

Cyngor Gwynedd

Llanbedr Transport Improvements WeITAG Stage 0 – The Case for Change

October 2024



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1. Introduction

1.1 Overview of the WelTAG Study

Cyngor Gwynedd (CG) have received funding from Welsh Government to develop a WelTAG Stage One and Two study to investigate potential transport interventions that could be implemented to improve the village of Llanbedr.

WelTAG 2024 outlines that Welsh Government will not support programmes or projects that do not have a clear Case for Change at the outset. This report therefore draws on knowledge of the local area and transport priorities to outline the reasons for intervention through the consideration of the problems and constraints in the study area.

The purpose of this report is therefore to be the Stage 0 – Case for Change for the proposed Llanbedr Transport Improvements project. This will ensure that all stakeholders and decision makers are aware of the transport problems and opportunities seeking to be addressed in the study area and transport policy priorities, to ensure that proposed improvements are effective.

The study will be delivered in line with the updated WelTAG 2024 guidance¹.

1.2 Context

In 2015, a WelTAG Stage One study was completed by Ymgynghoriaeth Gwynedd Consultancy (YGC) that considered a proposal for a 1.5km bypass to the west of Llanbedr. The study was undertaken in line with the latest WelTAG guidance at the time of writing and set out the benefits of a bypass in this location to support development of Llanbedr Airfield, and to address the negative impact of traffic on the community in Llanbedr.

Following this, a planning application for the construction of a new road was submitted, with consent granted in 2020. This planning consent remains valid until early 2025.

In 2021, the Roads Review Panel reviewed the Llanbedr Access Road and Bypass², focusing on two specific questions:

1. Has sufficient consideration been given to non-transport solutions and solutions other than those increasing private car capacity on the road network?
2. Has sufficient consideration been given to whether the road proposal will lead to increased CO₂ emissions on the road network, or cause significant impediment to achievement of our decarbonisation targets?

The review concluded that the scheme did not align well with new Welsh Government transport and climate policy and advised that the scheme should not be progressed. Despite recommending that the scheme should not be taken forward, it was suggested that there would be benefit in further discussion between CG and Welsh Government about an alternative package of measures to reduce the negative impact of traffic in Llanbedr.

This has culminated in the development of this study, which will consider options to improve the transport situation in the village of Llanbedr. Although the focus of the study will be on sustainable transport interventions, the study will also consider the development of a package of measures that could include a low-speed relief road. This is only to be developed if a case can be made through WelTAG which meets the new road-building tests³.

1 Welsh Transport Appraisal Guidance (WelTAG)
2 Roads Review Panel: Llanbedr access road and bypass | GOV.WALES
3 Welsh Government response to the Roads Review | Future road building tests

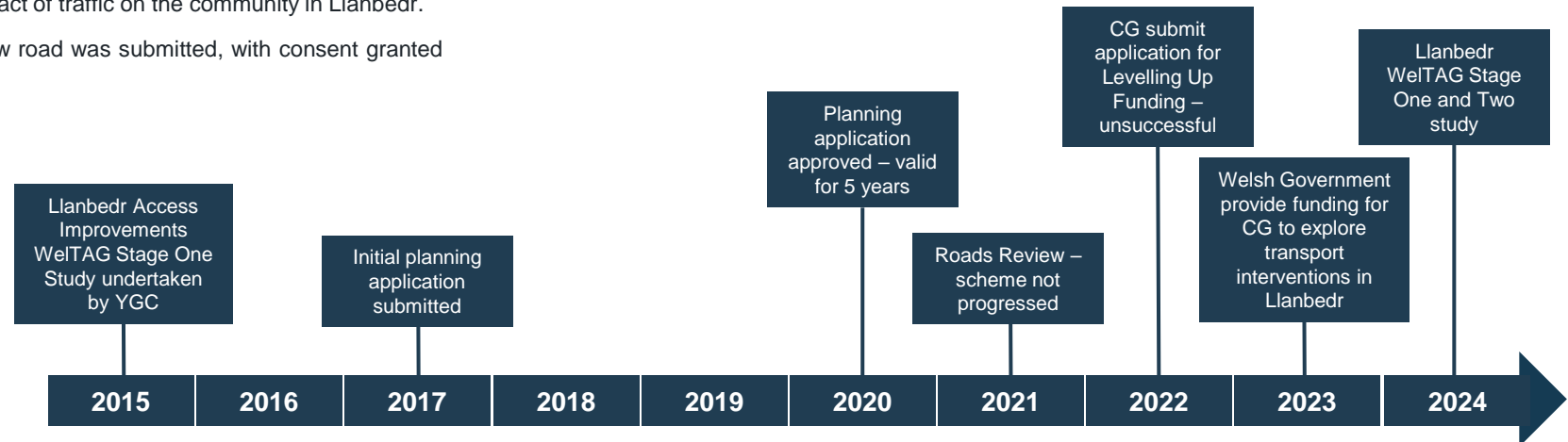


Figure 1: Llanbedr Transport Projects Timeline



2. Transport Priorities, Programmes & Projects

The purpose and objectives of the study must be based on the national and regional priorities for transport that exist within current policy and legislation. The key policy and legislation outcomes, as well as committed programmes and projects of relevance to this study, are summarised as follows, with further details in **Appendix A**.

2.1 Key Policy and Legislation Outcomes

- Significant modal shift is required to decarbonise the transport system, in order to achieve Wales' Net Zero target by 2050. In order to achieve the modal shift target set out by Llwybr Newydd of 45% of journeys to be undertaken on-foot, by cycle, or by public transport by 2040, sustainable transport modes must be prioritised.
- The construction of new transport infrastructure should not be prioritised, with a focus on making better use of existing infrastructure, wherever possible, as set out by Llwybr Newydd. If problems cannot be resolved by making better use of existing infrastructure, new transport infrastructure should be developed in line with the sustainable transport hierarchy, with the construction of new roads a last resort.
- Transport improvements should focus on sustainable modes, have a positive impact on health, ensure safety, minimise emissions and support sustainable economic development, as set out by Llwybr Newydd.
- As set out by the Roads Review Panel, a low-speed relief road in Llanbedr should only be considered as a 'last resort once other solutions have been tried'. The carbon emissions of transport interventions should be considered, with the road-building tests of the Roads Review Panel utilised to assist this.
- Well-being should be at the heart of all development in Wales, with WelTAG 2024 guidance integrating well-being into decision making.
- Llanbedr Airfield is part of Welsh Government's Snowdonia Enterprise Zone. A new multi-user access road to the Airfield has been identified as a regional priority project within the Mid Wales Joint Local Transport Plan, and therefore access to this strategic site is important.
- Establishing a sustainable visitor economy and protecting the qualities that make Gwynedd unique for the benefit of the environment and communities is essential, as per Gwynedd and Eryri's Sustainable Visitor Economy Plan.
- In order to deliver a 'Green Gwynedd', CG have committed to providing an active travel and public transport network that meets the needs of communities across the region.



2.2 Committed Programmes & Projects

The committed programmes and projects relating to the project are as follows:

- **Bus Services (Wales) Bill**

Welsh Government want to help improve bus services by planning and delivering services according to user needs, as opposed to commercial requirements. This legislation is currently being considered by the Senedd and will enable Transport for Wales, alongside Local Authorities, to plan and implement bus services as they require, utilising a franchising model.

- **Snowdonia Enterprise Zone – Llanbedr Airfield**

CG are working with Welsh Government and the owners of Llanbedr Airfield to allow the site to reach its potential as a centre of excellence for Unmanned Aircraft Systems (UAS), emerging technologies and aerospace and space sectors. The site is part of the Snowdonia Enterprise Zone, where Welsh Government aim to create the best possible conditions for businesses to thrive.

- **Llanbedr Quick-Wins**

Separate to the WelTAG study, a number of 'quick wins' are being progressed by CG to improve the transport network in Llanbedr. Stakeholders were consulted throughout the decision process and the current proposals are to provide improved bus stops within the village.

2.3 Five Ways of Working

It is essential that all transport projects are developed utilising the five ways of working set out by the Well-being of Future Generations (Wales) Act. The way the five ways of working have been utilised at this stage, and will continue to be used, is shown in **Appendix B**.

3. Transport Problems & Opportunities

3.1 Summary of Local Context

A review of the local area has been undertaken, as provided in **Appendix C**, to understand the key transport problems and opportunities within the study area. The review has identified the following specific issues:

- Private car use is the dominant mode of transport in Llanbedr (80%), likely owed to the rurality of the area and how access to key services and employment requires long distance travel.
- There is also little incentive to undertake journeys by sustainable modes given that the public transport network and active travel infrastructure is poor, services are not frequent, and connections to and between the railway station and bus stops are poor.
- The existing transport and traffic issues in Llanbedr are exacerbated during the summer months when there is a large influx of visitors to the area (more than double the traffic flow in August compared to December). Due to the type of journeys being made to the area, of which the majority are long-distance and for short-stay domestic holidays, the propensity for travelling by public transport to the area is low.
- The section of the A496 through Llanbedr is constrained, inducing stop-start movements, congestion and journey time inconsistencies (95th percentile journey times are double the average). This is exacerbated by parked cars in the village, although these vehicles are used as physical barriers by pedestrians to protect them from vehicles.
- The village is severed by the A496 with pedestrians required to share the road space with vehicles, which causes safety issues, as indicated by the comparably high collision rate (888 per billion vehicle miles, compared with 170 nationally on rural A roads).
- Potential development of Llanbedr Airfield is constrained by the existing highway layout, with potential safety concerns with any larger vehicles requiring use of Mochras Road to access the site.
- Any improvements within the village are severely constrained by the presence of direct frontages onto the road, with no footways, and the Grade II Listed Afon Artro bridge.
- The A496 is located in a flood risk area to the north of the village, with instances of flooding likely to be of increased frequency in the future due to the impacts of climate change.

A summary of the identified transport problems, opportunities and constraints is provided in **Appendix D**.



3.2 Stakeholder Engagement

Stakeholder engagement is required by WelTAG to aid in shaping study objectives and the outcomes of projects.

An initial meeting was held with the local community in September 2023, following by an in-person workshop in February 2024 with key stakeholders. The workshop allowed the opportunity to meet with representatives of the local community and the wider area to listen to their feedback in relation to a draft list of transport problems and opportunities identified. The outcomes of the workshop have been incorporated within this report to ensure that the views of the local community have been taken into account.

It should be noted that wider stakeholders, including Members of the Senedd, were also emailed and feedback requested in relation to current issues in Llanbedr, with any responses incorporated within this report.

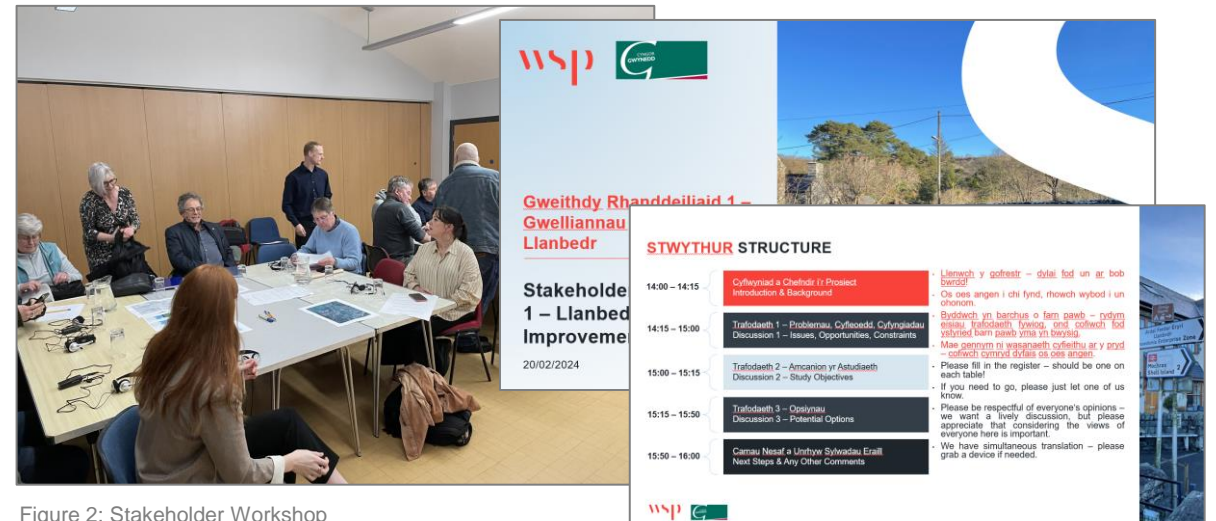


Figure 2: Stakeholder Workshop

4. Study Objectives

Based on the findings of the review of the local area, engagement with key stakeholders, and consideration of relevant transport priorities, programmes and projects, a list of eight study objectives have been developed. The proposed study objectives are outlined below, including how they interact with wider policy ambitions.

Study Objectives							
1. Reduce the need to travel for key services and employment	2. Improve safety for all transport modes	3. Prioritise journeys on-foot and by cycle within Llanbedr village	4. Improve access by sustainable modes to and from Llanbedr and areas to the west of the village	5. Enhance the local built environment to improve the sense of place and contribute to the vibrancy of the village	6. Reduce the impact of the visitor economy on the road network	7. Improve the resilience of the transport network in and around Llanbedr	8. Reduce the impact of climate change on the local community
Transport Problems Resolved							
Community Severance & Sense of Place Access to Services & Employment Resilience	Safety Community Severance & Sense of Place The Visitor Economy	Safety Reliance on Private Car Community Severance & Sense of Place The Visitor Economy	Access to Services & Employment Community Severance & Sense of Place The Visitor Economy	Community Severance & Sense of Place The Visitor Economy	Safety Community Severance & Sense of Place The Visitor Economy	Safety The Visitor Economy Resilience	Safety Access to Services & Employment Resilience
Well-being of Future Generations Act – Well-being Goals							
1 2 4 6 7	1 6	1 2 4 6 7	1 2 3 4 6 7	2 5 6 7	1 3 6 7	1 3 6	1 3 4 6 7
Llwybr Newydd: the Wales Transport Strategy 2021 – Well-being Ambitions							
A B D	A	A B C D	A B C D	A C D	A B C D	B D	A B D
Llwybr Newydd: the Wales Transport Strategy 2021 – Priorities							
Priority 1: Bring services to people in order to reduce the need to travel	Priority 2: Allow people and goods to move more easily from door to door by accessible, sustainable transport.	Priority 3: Encourage people to make the change to more sustainable transport	Priority 2: Allow people and goods to move more easily from door to door by accessible, sustainable transport.	Priority 3: Encourage people to make the change to more sustainable transport	Priority 2: Allow people and goods to move more easily from door to door by accessible, sustainable transport.	Priority 2: Allow people and goods to move more easily from door to door by accessible, sustainable transport.	Priority 2: Allow people and goods to move more easily from door to door by accessible, sustainable transport.
Cyngor Gwynedd Plan 2023-28							
A Green Gwynedd	A Caring Gwynedd	A Green Gwynedd A Caring Gwynedd	A Green Gwynedd A Prosperous Gwynedd	A Prosperous Gwynedd A Homely Gwynedd	A Prosperous Gwynedd	A Green Gwynedd A Prosperous Gwynedd A Caring Gwynedd	A Green Gwynedd

Table 1: Study Objectives



Key

- 1 A healthier Wales
- 2 A more equal Wales
- 3 A more resilient Wales
- 4 A globally responsible Wales
- 5 A Wales of vibrant culture & thriving Welsh language
- 6 A Wales of cohesive communities
- 7 A prosperous Wales
- A Good for people and communities
- B Good for the environment
- C Good for culture and the Welsh language
- D Good for the economy and places

5. Next Steps

5.1 WelTAG

Funding has been provided by CG from Welsh Government to support delivery of WelTAG Stage One and Two studies in relation to transport improvements in Llanbedr. The funding purpose outlined:

- In line with the sustainable travel hierarchy, develop a package of longer-term solutions to Llanbedr's transport problems which will eventually complement CG's ambitions for a future green corridor.
- The package could potentially include a low-speed relief road if a case can be made through WelTAG which meets the new road-building tests and demonstrates that other elements within the package, developed first, are insufficient.

Taking this into account, the clear next steps for the project is to develop an initial WelTAG Stage One study, followed by a WelTAG Stage Two study. Utilising the WelTAG 2024 guidance, this will set out a 'menu of options' within Llanbedr, before identifying a short-list for consideration at WelTAG Stage Two, that will determine the preferred package of measures.

In line with the funding requirements and findings of the Roads Review Panel, the WelTAG study will consider a low-speed relief road as a last resort, if other measures are unable to effectively meet the study objectives and address the transport problems identified.

5.2 Funding Sources

The completion of WelTAG Stage One and Two studies will be funded by the grant received from Welsh Government by CG.

As part of the WelTAG process, the potential funding sources to develop schemes will be investigated and set out. Due to the potential scale of options, it is considered that the potential funding sources could be numerous and include the following:

- Welsh Government Active Travel Funding.
- Welsh Government Local Transport Funding.
- Welsh Government Pathfinder Funding.
- Cyngor Gwynedd Direct Funding.

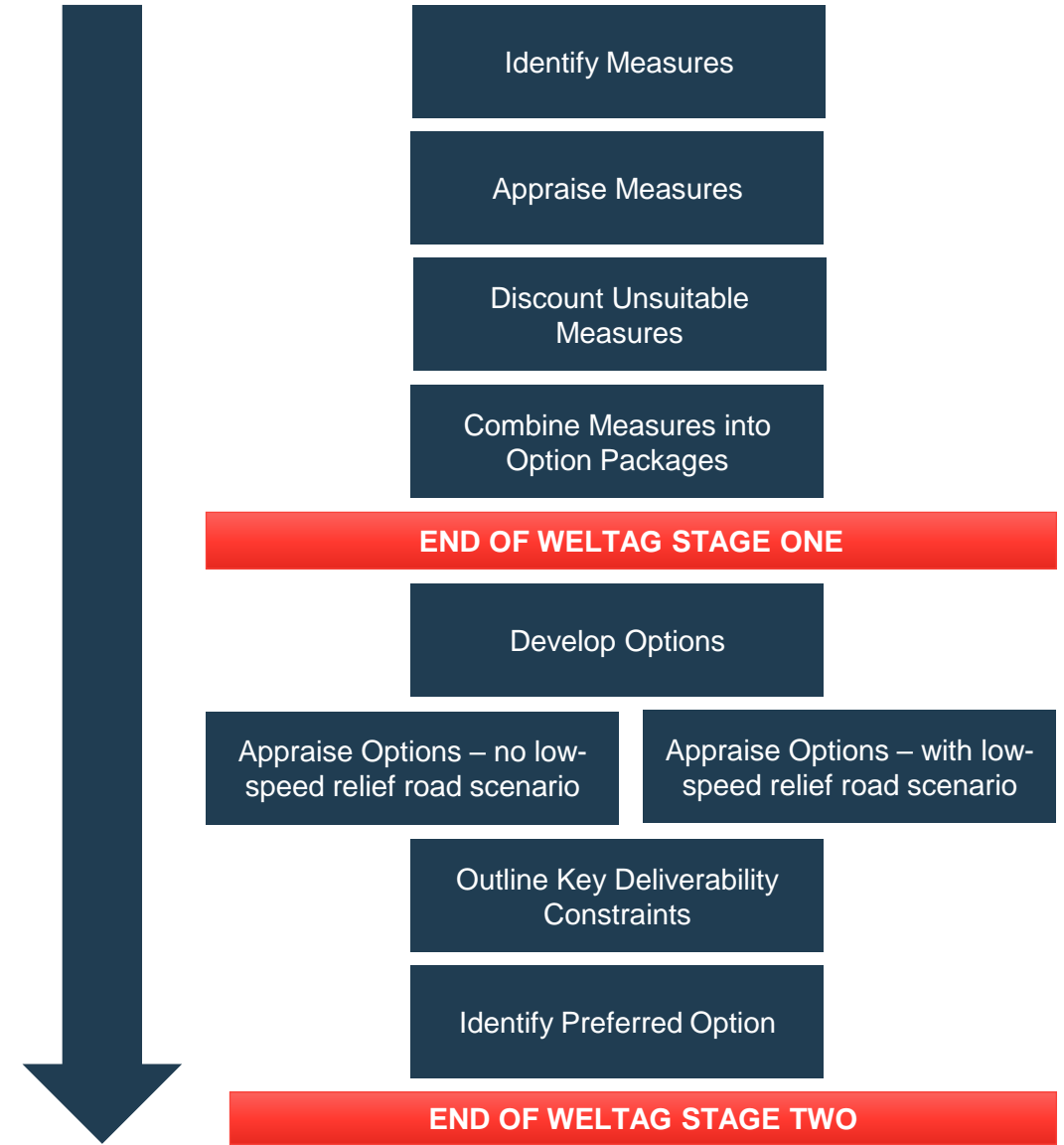


Figure 3: Implementation Plan



Appendix A – Transport Priorities Committed Programmes & Projects

Well-being of Future Generations (Wales) Act 2015

The Well-being of Future Generations (Wales) Act 2015 requires public bodies in Wales to consider the well-being of future generations in decision-making and gives a legally-binding common purpose – the seven well-being goals – for national government, local government, local health boards and other specified public bodies.

It details the ways in which these bodies must work, and work together, to improve the well-being of Wales.

The Well-being of Future Generations (Wales) Act 2015 influences the way the public sector in Wales plans for new development; it demands that development and use of land contribute to improving the economic, social, environmental and cultural well-being of Wales.

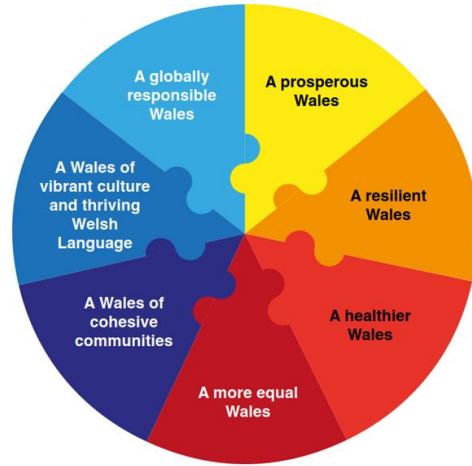


Figure A1: The Seven Well-being Goals

In addition to the seven Well-being Goals, the Act sets out five ways of working which should be utilised by public bodies to ensure that decision making addresses long-term challenges and is designed to take appropriate consideration of future generations. The five ways of working are as follows:

- Long Term
- Prevention
- Integration
- Collaboration
- Involvement

In addition to the national legislation, Public Service Boards (PSBs) across Wales have developed Local Well-being Plans to develop specific well-being targets in their respective areas. On this basis, the objectives of the Gwynedd & Anglesey Local Well-Being Plan (2018) have also been reviewed to understand how the development of well-being policy and associated priorities at a national level interlink and compare to those at a local level.

Nine key messages were identified, which informed the development of two well-being objectives, as follows:

- Communities which thrive and are prosperous in the long term.
- Healthy and independent residents with a good quality of life.



Llwybr Newydd: the Wales Transport Strategy 2021

Launched in 2021, Llwybr Newydd is centred around the principle of achieving an integrated approach to transport.

The strategy aims to create ‘an accessible, sustainable transport system’ where 45% of journeys are undertaken by sustainable modes by 2040. The strategy is based on three key priorities for the short-term and four longer-term well-being ambitions. These are summarised as follows:

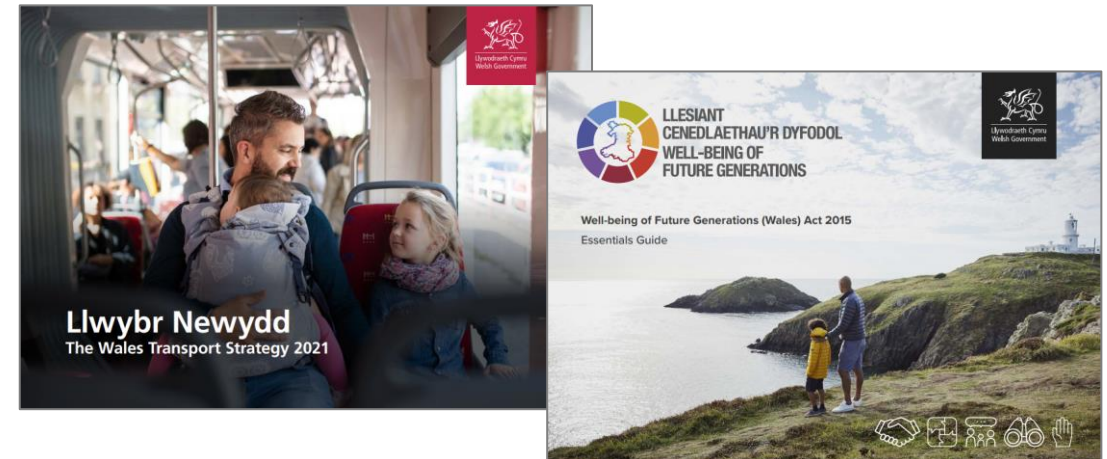
Priorities

1. Bring services to people in order to reduce the need to travel.
2. Allow people and goods to move easily from door to door by accessible and efficient transport services and infrastructure.
3. Encourage people to make the change to more sustainable transport by making sustainable modes more attractive, affordable and easier to use.

Well-being Ambitions

- Good for people and communities.
- Good for the environment.
- Good for the economy and place in Wales.
- Good for culture and the Welsh language.

Within the strategy is also the commitment to utilising the Sustainable Transport Hierarchy, which highlights that improvement for active modes and public transport will be prioritised above improvements for the private car.



Net Zero Wales

Welsh Government has established a series of statutory five-year carbon budgets that will define and assist with the pathway towards net-zero by 2050. The following carbon reduction targets have been set, in line with the Climate Change Committee’s (CCC) recommendations across all sectors:

- Carbon Budget 2 (2021-25): 37% average reduction (with 0% offset limit).
- Carbon Budget 3 (2026-30): 58% average reduction.

Within Net Zero Wales, 123 policies and proposals have been put forward across a broad range of sectors in attempt to meet the emission reduction targets that are required by 2025. Within this, the ‘Transport Sector Ambition Statement’ sets out the ambitions of Welsh Government with the following targets:

- Reduce emissions from passenger transport by 98% in 2050 through demand reduction, modal shift and uptake of low carbon technologies.
- Reduce the number of car miles travelled per person by 10% by 2030.
- Increase the proportion of trips by sustainable travel modes to 39% by 2030.
- By 2025, 10% of passenger car travel will be by zero emission car and 48% of new car sales will be zero emission.
- To have a comprehensive network of EV charge points and have transitioned a large proportion of the bus, taxi and private hire vehicle fleet to zero emission vehicles.

Roads Review Panel

In June 2021, Welsh Government announced a pause on all new road building schemes whilst a review was undertaken. A subsequent panel of independent experts was appointed, with the outcome of the review published in February 2023.

The Panel had set out that road schemes should only be for four purposes:

- Shifting trips to sustainable transport
- Reducing casualties where they are high
- Adapting roads to the impact of climate change
- Supporting prosperity by providing access to development sites

A total of 51 recommendations were published by the Roads Review Panel, with the majority of schemes either scrapped on environmental grounds or significant changes recommended. This included the Llanbedr Access Road and Bypass.

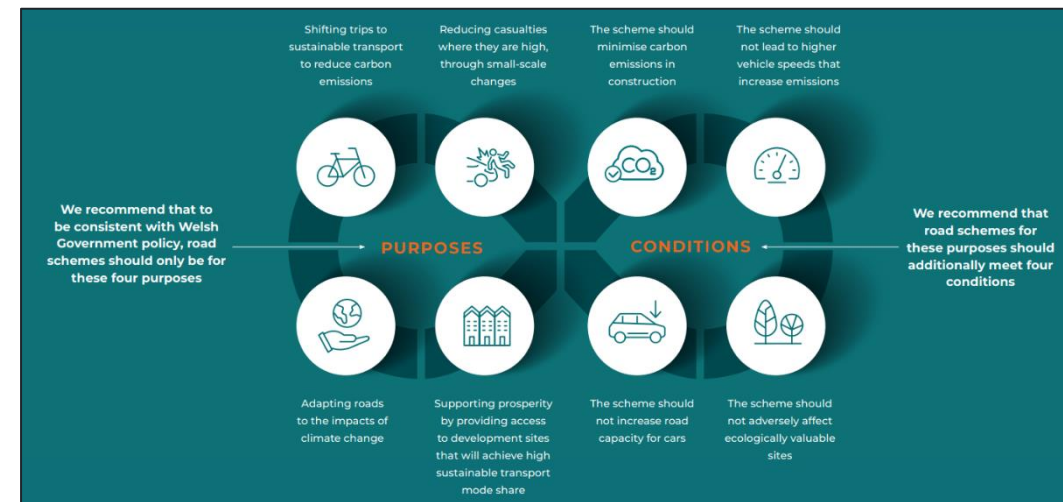


Figure A2: Purposes & Conditions for Future Road Investment – Roads Review Panel

National Transport Delivery Plan

Following the publication of the Roads Review, Welsh Government have updated the National Transport Delivery Plan to account for the findings. The National Transport Delivery Plan sets out how Welsh Government will deliver programmes, projects, and policies over a five-year period against Llwybr Newydd and in support of a decarbonised economy.

A new road in the vicinity of Llanbedr is not included in the National Transport Deliver Plan for the 2022-2027 period.



Mid Wales Joint Local Transport Plan (LTP) 2015-2020

The LTP has been jointly produced by three Mid Wales Local Authorities – Ceredigion, Gwynedd and Powys. The plan sets out a range of interventions and schemes for all modes of travel, detailing a programme from 2015-2020 and a framework of schemes until 2030.

The plan identifies a list of high-level interventions, categorised as Improving Strategic Connections, Improving Accessibility to Employment and Services, Encouraging Walking and Cycling, Integrated Public Transport Networks and Improving Safety and Security.

It is noted that a new multi-user access road to Llanbedr Airfield has been identified as a regional priority project.

Anglesey and Gwynedd Joint Local Development Plan (LDP) 2011-2026

In 2017, both CG and the Isle of Anglesey County Council adopted a Joint LDP to guide and manage development. This will be used to provide a basis on which planning applications will be determined and will supersede the previously adopted plan framework.

The LDP sets out the strategy and aims for development and land use in Anglesey and Gwynedd. The plan aims to have a significant influence on development of the whole area and individual communities, with the overall vision:

By 2026, Anglesey and Gwynedd will be recognized for their vibrant and lively communities that celebrate their unique culture, heritage and environment and for being places where people choose.

Directly linked to this study, Llanbedr Airfield is recognised within the LDP as a key site within the Snowdonia Enterprise Zone. Llanbedr is recognised as offering a unique opportunity to develop the Remotely Piloted Aircraft Systems (RPAS) capability due to its segregated airspace and coastal location with the intention that it will become the key location for the development of RPAS in Wales and the UK.

It is believed that the development of RPAS in Llanbedr would create a range of sustainable employment opportunities at different skill levels. Beyond technical staff, it is anticipated that operational, maintenance and support staff will be needed which will help those with lower skills levels to access local jobs.

Local SMEs are anticipated to benefit from these proposals through the supply chain. Llanbedr will attract high skilled people and high wages to the area during their campaigns at the site, which is anticipated to enhance the local economy through the increase in spend of those high earning individuals. The investment into Llanbedr due to this could also trigger further investment for the area and benefit the local community further.



Cyngor Gwynedd Plan 2023-2028

The Cyngor Gwynedd Plan sets out the Council’s aspirations and priorities for the next five years. A series of projects for the next five years are included, under seven priority fields:

- Tomorrow’s Gwynedd
- A Prosperous Gwynedd
- A Homely Gwynedd
- A Caring Gwynedd
- A Green Gwynedd
- An Efficient Gwynedd
- A Welsh Gwynedd

Included in ‘A Green Gwynedd’ is the ambition to ensure that the public transport network meets the needs of Gwynedd’s communities. One of the projects under this priority field is ‘Public Transport’ which involves reviewing the existing public transport provision with the aim of developing a network that will be convenient, reliable, and reasonably priced. Introducing new electric buses is also part of this plan.

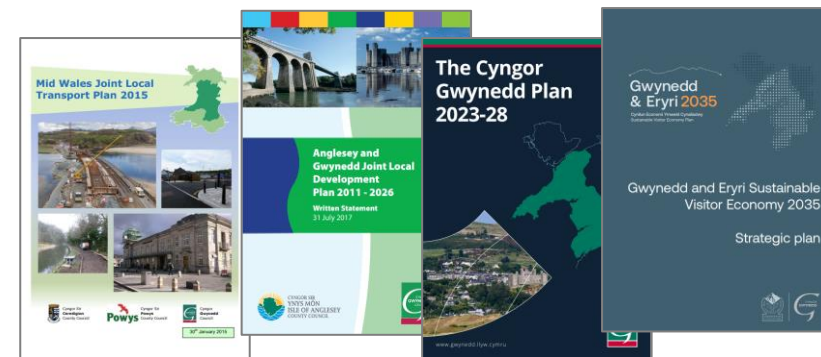
The plan also sets out proposals to develop sustainable tourism and strong and resilient communities (A Prosperous Gwynedd), which are of particular relevance to this study.

Gwynedd and Eryri Sustainable Visitor Economy 2035

The Plan is a new strategy, published in 2024, that introduces a new approach to measuring the impact of tourism in Gwynedd and Eryri. It established a set of principles and objectives which aim to redress the balance in the area, putting communities at the heart of those who benefit from the visitor economy.

- Celebrate, respect and protect our communities, language, culture and heritage
- Maintain and respect our environment
- Ensure that the advantages to Gwynedd and Eryri communities outweigh any disadvantages

Ultimately, the plan aims to establish a sustainable visitor economy in Gwynedd and Eryri, to benefit the people, environment and culture of the region.



Bus Services (Wales) Bill

Welsh Government (WG) want to help improve bus services by giving local authorities better tools to plan and deliver bus services in their area. They will do this by implementing a new law – the Bus Services (Wales) Bill.

Through this Bill, local authorities will be able to:

- Set up **Welsh Partnership Schemes** to work with bus companies so communities have better bus services;
- Set up **Welsh franchising Schemes** where a local authority can give bus companies the right to run some or all of the bus services in their area; and,
- Set up and run **their own bus service**.

The new law will also establish rules to sharing new information which means that local authorities can ask bus companies for information about routes, so that they can better plan services. This also means that passengers will be able to access better information generally.



Snowdonia Enterprise Zone

Since 2012, CG have been working together with WG to facilitate the development of the **Snowdonia Aerospace Centre, located on Llanbedr Airfield**, as part of WG's Snowdonia Enterprise Zone (SEZ).

CG are working with WG and the owners of Llanbedr Airfield to allow the site to reach its potential as a centre of excellence for Unmanned Aircraft Systems (UAS), emerging technologies and aerospace and space sectors.

Proposals for the site include developing Llanbedr Airfield into a Horizontal Space Port which will include a Space Flight Academy, exhibition/visitor centre, conference facility, technology business park, a 60-bed hotel and a new hangar. The access to the site will remain as existing, via the road which runs along the northern perimeter of the site (Mochras Road).

The Transport Impact Assessment undertaken by YGC in 2020 predicts that the changes in traffic on the local road network, as a result of the proposed development, is +79.6% in the AM and +54.9% in the PM. Most of the predicted increase is from the business park (+748 vehicle movements in the AM peak period). From the hangar +186 vehicles are expected and from the hotel +50. Similar increases are expected during the PM peak period.

It is understood that the existing transport network in the area is a barrier to the development of the site. This being said, for the purpose of this study, enabling development at the Airfield site is only considered a potential supplementary opportunity / benefit of addressing the existing transport issues in the local area. Therefore, any intervention proposed as part of this WelTAG study should not be tied directly to the proposal at Llanbedr Airfield.

Llanbedr 'Quick-Wins'

Work undertaken in 2022 by TfW identified a range of potential 'quick-wins' that could be implemented in Llanbedr to improve local transport.

Following this, CG have engaged with the local community and have agreed to improve the local bus stops so that there are dedicated shelters and up-to-date information. These proposals are currently being developed and will be implemented as soon as practicable.



Figure A3: Llanbedr Airfield



Appendix B – Five Ways of Working

CHALLENGE

Constrained main road, on-street parking, congestion, severance between modes, all exacerbated by seasonality trends. Safety a major concern for users.

COLLABORATION

- Stakeholder workshops held with the local community to review issues, opportunities, constraints, study objectives and potential options.
- The stakeholder feedback will be used to inform the issues, study objectives and long-list of options.
- **A More Equal, Healthier, Resilient Wales, and a Wales of Vibrant Culture and Thriving Welsh Language**

PREVENTION

- Strategic case sets out the problems affecting Llanbedr and the Case for Change.
- Study objectives and the long list of options are aimed at preventing problems getting worse in the future.
- Measures to be developed to prevent the worsening of problems will benefit wider objectives – active travel, health and carbon reduction.
- **A Healthier, Prosperous, more Equal and Globally Responsible Wales**



INVOLVEMENT

- As part of the stakeholder engagement process, national, regional, and local representatives will be engaged at an early stage, to feed into scheme option/selection.
- **A Wales of Cohesive Communities**

INTEGRATION

- Problems, objectives and the long list of options assessed against the national well-being goals.
- Options appraised against the well-being and policy objectives of public bodies including Welsh Government and CG.
- **A Prosperous, More Equal and Healthier Wales**

LONG TERM

- Strategic case identifies long term trends and problems affecting the study area.
- Long term study objectives to improve the resilience and safety of the network, to enhance economic regeneration and encourage a modal shift from car travel to active travel and public transport journeys.
- Integration of 20-year well-being ambitions into the WelTAG assessment.
- **A Prosperous, More Equal and Globally Responsible Wales**

WHAT NEXT?

Independent review of the Case for Change

Local Context

Study Area

The extent of the area of focus for this study is shown in **Figure C1**. Whilst the study will be considerate of the wider area and transport corridor, particularly along the A496 between Llandecwyn and Barmouth, and towards Llanbedr Airfield and Shell Island, the focus of the study will be on the village of Llanbedr and the direct surrounding area.

A summary of the available data and information on Llanbedr is presented on the following pages, demonstrating the requirement for a transport intervention in this location.

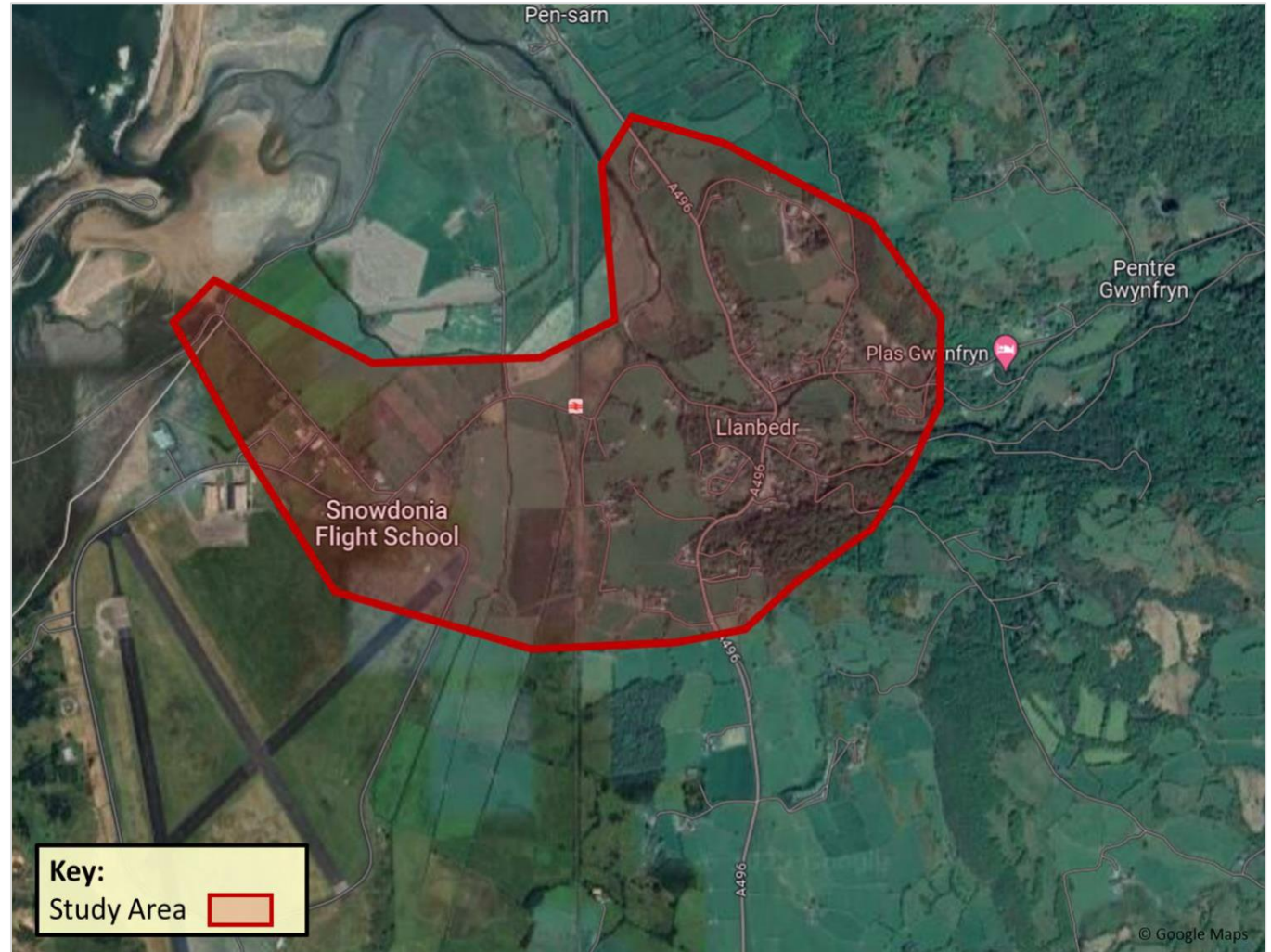


Figure C1: Study Area

Local Context

Demography

Over a period of 10 years between 2011 and 2021, Gwynedd's population has declined by 3.7%, from 121,874 residents to 117,400. This is the second highest population decrease in Wales by Local Authority, following Ceredigion which borders the southern extent of Gwynedd.

Compared with the Wales average, Llanbedr has a lower proportion of people under the age of 25 within the local area, whereas a larger proportion of the population in Llanbedr are above 64. Comparatively, Llanbedr has a declining and ageing population, and therefore a lack of local opportunities is considered to be a constraint.

Economic Context

Although overall Llanbedr is within the 50% least deprived Lower-Super Output Areas (LSOAs) in Wales according to the Welsh Index of Multiple Deprivation (WIMD)⁶, people living in Gwynedd have the lowest average gross weekly earnings of all Local Authorities in North Wales, with the employment rate lower than the Wales average.

Access to Services and Employment

Llanbedr is amongst the 10% most deprived LSOAs in terms of access to services, with the rurality of the area a key contributor to this. The rurality of the study area means that journeys to key services such as supermarkets, health and educational facilities cannot be made on foot or by cycle, reinforcing a reliance on the private car.

Car Ownership

There is a higher car ownership rate in Llanbedr than in Wales as a whole. The households without a car across Wales is around 20%, whereas households without a car in Llanbedr account for around 15%. Households with three cars or more also account for a greater proportion of the Llanbedr population than for Wales.

Journeys to Work

Table C1 and **C2** show a breakdown of the ways in which people in Llanbedr travel to work.

⁶ Welsh Index of Multiple Deprivation (WIMD) 2019

Table C1: Method of Travel to Work (excludes working from home)

Method of Travel to Work	2011 Llanbedr	2011 Wales	2021 Llanbedr	2021 Wales
Train	3%	2%	1%	1%
Bus, minibus or coach	2%	5%	1%	3%
Driving a car or van	72%	72%	80%	77%
Passenger in a car or van	6%	7%	5%	7%
Bicycle	1%	2%	1%	1%
On foot	16%	11%	12%	10%

It is evident that car/van is the dominant mode of transport in Llanbedr. In 2021, there was a higher reliance on car as a method of travel to work in Llanbedr than across Wales as a whole, by 3%.

Table C2: Method of Travel to Work (includes working from home)

Method of Travel to Work	2011 Llanbedr	2011 Wales	2021 Llanbedr	2021 Wales
Work mainly at or from home	17%	5%	29%	26%

Between 2011 and 2021, working from home has become more popular in Llanbedr and across Wales as a whole, but proportionately more in Llanbedr compared to the national average. This demonstrates that the type of local employment has a high propensity for working from home, which could be encouraged further through measures to reduce the need to travel.

More journeys to work over 20km in distance are undertaken by people in Llanbedr compared to Wales as a whole. This means that even if active travel infrastructure was continuous and of an adequate standard, a large proportion of commuting journeys would still be required to be made by motor vehicles due to them being of a long distance.

Key Issues & Opportunities:

- **Population decline & ageing population.**
- **High car ownership.**
- **Poor access to services.**
- **Reliance on the private car for journeys to work.**
- **Limited propensity for active travel due to longer-distances travelled to work.**
- **Potential opportunities to encourage further working from home.**

Local Context

Digital Connectivity

In Llanbedr, 0-5% of premises do not meet the universal service obligation (USO) levels of 10Mb download speed and 1Mb upload speed. Generally, there is good broadband connectivity within Llanbedr.

Origin-Destination

During a neutral period, the majority of trips made to the Llanbedr area on an average weekday originate from Llanbedr and the Llyn Peninsula (**Figure C2**). During the summer, although most journeys remain to be from Llanbedr and surrounding areas, there is a significant increase in demand from locations further afield, such as the Midlands and other areas of North Wales (**Figure C3**).

More journeys are made to Llanbedr from wider destinations in the summer compared to the neutral period. There are also generally a higher number of trips made to and from Llanbedr during the summer months, compared with neutral periods.

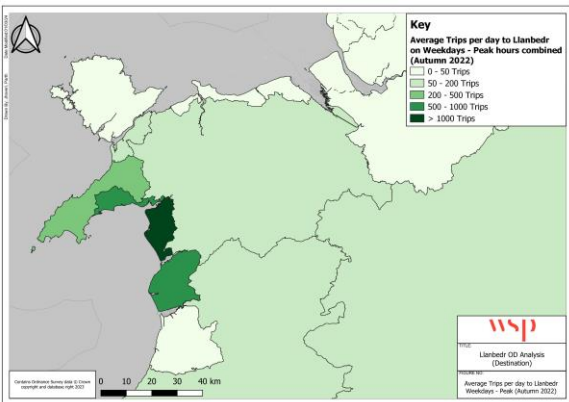


Figure C2: Origin regions of average weekday trips made to Llanbedr (neutral)

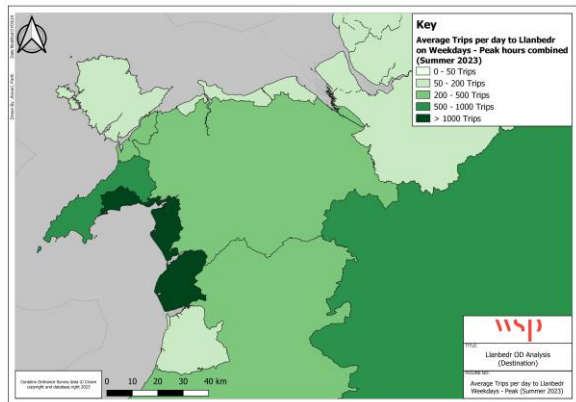


Figure C3: Origin regions of average weekday trips made to Llanbedr (summer)

Health

The WIMD 2019 indicates that Llanbedr is within the 50% least deprived areas in terms of health in Wales. Health is therefore not considered to be a significant constraint in this location, although improvements to activity levels could be made.



Visitor Economy

Llanbedr experiences a large surge in the number of tourists to the area in the summer months owed to the popularity of the Ardudwy area as a holiday destination. The number of visitors to the Bro Ardudwy region in 2021 was 589,000, which represents 11.2% of the total visitors to Gwynedd.

Gwynedd also has the largest proportion of enterprises within the tourism industry (16%) in Wales, significantly larger than the 11% national average⁷. The visitor economy therefore plays a significant role in the economy of the area.

Welsh Language

In Llanbedr, 47% of people can speak Welsh, which is significantly higher than the national average (17.8%). Any proposals in the area therefore have the potential to significantly impact of the Welsh language.

Environment, Landscape and Heritage

The study area is within the Ardudwy Historic Landscape and the Eryri National Park. There are approximately 70 Listed Buildings and Structures, including the Grade II Listed Afon Artro bridge, which forms part of the A496 route through the village.

There are also a number of International Designated Sites including Special Protection Areas, Special Areas of Conservation and Ramsar Sites within 2km of the study area. In addition, eight sites classify as either a Site of Special Scientific Interest, an Area of Outstanding Natural Beauty or a Local Nature Reserve in the local area.

The area south-west of Llanbedr of Low-High Flood Risk from rivers, with the area to the north-east of the village – which includes the A496 – of Medium – High Risk from coastal flooding. The potential for flooding in both locations is likely to be exacerbated by climate change.

Key Issues & Opportunities:

- Higher number of journeys made to Llanbedr in the summer months, from further locations.
- There are a several environmental constraints within 2km of the scheme, limiting the potential to increase road widths and/or introduce new infrastructure.
- Good digital connectivity provides an opportunity to reduce the need to travel.
- Opportunity to improve the public realm and sense of place, with reference to the village's location within the Eryri National Park and the surrounding historic environment.

Local Context

Public Transport

Rail

Llanbedr Railway Station is an unstaffed, request stop along the Cambrian Coast Line. The available services from the station are towards Pwllheli and Machynlleth (onwards to Shrewsbury). Services run approximately once every two hours and begin at 07:30 / 08:00 in the morning and finish at 21:30 / 23:00 at night.

There is no dedicated parking available at the station, although there is an informal car park utilised approximately 200m to the north-east.

The nearest bus stops to the railway station are located within Llanbedr village, approximately 1km to the east, accessed via Mochras Road.

Patronage

The number of entries and exits to/from Llanbedr Railway Station over 2022-2023 was 9,782. The main origin or destination station was Barmouth, which is 11km to the south.

When comparing to previous years, patronage has not reached 'pre-covid numbers' yet. However, its use has increased significantly since the 2021-2022 period. Of the railway stations in Gwynedd, Llanbedr ranks 15th out of 27 in terms of the number of exits and entries.



Figure C4: Llanbedr Railway Station

Bus

Just one bus service serves Llanbedr, this is the G23 service from Barmouth to Porthmadog, which runs hourly through Llanbedr from 06:50 to 17:50.

There are four bus stops in Llanbedr (two northbound and two southbound), located on the A496. Whilst sign-posted, the stops do not have shelters or road markings. One of the four bus stops has a bench. The bus stop north of the Afon Artro bridge is shown in **Figure C5**.

Patronage

According to bus patronage data provided by CG for the services superseding the current G23 route, Llanbedr bus stop ranks 5th out of 32 stops along the route in terms of its total use, with 4,919 tickets bought to/from the stop combined in 2023. The most popular stop along the bus route is Harlech Railway Station, with more than double the number of tickets purchased (11,108 tickets).

Despite this, it is considered that usage of the current bus service appears comparatively high and therefore enhancements to this can improve user experience and encourage more people to travel by bus.



Figure C5: Llanbedr A496 northbound bus stop

Key Issues & Opportunities:

- **Limited usage of the railway station due to the limited facilities available, poor connectivity to Llanbedr village centre, and infrequent services.**
- **Lack of parking at the railway station encouraging people to travel to other locations from rural areas to access the railway network.**
- **Although bus service frequency is reasonable for a rural location (hourly) the service ends before 6PM and therefore can only be utilised for a limited number of journey purposes.**
- **Poor quality bus stops.**

Local Context

Active Travel

There are currently no existing walking and cycling routes that meet Welsh Government standards in Llanbedr.

Along the A496, footways are limited, and pedestrians are required to walk on the road. Where they do exist, they are discontinuous, narrow and are of poor quality. This is also the same along Mochras Road, with severance being the main issue.



Figure C6: Narrow footway across the Afon Artro bridge



Figure C7: Pedestrians required to walk on the road due to lack of footways.



Figure C8: Footway along Mochras Road ends abruptly

8 DfT Propensity to Cycle Tool

All walking routes surveyed in Llanbedr failed an active travel audit on the basis that none have both dropped kerbs and tactile paving in place. Regardless of this critical fail, no routes scored high enough against other factors to pass. Despite this, there are a number of proposed future walking and cycling routes in Llanbedr, as shown in **Figure C9**.

Although walking routes are poor, most of Llanbedr is accessible on-foot within 30 minutes. The nearby locations Harlech and Dyffryn Ardudwy are accessible by cycle within 10-15 minutes, through a combination of on-road cycling and utilisation of Route NCN8.

The DfT Propensity to Cycle Tool⁸ shows that, in instances, the potential highest percentage of people cycling to work at an LSOA scale is 13% (under the E-bike scenario). In Llanbedr, this would equate to 26 less drivers from Llanbedr, which is unlikely to address the problems in the village on its own.

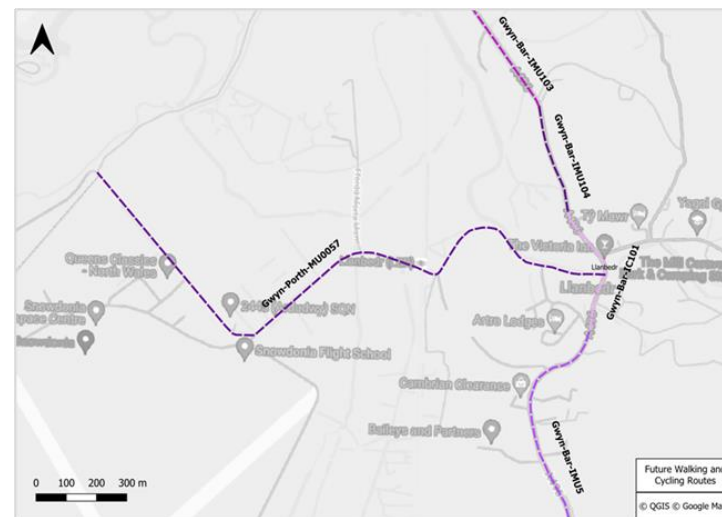


Figure C9: Proposed active travel routes

Key Issues & Opportunities:

- All of Llanbedr village should be within a reasonable walking and cycling distance, however there is a lack of safe, good quality active travel infrastructure throughout the village.
- No active travel routes are to the Active Travel Act Guidance standards.
- Potential for mode shift to cycling is unlikely to have the magnitude of impact to fully solve the existing issues, although it would contribute to modal shift targets.
- Opportunity to improve the local active travel network, particularly for journeys to school, to the railway station, and across the Afon Artro.

Local Context

Safety

Collisions

From 2018 – 2022, a total of six collisions were recorded in Llanbedr; one ‘Slight’ and five ‘Serious’.

Two of the ‘serious’ collisions and the ‘slight’ collision – all of which are located on the A496 – involved pedestrian casualties, which is considered to be a significant number over a five-year period. This supports feedback from stakeholders which highlighted safety concerns with the layout of the A496 in its current state.

Collision Rates

The collision rate per billion vehicle miles for the A496 through Llanbedr has been calculated as 888.4⁹. This is significantly higher than the standard collision rate for rural roads (A roads) of 170¹⁰. The collision rate for Llanbedr is more comparable to standard collision rates for urban roads (622), which demonstrates the significant safety risk associated with the transport network in the village.

In addition to the collisions outlined above, stakeholders highlighted that there are a high number of damage-only collisions within the village. According to the TAG databook, it is estimated that 17.7 damage only accidents occur per reported incident. Taking this into account, more than 100 collisions could have occurred within Llanbedr within a five-year period, which is a significant rate.

Perceived Safety

In addition to the recorded collision rates, due to the lack of footways along the A496, perceived safety of the transport network is poor for pedestrians. This discourages people from walking for short journeys and embeds a culture of resilience of the private car locally.

Feedback from stakeholders has also noted that local people are currently utilising parked cars along the A496 as physical barriers to protect themselves from oncoming traffic, which is a significant concern.

Heavy-Duty Vehicles

Furthermore, the percentage of traffic through Llanbedr that are Heavy Duty Vehicles (HDVs) – both goods vehicles and buses – is approximately 2.1%. When compared to the HDV% on the A470 nearby (approximately 4%) this is comparatively low; however, stakeholders expressed that large vehicles frequently move through the village and create a dangerous environment as pedestrians are sharing the same space, due to a lack of footway provision (perceived risk is high).

Traffic

The main road through Llanbedr is the A496, a single carriageway road. There is little potential to increase the width of this road in Llanbedr given that houses and businesses are located directly adjacent to it and the presence of the Grade II Listed Afon Artro bridge.

Another key road in the village is Mochras Road, which veers off the A496 to the west from the village centre. Mochras Road provides access to Llanbedr Railway Station, Llanbedr Airfield, and Shell Island from the centre of Llanbedr village.

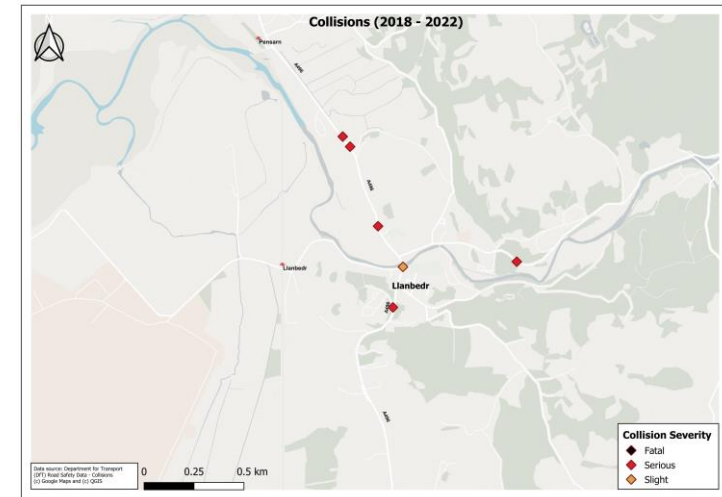


Figure C10: Collisions

Key Issues & Opportunities:

- **High collision rate.**
- **Three pedestrian casualties within five-years.**
- **Perceived safety for short journeys on-foot along the A496 discouraging interaction with local community assets (community cohesion).**
- **Due to the status of the A496 as a principal local route for heavy vehicles, intimidation on the A496 is significant.**

Local Context

Traffic

Traffic Flows

The total traffic flow along the A496 and along Mochras Road, recorded in August 2023, is shown in **Figure C11**. The total weekday daily traffic demand in August 2023 was recorded as being approximately 5,500 vehicles. The data presented does not include the bank holiday week.

As a comparison, according to Department for Transport data, average daily flow on the A470 near Trawsfynydd in 2022 was 7,489 (both directions). This demonstrates that the traffic demand within Llanbedr is not as significant as elsewhere in the local area; however, perception of traffic demand is significant due to the layout of the A496 and its role in segregating the village.

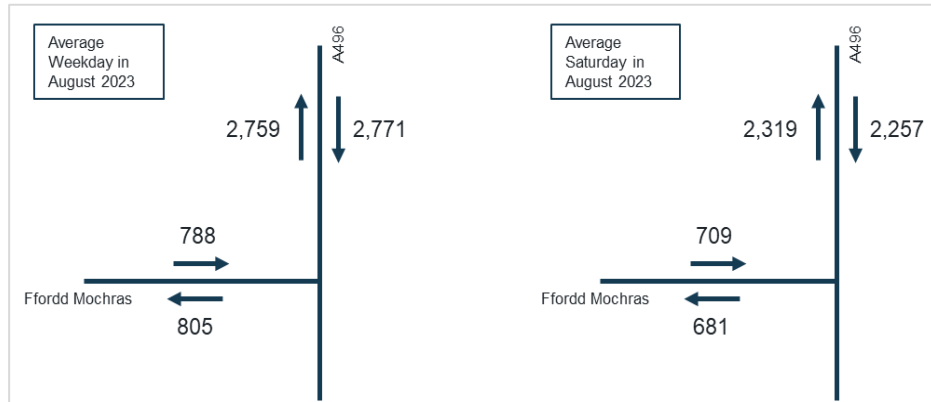


Figure C11: August 2023 Traffic Flows

Queue Length

Of all junctions with the A496 in the village, queuing is most significant at the Mochras Road junction. The data recorded suggests however that the impact of queuing is very localised, with the greatest impact being on potential safety as drivers weave between traffic and parked cars.

Seasonal Variation

Traffic flow data from 2015/2016 has been analysed to show the average daily flow of traffic for each month of the year along the A496 and Mochras Road, as shown in **Figure C12** and **Figure C13**.

Flows are significantly higher during the summer months, exacerbating issues within the village. Despite the data, stakeholders have stated that the perception of high traffic demand is present all-year round, mainly due to the lack of footways and direct frontages onto the A496.

The 2015/2016 counts on the A496 result in an *annual average* flow for a weekday (Tue, Wed, Thu) of 3,084 vehicles (both directions) with 654 vehicles (both directions) on Mochras Road.

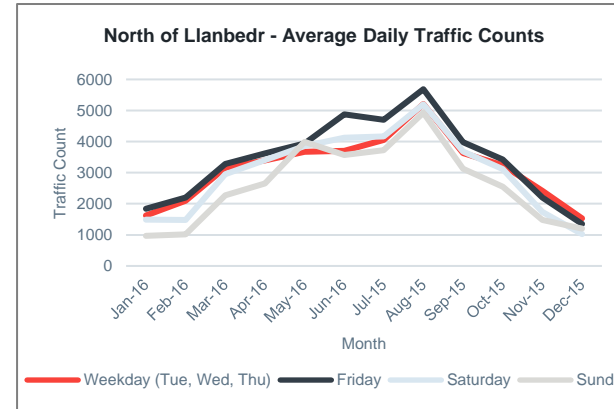


Figure C12: 2015/16 Average monthly flows, A496

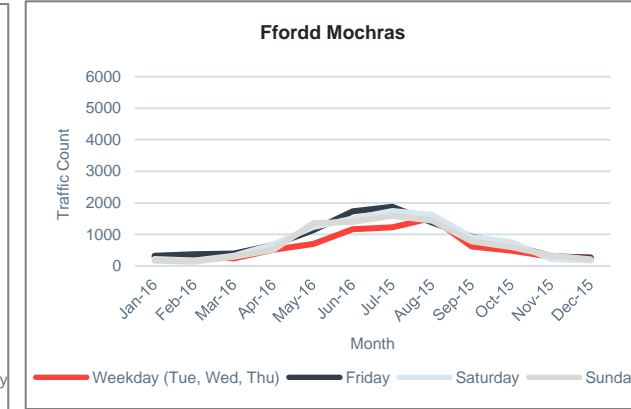


Figure C13: 2015/16 Average monthly flows. Mochras road

Key Issues & Opportunities:

- Traffic flows comparatively low to nearby principal routes, however the perception of traffic flows is high due to the constrained nature of the highway network.
- Higher traffic flows during peak summer months compared to the annual average.
- Of all junctions in Llanbedr, the Mochras Road junction from the A496 sees the longest queues of *at least* four cars in length

Local Context

Do-Nothing Scenario

If nothing is done in Llanbedr, the community and visitors will continue to be negatively impacted by vehicles that are required to drive through the village using the A496.

The road network will remain constrained by the stone bridge over the Afon Artro located at the centre of the village and the immediacy of buildings to the A496. Frequent on-street parking will continue to occur given that, at present, there is no alternative. Each of these aspects require cars to give way often, stopping and starting frequently, which results in inconsistent journey times and safety issues. This will continue if no change is made, with aspirations in relation to economic growth likely to make issues worse within the village.

Due to these factors, the safety of both drivers and pedestrians will remain a large concern. Drivers and pedestrians must both make use of the A496 simultaneously, which creates an uninviting and dangerous environment for pedestrians. Whilst a lack of good quality footways is the primary concern for pedestrian safety, driver frustration caused by parked cars and inconsistent journey times also contribute to a high collision rate.

Stakeholders have also expressed that they do not feel that they can allow children to travel independently around the village. Due to this, access to the school by active modes will remain as a last resort for short journeys, which is against the sustainable transport hierarchy.

The poor quality and severed active travel network in Llanbedr does not allow for easy access to sustainable modes. The attractiveness of public transport is further worsened by the provision of infrequent services and poor supporting infrastructure, which will not be changed unless an intervention is made.

It is important to note that at present, the existing road and walking network also does not allow access for all. There is a lack of tactile paving and dropped kerbs and a lack of supporting infrastructure for users with limited mobility, which encourages people to drive, even for short journeys.

Taking the above into account, if nothing is done in the local area, journeys by car will continue to be prioritised, meaning that ambitious modal shift targets will not be met. In addition to this, safety is a significant concern within the village, and not addressing these issues could lead to further road casualties, having a knock-on impact on public finances through the National Health Services.

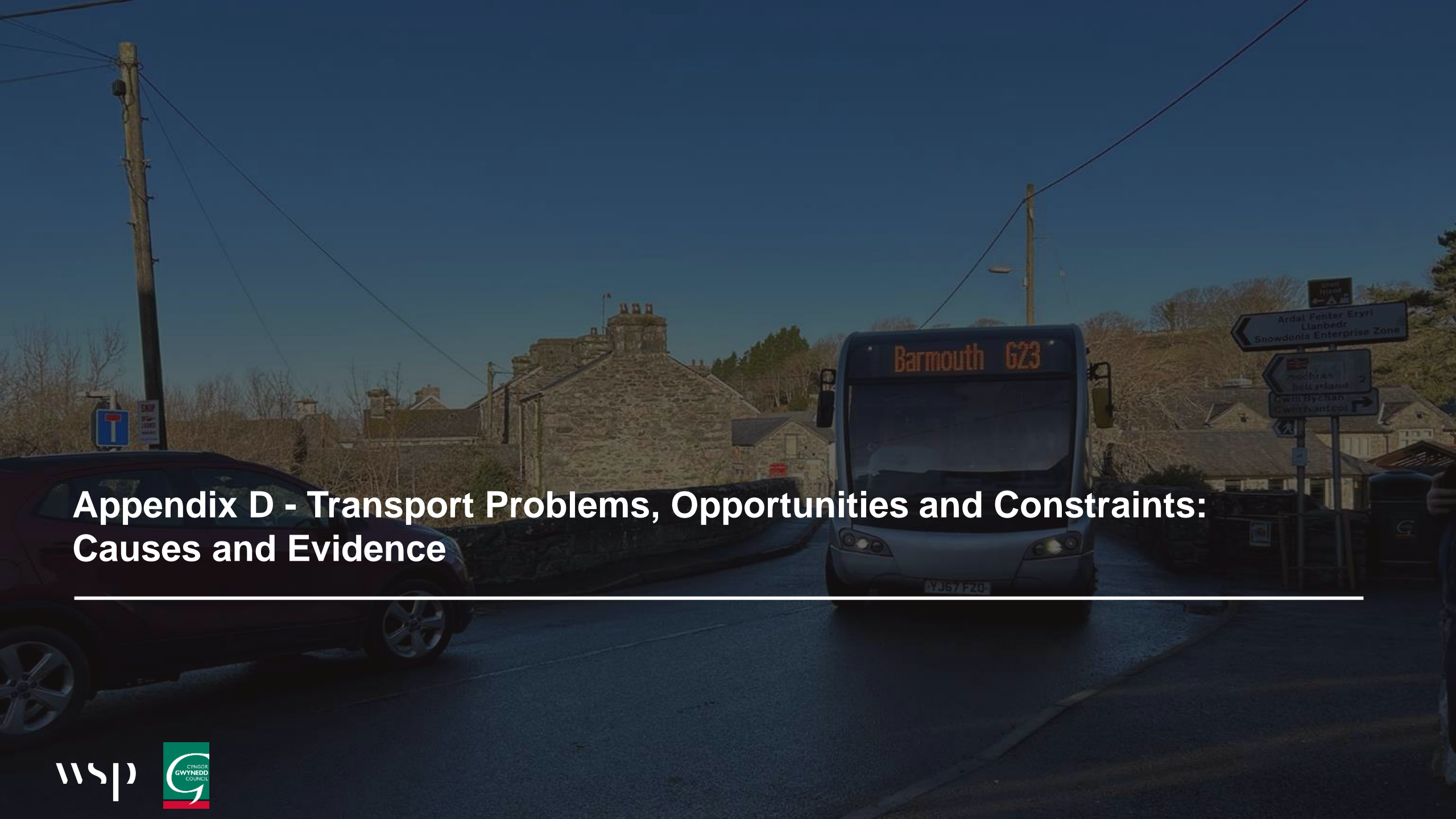
It is therefore clear that an intervention is required within the study area.



Figure C17: Example of Unsafe Pedestrian Use of the A496



Figure C18: Example of Localised Congestion on the A496



Appendix D - Transport Problems, Opportunities and Constraints: Causes and Evidence

Ref	Problem	Evidence	Causes
1	Safety	<ul style="list-style-type: none"> High collision rate - from 2018 – 2022, a total of six collisions have occurred in Llanbedr; one 'Slight' and five 'Serious'. High Killed or Serious Injured (KSI) rate, significantly higher than the national average, more comparable to an urban road than rural. 	<ul style="list-style-type: none"> Parked cars restricting visibility and forcing pedestrians to walk on the road. Narrow road, causing poor visibility, especially from junctions. As identified by the active travel audit, no suitable active travel routes. Lack of footways along the A496. Where footways are present, they are of poor quality and are non-continuous. Seasonal influx of visitors means that there are lots of people there during the summertime who are unfamiliar with area.
2	Reliance on the Private Car	<ul style="list-style-type: none"> Mode share of journeys made to work is largely car (80%), higher than the national average. More long-distance journeys made than the national average. There is a higher car ownership rate in Llanbedr than in Wales as a whole. Households with three cars or more account for a greater proportion of the Llanbedr population than for Wales. 	<ul style="list-style-type: none"> Rurality means that active travel journeys outside of the village are inevitably long distance and more difficult. The active travel infrastructure is poor and causes severance. Poor public transport network – infrequent train service especially. Connectivity to public transport services is poor. Poor quality bus stops.
3	Access to Services & Employment	<ul style="list-style-type: none"> Llanbedr is one of the 10% most deprived areas in Wales in terms of access to services. Population has declined by 3.7% in Gwynedd between 2011 and 2021. More long-distance journeys made than the national average. 	<ul style="list-style-type: none"> Lack of employment sites and key services in close proximity to Llanbedr Generally, the poor public transport service offering limits access for those who do not have access to a car.
4	Community Severance & Sense of Place	<ul style="list-style-type: none"> Severance between key locations within the village. Severance and safety concerns impact the public realm. 	<ul style="list-style-type: none"> Severance caused by the A496 and proximity of businesses and homes located directly adjacent to this road. There are no effective active travel routes between both sides of the Afon Artro. On-street parking impacts on the public realm and sense of place.
5	The Visitor Economy	<ul style="list-style-type: none"> Journey times are increased during the visitor season (summer). Queues build up at junctions, most significantly at Mochras Road junction. Significant increase in traffic demand during the summer compared with the winter (more than double). 	<ul style="list-style-type: none"> Popular tourist destination. The type of trips being made are not easily made by sustainable modes. Poor active travel connectivity. Poor public transport connectivity.
6	Resilience	<ul style="list-style-type: none"> No alternative routes. An incident causes disruption to the primary route. The A496 is within a flood risk zone. 	<ul style="list-style-type: none"> Incidents on the A496. Flooding and other environmental issues that are likely to be exacerbated by climate change.

Ref	Opportunity	Comments
1	Active Travel	<ul style="list-style-type: none"> Localised improvements which could be implemented to support local journeys to school, journeys to the rail station, and other locations. Make active travel the first choice for journeys within the village.
2	Public Transport	<ul style="list-style-type: none"> There is a rail station that serves the village, which is rare for a settlement of this size. Services from the station could be improved, as well as connectivity to it. The A496 is a primary route in the area that is served by buses – current services could be improved.
3	Employment	<ul style="list-style-type: none"> The Airfield has the potential to be developed to provide employment opportunities for local people, reducing the potential distance for people to travel. Whilst improving the transport network could have the benefit of enabling development at Llanbedr Airfield, and therefore providing new jobs in the local area, this is a supplementary potential benefit to any intervention in the area, with significant problems within the village at present that need to be addressed.
4	Reducing the Need to Travel	<ul style="list-style-type: none"> Working from home, and online services, can reduce the need for people to travel, improving access to key services and employment.
5	Safety Improvements	<ul style="list-style-type: none"> Make changes to the road layout to improve safety for all users. This could include changes to the Mochras junction, improving visibility through measures such as restricting parking, and others.
6	Sense of Place	<ul style="list-style-type: none"> Improve the local public realm and sense of place to encourage people to engage with their local community and support local events in the village.

Ref	Constraints	Constraints
1	Eryri National Park	Llanbedr is within the Eryri National Park which restricts the potential for new infrastructure.
2	Flooding	Areas at risk of river and coastal flooding, including the A496, exacerbated by climate change.
3	Historic Environment	Listed buildings and structures within the village, including the road bridge over the Afon Artro
4	Road Alignment	No space for widening the road, or reallocation of road space within the village, due to buildings having direct frontages to the road and the bridge.