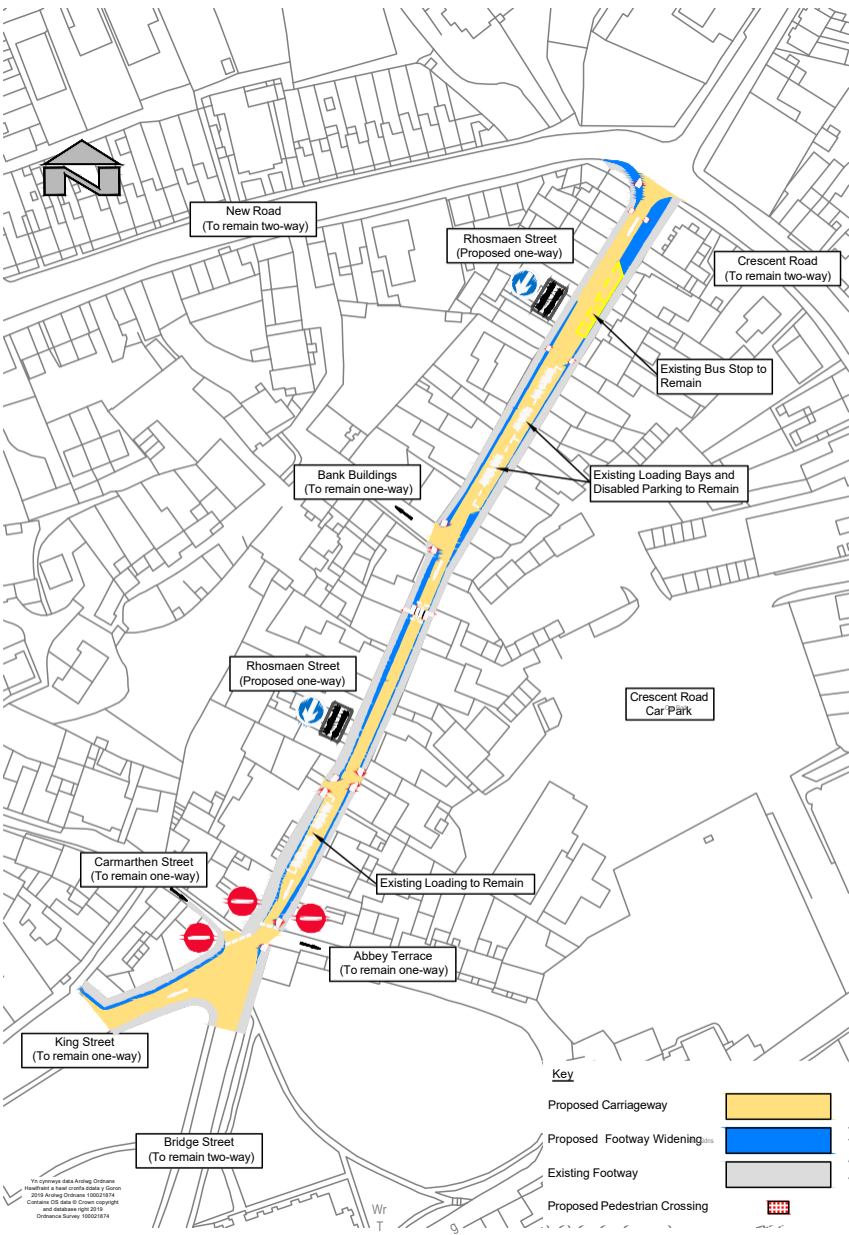
Predicted NB7 traffic queue lengths

Potential Ffairfach village improvements

The WeITAG Stage 1 consultation events primarily focused on A483 improvements at Llandeilo. We have reviewed your feedback and developed outline options to improve the existing layout in the village of Ffairfach. Some of the options are standalone options that can be delivered with or without a relief road.



TC1A: Town centre improvements with one-way system and relief road



This option provides a one-way system on Rhosmaen Street. It can only be delivered alongside a relief road option which will remove up to 81% of through traffic from Rhosmaen Street in Llandeilo town centre and 95% of HGV movements. Rhosmaen Street would also see a beneficial decrease in air pollution with nitrogen dioxide levels reduced to similar levels observed during the COVID-19 lockdown period.

By removing two-way traffic flow and creating a new one-way system, carriageway space can be reduced which facilitates the opportunity to widen the footways creating a safer environment for walking and cycling.

We have studied how the town currently operates and have concluded that a one-way system in a southbound direction would be complimented by a Relief Road. The one-way system proposed along Rhosmaen Street would operate from the junction with New Road and Crescent Road (CK's Supermarket) to the junction with Carmarthen Street and Abbey Terrace (the Old Lloyd's bank).

To discourage the inappropriate use of side roads, traffic approaching Llandeilo from the south along the A483 will be directed along the relief road. Local traffic will still be able to access southern areas of Llandeilo via Llandeilo Bridge and Bridge Street.

There will be no changes to public bus services, existing loading bays or disabled parking along Rhosmaen Street and Bridge Street.

Other opportunities

Function and operation of Llandeilo town centre

The reduction of through traffic movements along Rhosmaen Street presents a greater opportunity for further town centre enhancements, which could include:

- Full time restrictions on through traffic with a shared use environment for pedestrians, cyclists and some vehicles allowing them for access and loading only.
- Part time restrictions on through traffic with no through traffic between certain hours.

Additional benefits of these improvements would be that it would allow the town centre to be closed to all traffic for community events and fayres.

Footway and cycleway improvements

Improvements could be made to the wider pedestrian network of Llandeilo enhancing pedestrian links between the town centre, railway station and residential areas of the town. Audits and surveys have identified New Road, Crescent Road, Latimer Road, Thomas Street, Blende Road and Station Road as candidates for improvement where road space could be reallocated for use by pedestrians and cyclists. The enhancements could link into the potential railway station access improvement identified on board no. 9.

Electric cycle scheme (eBike)

Outside of the roads identified above, the topography of Llandeilo does not contribute towards inclusive mobility. We have undertaken surveys and the majority of the streets and roads would not meet the current Active Travel standards. To promote active travel, walking and cycling charity Sustrans are keen to support pilot electric cycle scheme. Docking stations could be situated at strategic locations in Llandeilo and Ffairfach to discourage unnecessary car journeys into the town centre.

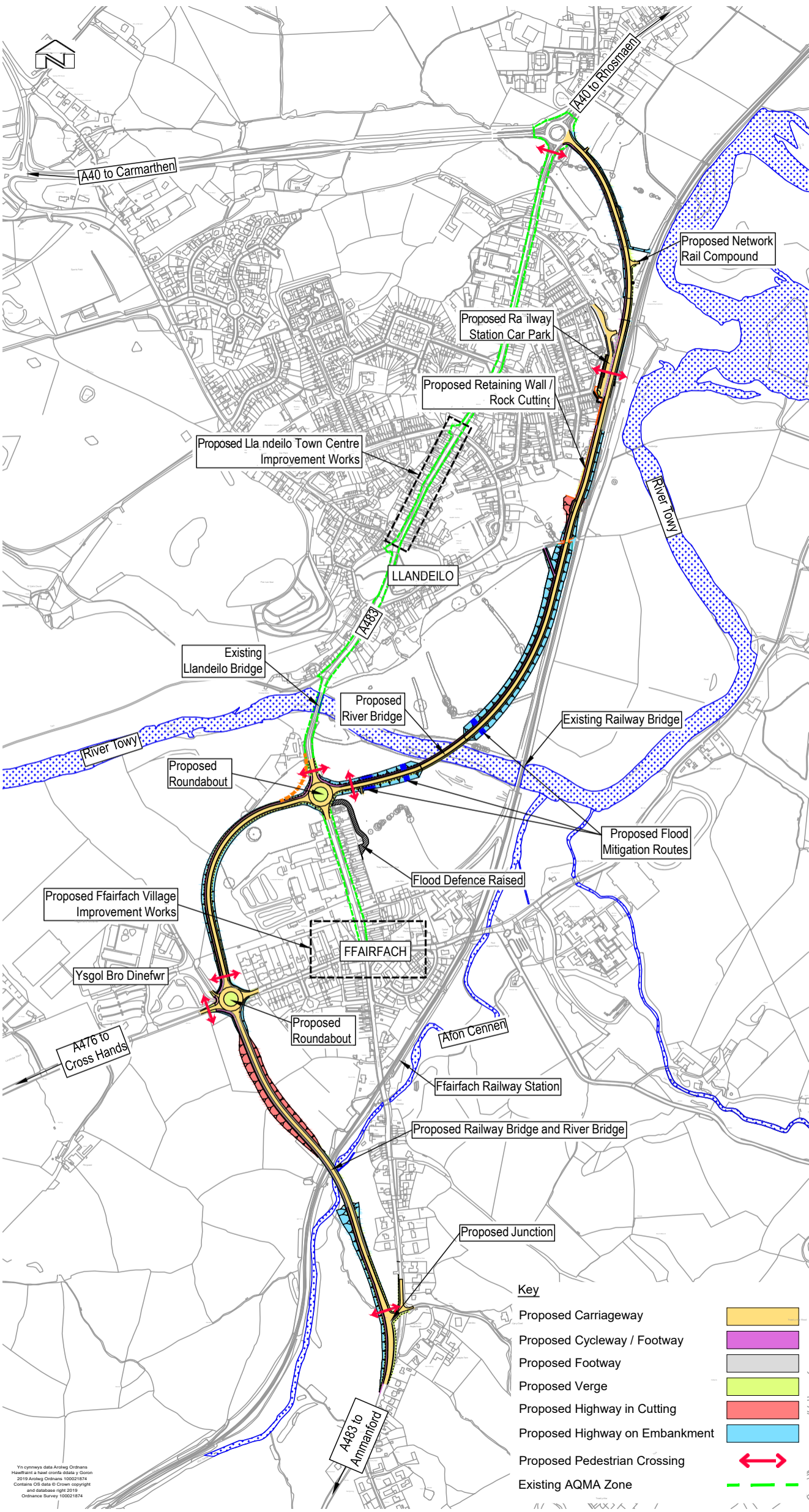
Public transport improvements

The current TC1A option does not impact on the public bus service in Llandeilo. However, there is an opportunity to provide better integration between the bus and rail services, as currently there is only one service a week that stops at Llandeilo railway station. The Welsh Government is committed to working with local public transport providers and assessing how to decrease the carbon footprint of the transport sector.



Example of pedestrianisation in Ammanford town centre

Relief road option BE1A



Option BE1A provides full relief to Llandeilo town centre and the village of Ffairfach. Importantly this option removes up to 81% of through traffic from Rhosmaen Street in Llandeilo town centre and up to 85% from the centre of Ffairfach village, which in turn will allow further opportunities for town centre enhancements (Option TC1A) and improvements to health, safety and wellbeing (such as noise and air quality) within these communities.

During the WeITAG Stage 2 process we have undertaken an extensive 3-Dimensional ground survey and developed a detailed 3-Dimensional model of the relief road.

From the north, the relief road commences at the A40 roundabout to the north of Llandeilo town centre, where an additional arm will be added to the roundabout. The road heads in a south-easterly direction, with the initial section elevated (between 1.0m and 1.5m) above existing ground levels on an embankment. The route then heads in a southerly direction running parallel to the existing railway line (refer to board no.9), before heading south-west across the flood plain and crossing the River Towy on a new structure (refer to board no.10). Where the proposed relief road meets the A483 trunk road just south of Llandeilo Bridge, a new roundabout will be constructed. Some minor re-alignment of the existing causeway and approach walls of the Grade II* listed Llandeilo Bridge will be necessary.

To the west of the new roundabout a short section of relief road is provided around the north- west corner of Ffairfach village, linking the A483 to the A476 just east of Ysgol Bro Dinefwr. This section would be elevated (between 1.5m to 2m) above existing ground levels and a new roundabout would be constructed on the A476.

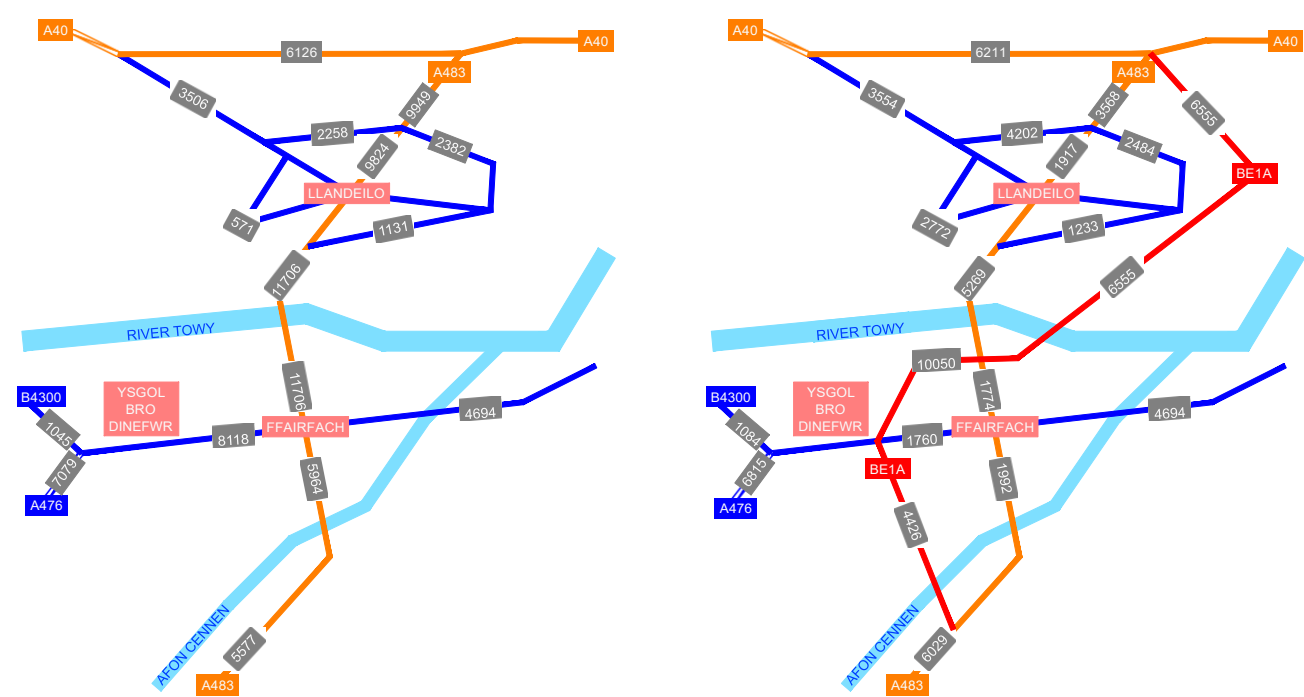
The route then continues in a southerly direction on an uphill gradient passing through a section of deep excavation (approximately 6m deep), and crossing both the Afon Cennon and railway line on a proposed structure before joining the A483 with a new junction.

A combined cycleway/footway is proposed along the length of the relief road with links to the existing network and pedestrian crossings provided at key locations.

Ecology and environmental surveys have been undertaken to inform any mitigation works that may be required.

Comparison of Average Annual Daily Traffic Numbers

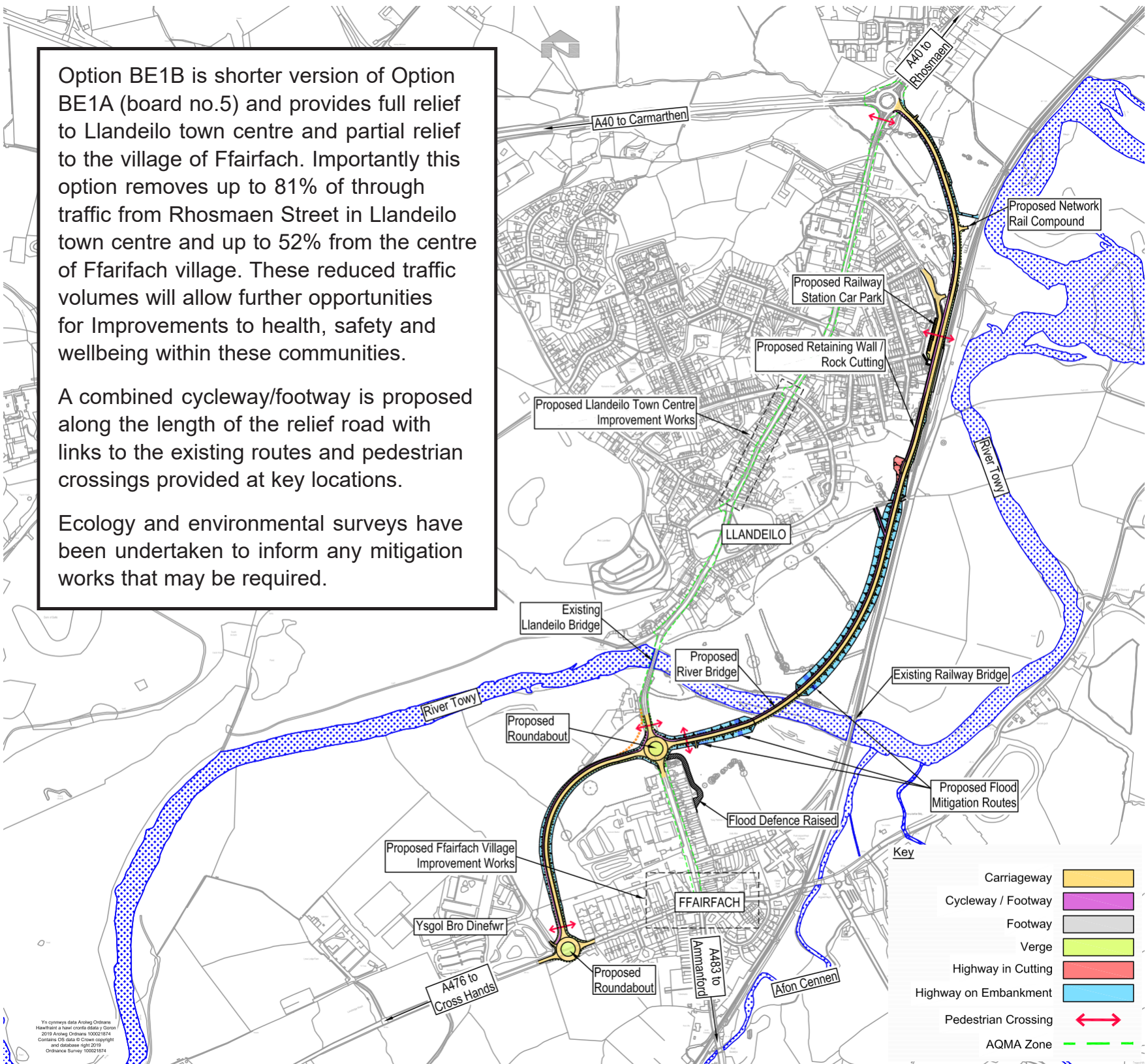
The diagrams below show how Relief Road Option BE1A shifts projected traffic flows in Llandeilo and Ffairfach during the opening year. The figures quoted relate to the two-way Average Annual Daily Traffic forecast volumes on key routes within the study area. They have been calculated using industry standard traffic modelling software with observed movements factored by Government growth expectations.



Do-Nothing projected opening year Traffic Flows

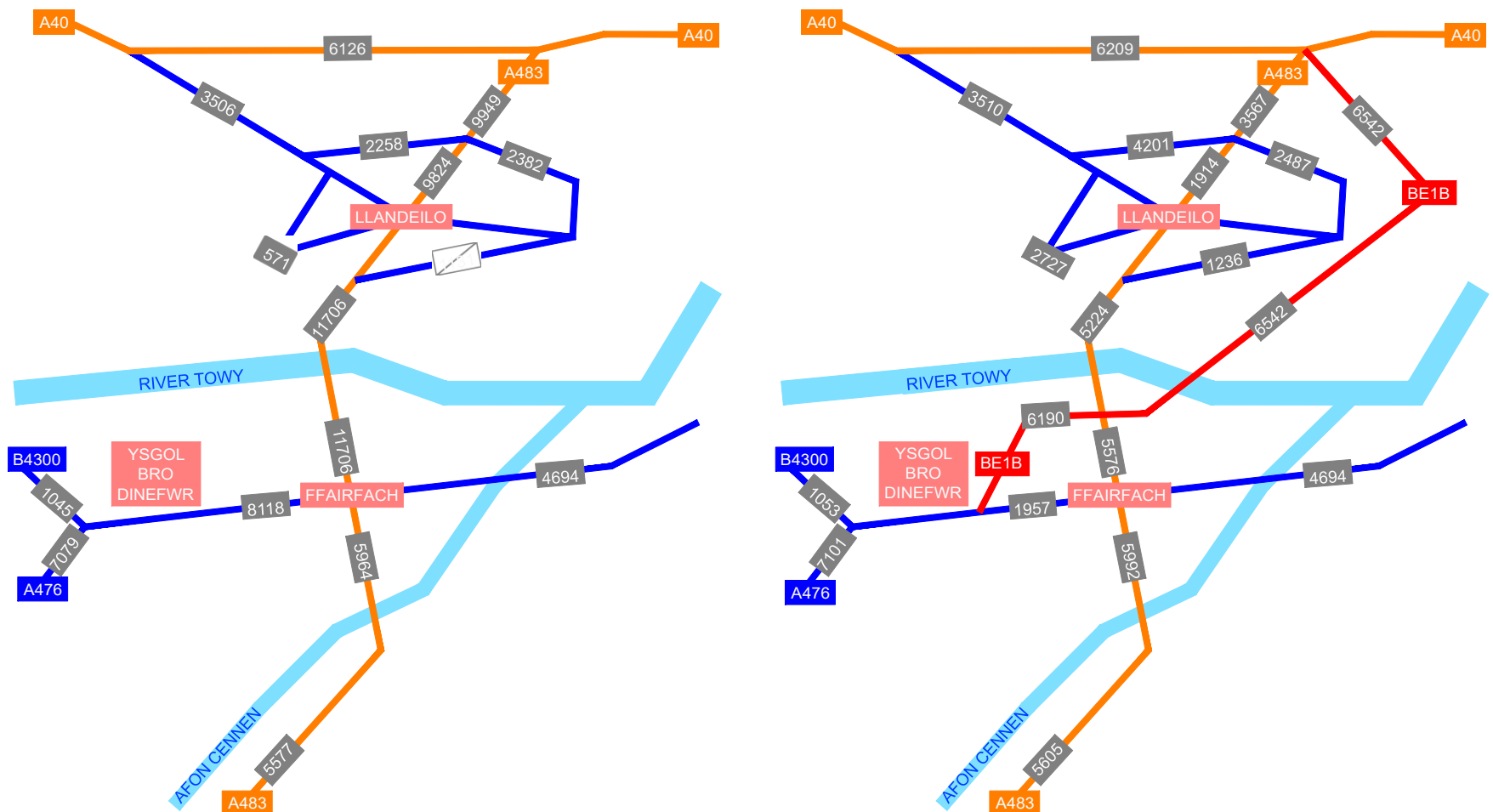
Option BE1A projected opening year Traffic Flows

Relief road option BE1B



Comparison of Average Annual Daily Traffic Numbers

The diagrams below show how Relief Road Option BE1B shifts projected traffic flows in Llandeilo and Ffairfach during the opening year. The figures quoted relate to the two-way Average Annual Daily Traffic forecast volumes on key routes within the study area. They have been calculated using industry standard traffic modelling software with observed movements factored by Government growth expectations.

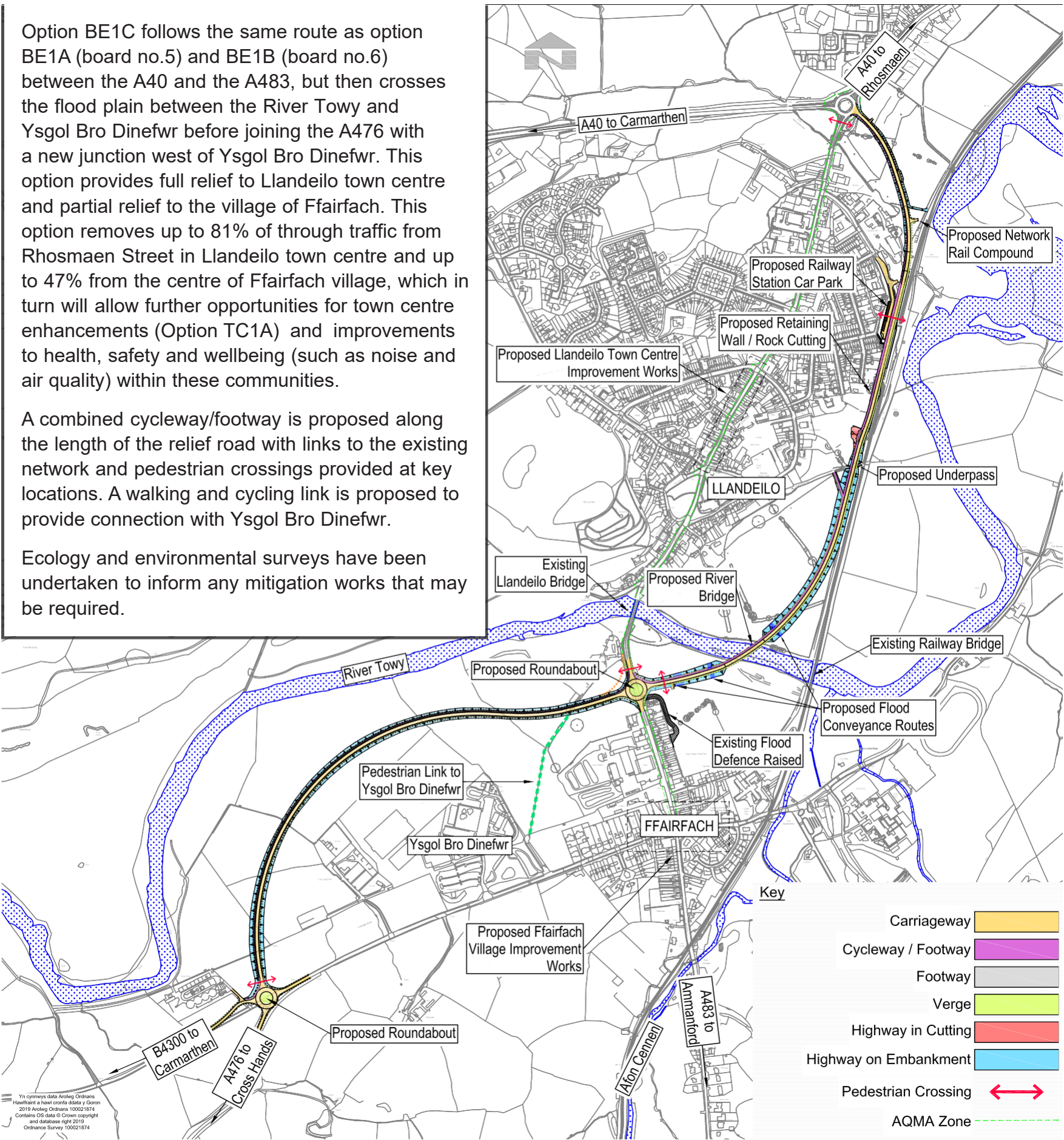


Relief road option BE1C

Option BE1C follows the same route as option BE1A (board no.5) and BE1B (board no.6) between the A40 and the A483, but then crosses the flood plain between the River Towy and Ysgol Bro Dinefwr before joining the A476 with a new junction west of Ysgol Bro Dinefwr. This option provides full relief to Llandeilo town centre and partial relief to the village of Ffairfach. This option removes up to 81% of through traffic from Rhosmaen Street in Llandeilo town centre and up to 47% from the centre of Ffairfach village, which in turn will allow further opportunities for town centre enhancements (Option TC1A) and improvements to health, safety and wellbeing (such as noise and air quality) within these communities.

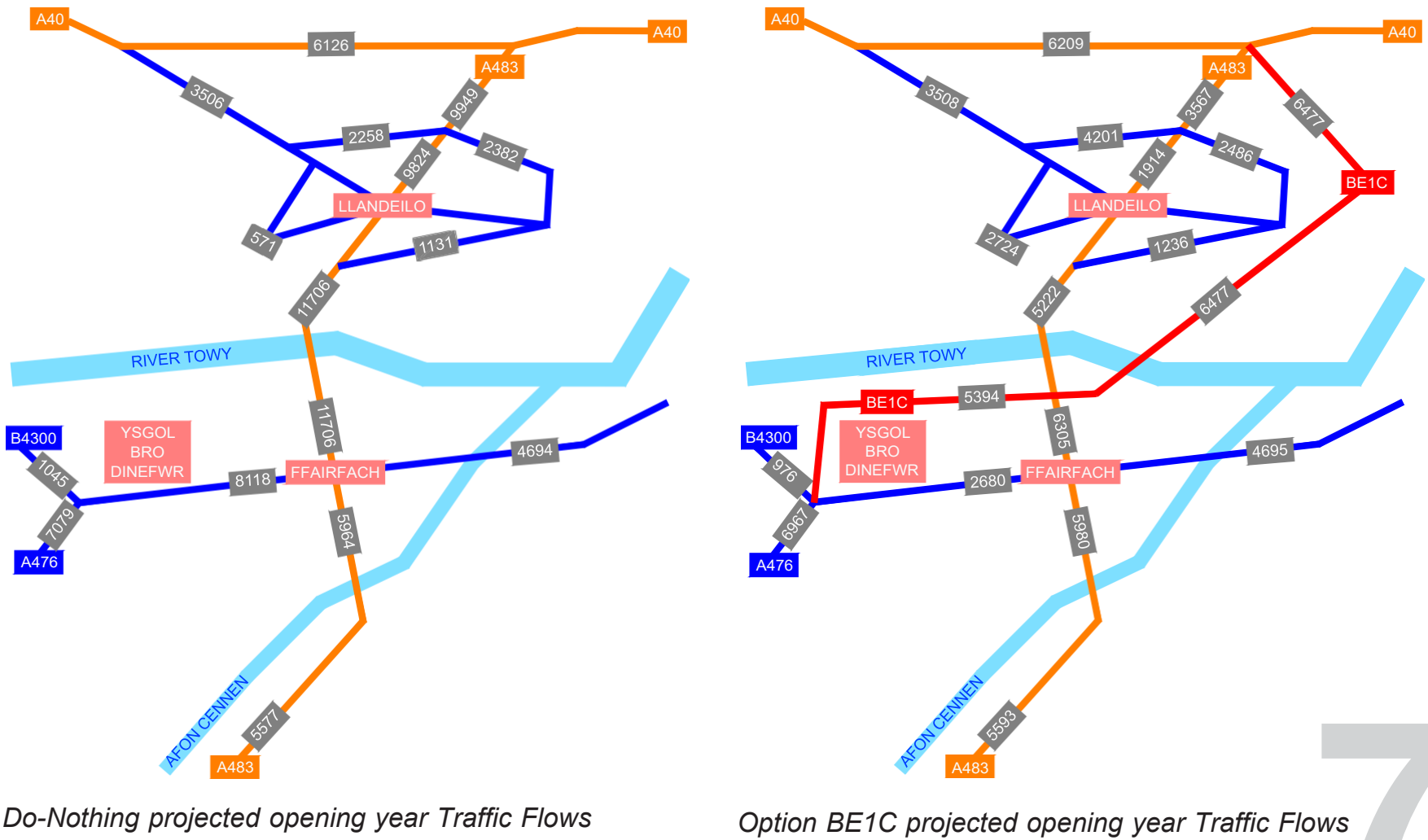
A combined cycleway/footway is proposed along the length of the relief road with links to the existing network and pedestrian crossings provided at key locations. A walking and cycling link is proposed to provide connection with Ysgol Bro Dinefwr.

Ecology and environmental surveys have been undertaken to inform any mitigation works that may be required.



Comparison of Average Annual Daily Traffic Numbers

The diagrams below show how Relief Road Option BE1C shifts projected traffic flows in Llandeilo and Ffairfach during the opening year. The figures quoted relate to the two-way Average Annual Daily Traffic forecast volumes on key routes within the study area. They have been calculated using industry standard traffic modelling software with observed movements factored by Government growth expectations.



Photomontages (Artist's Impressions)

The following photomontage images have been generated from the 3-dimensional outline model of the relief roads.

View of Relief Road Option BE1B (with river bridge crossing option 2) from Crescent Road

Before:



After:



View of Relief Road Options from Towy Terrace Ffairfach (*Historic View*)

Before:



After:



Llandeilo railway station

The three relief road options pass through the existing railway station car park and the narrow corridor between the Llandeilo railway station and the properties on Stepney Road. A full 3-dimensional ground survey was undertaken in 2019 to help inform the geometric design of the relief road and ensuring accuracy of cross-sectional information.

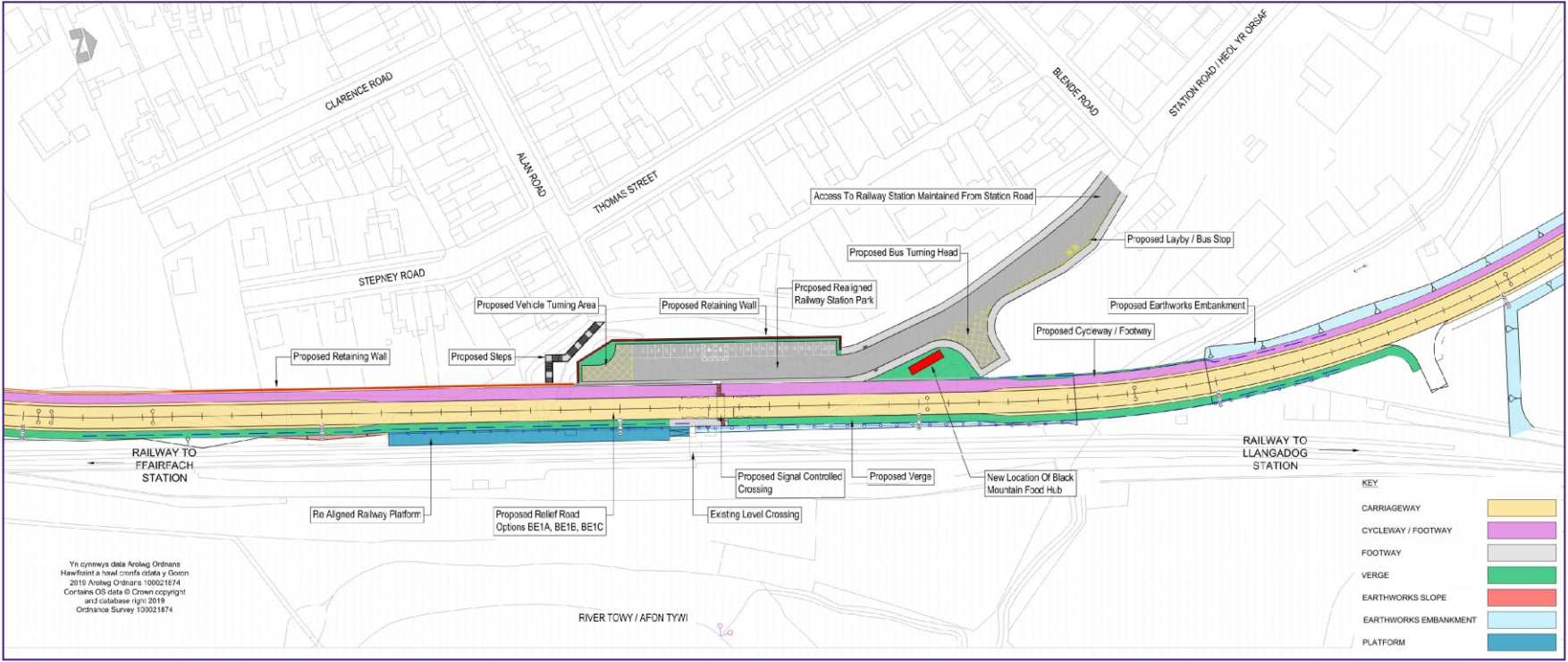
A retaining wall/structure will be required at the rear of the Stepney road properties to support the gardens above the new relief road. The maximum height of the wall will be approximately 12m (39 feet). Previous engineering reviews have implied that a rock cutting will be a viable option which could be faced with an appropriate material, or alternatively a reinforced concrete wall can be accommodated. Appropriate fencing will be established at the rear of the gardens above the road.

The railway station car park will be repositioned to the west (town side) of the new relief road with vehicular, bus and pedestrian access maintained from Station Road. A new traffic signal-controlled crossing would provide access to and from the railway station. The existing pedestrian stepped access between Alan Road and Llandeilo railway station would be upgraded to current design standards.

Artists impression of the relief road at Llandeilo railway station



Relief road proposal at Llandeilo railway station



Other Opportunities

Our study has considered other beneficial opportunities/improvements to the railway station. We welcome your feedback on these improvements which could be delivered together with the stepped access from Alan Road.

Alan Road ramp access

We have undertaken a feasibility design for an elevated steel inclusive mobility access ramp between Alan Road and the railway station car park. The fully compliant ramp would be 220m in length with an estimated cost of £1.8million.

or, Lift access provision

We have developed a feasibility design for an elevated platform and lift from Alan Road to the propose railway station car park This would provide a shorter quicker access option than the ramp access. The lift has an estimated cost of £1.5million, although it would bring additional operational and maintenance costs.



River Towy – Relief Road Bridge Options

A new river bridge will be required for all three relief road options to cross the River Towy. During the WelTAG Stage 2 we have undertaken a detailed 3-Dimensional ground survey of the flood plain and river channel to inform the outline design of the new structure.

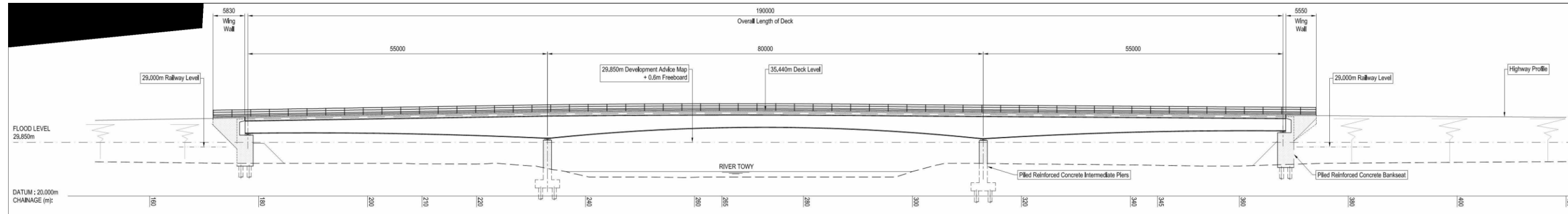
The existing ground levels near to the proposed structure are generally flat and the underside of the bridge has been developed so that it is a minimum of 600mm above flood levels. Several Bridge Forms were considered during the outline design stage as detailed below.

River Towy - Relief Road Bridge Option 1

Option 1 comprises a continuous three span composite structure with a total length of approximately 190m. This is made up of an 80m central span and two 55m approach spans. The superstructure consists a reinforced concrete deck slab and curved soffit, variable depth steel girders. The curved deck soffit improves structural efficiency and is more aesthetically pleasing. It is anticipated that the maximum construction depth of the composite superstructure is to be approximately 4.8m.

Cost - circa £7.8 Million

Advantages	Disadvantages
Reduced visual impact compared to Option 2.	Deeper deck construction resulting in higher road levels and embankments, shifting the highway alignment closer to Llandello. Difficult to construct.

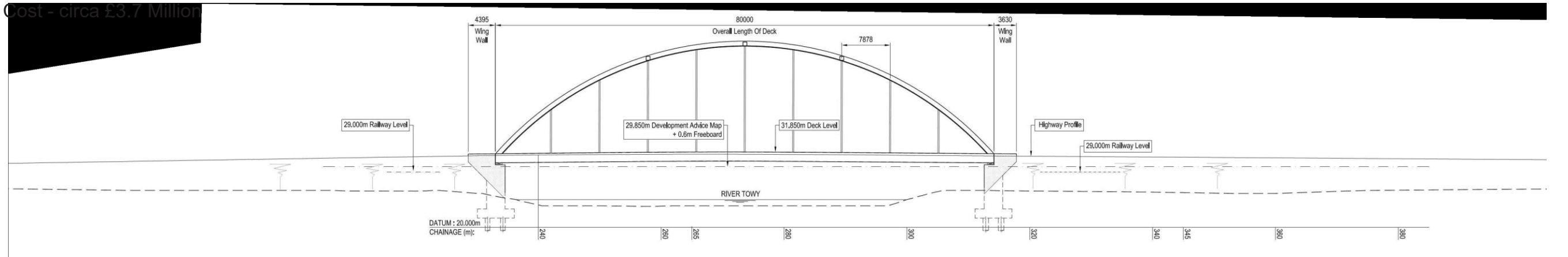


River Towy - Relief Road Bridge Option 2

Option 2 comprises a tied arch single 80m span with embankment approaches. The tied arch structure (approximately 18m high) is made up of two braced steel box section arches, which would be tied to steel box section chords and support a ladder deck via suspended cables. The deck and the carriageway construction fit within the depth of the chords, resulting in a depth of approximately 1.2m from the soffit to the carriageway level. This minimises the level requirement of the carriageway above the flood risk level. Flood culverts through the approach embankments are proposed to reduce the impact of the embankment on potential flooding (not shown on the detail below for clarity).

Cost - circa £3.7 Million

Advantages	Disadvantages
Reduced deck construction resulting in lower road levels and embankments Ease of construction	Visual arch (modern form) opposed existing historic structures.

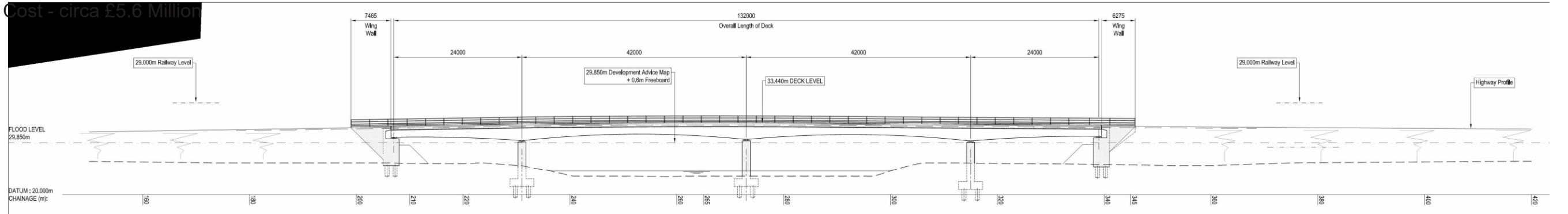


River Towy - Relief Road Bridge Option 3

Option 3 comprises a continuous four span composite structure with a total length of 132m, similar in form to Option 1. It differs from Option 1 with the inclusion of a central pier positioned in the River Towy. The two outer spans are 24m long and the two inner spans are 42m long. This additional pier reduces the span lengths and allows the depth of the composite deck to be reduced to approximately 3.0m

Cost - circa £5.6 Million

Advantages	Disadvantages
Reduced deck compared to Option 1	Ecological and environment constraints due to central pier located in the River Towy.



Potential Flood Impact

All relief road options cross the low-lying floodplains, which is designated as being at high risk from flooding by the River Towy. Whilst Llandeilo is elevated above the floodplain and is largely unaffected by flooding, areas of Ffairfach are within the floodplain and protected by existing flood defences.

To assess the impact of the relief road options, a series of surveys of the River Towy and its tributaries was commissioned and a new hydraulic baseline flood model was prepared and approved by Natural Resources Wales (NRW).

Below shows the extensive flooding caused by Storm Dennis in February 2020. There was evidence that the existing flood defences at Ffairfach were breached and we have considered this within our proposals.



Flooding upstream adjacent to Llandeilo Bridge



Flooding against the Ffairfach flood defences

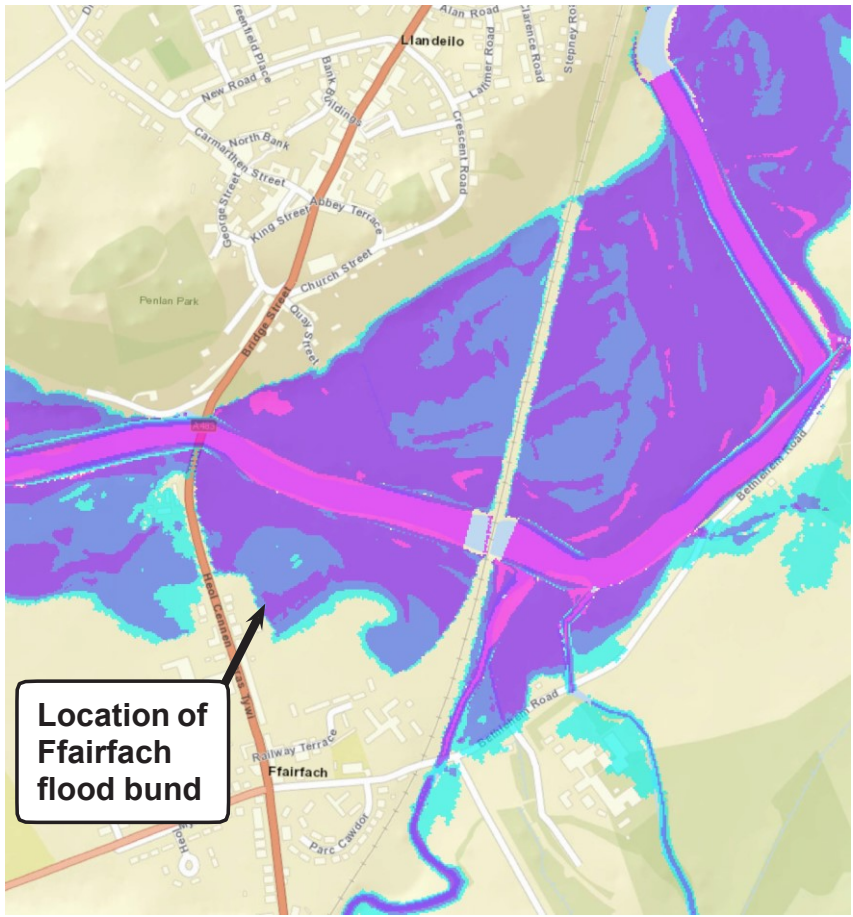
Proposed Flood Mitigation

The relief road options have been tested within the new flood model to understand the potential impacts of each option on flood patterns. The net effect was flood levels increased and mitigation measures would be necessary. These could include:

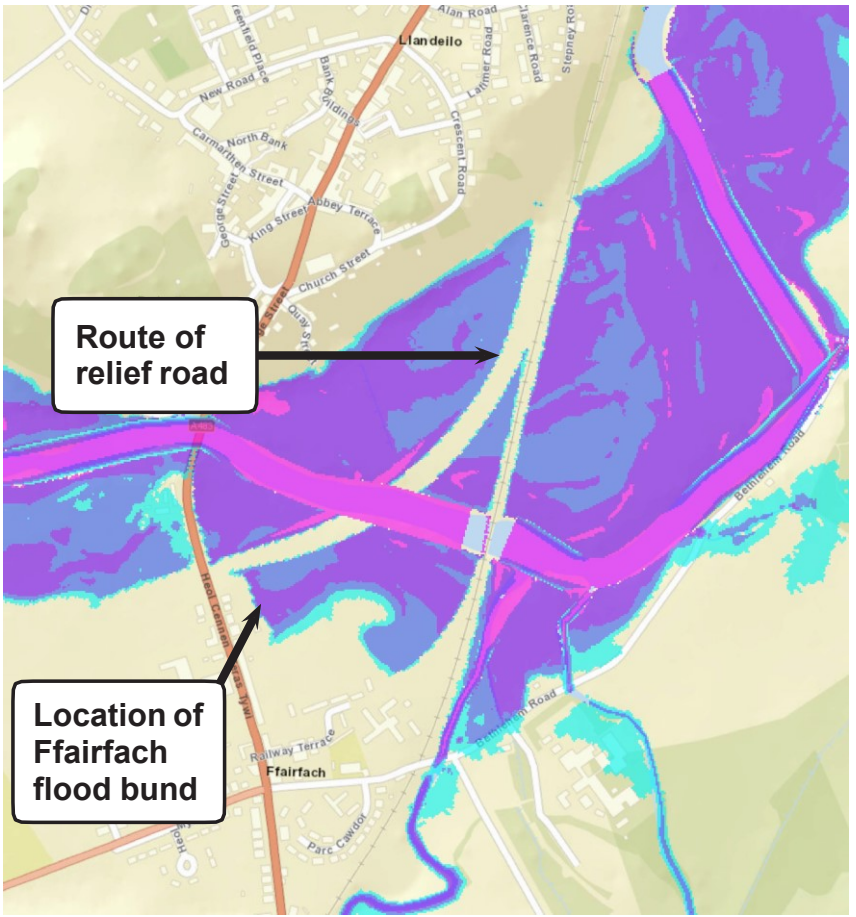
- Improvements to the existing Ffairfach flood bund, which include raising the levels and improving the permeability of the bund.
- Including large culverts or approach structures each side of the proposed new river crossing to allow water to flow through the embankment.
- Including smaller relief culverts under the raised section of new relief road between the new river crossing and proposed roundabout south of the existing Llandeilo Bridge, to allow water to flow through the embankment and away from the existing flood defence.

The above mitigation measures result in a marginal increase in floodplain levels during a 1 in 100 year flood event and a 1 in 1000 year event.

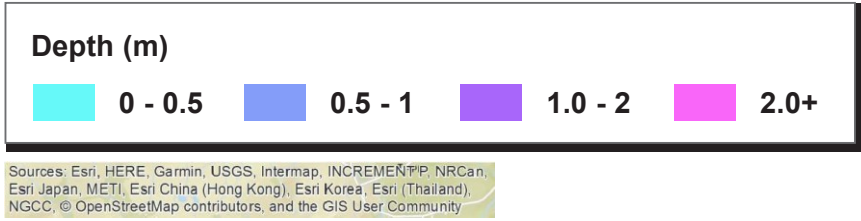
The images below (taken directly from the flood model) show the impacts of the mitigated proposals noted above.



Existing impact of 1:100 year storm on the River Towy floodplain



Proposed impact of 1:100 year Storm on the River Towy floodplain



Potential Car Parking Locations and Walking and Cycling Improvements

The following plan outlines potential locations for eBike docking stations (Ref CF2) and the local streets identified as candidates for walking and cycling improvements (Ref CL3). Additionally we have explored plots of land (in public ownership) that have the potential to be converted into a public car park (Ref CF1, CF8, CL6, CL7, CL8 and CL9).



What happens next?

Following this consultation, the Independent Review Panel will consider all of your feedback and will recommend a preferred option to Welsh Government by the end 2020.

A Welsh Ministerial decision on a final recommendation is expected by Spring 2021.

Thank You

Thank you for your time today, we hope you found the information helpful. If you have any questions or require any future information please contact the project team via the Q&A section.

Your views matter

This consultation is being held to seek your views on the proposed improvements for the A483 Llandeilo and Ffairfach. We invite you to share your views and provide further feedback, prior to the Welsh Government making a decision on the preferred route. Please complete the consultation response form questionnaire provided at the end of the consultation document which you can return to us:

By Post: **Freepost A483 Transport Study**

Or by email: **A483-Llandeilo@capita.co.uk**