

Trydedd Bont dros y Fenai ar gyfer yr A55 Ymgynghoriad 15 Rhagfyr 2017 – 9 Mawrth 2018



Llywodraeth Cymru
Welsh Government

A55 Third Menai Crossing Consultation 15 December 2017 - 9 March 2018

Mae Llywodraeth Cymru wedi ymrwymo i gynyddu capasiti'r A55 ar draws y Fenai i yrwyr, cerddwyr a beicwyr.

The Welsh Government has committed to increase the capacity of the A55 across the Menai Strait for motorists, pedestrians and cyclists.



Cynhelir Arddangosfa Ymgynghoriad Cyhoeddus i amlinellu'r opsiynau sy'n cael eu hystyried. Dewch draw rhwng 10am ac 8pm i gael rhagor o wybodaeth.

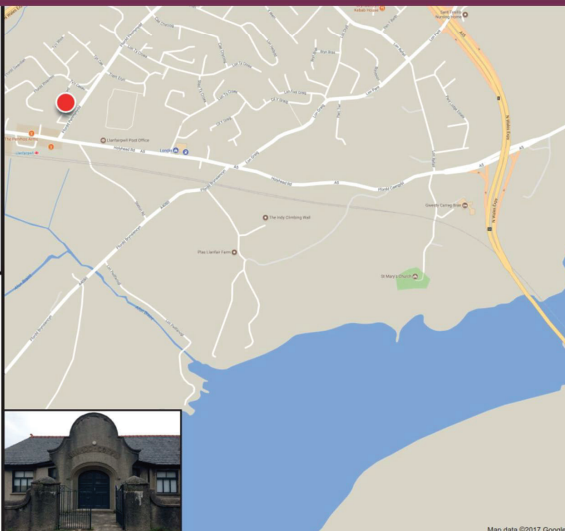
A Public Consultation Exhibition is being held to outline the options under consideration. Please come along between 10am and 8pm to find out more.

Neuadd Goffa,
Llanfairpwll,
LL61 5JB (tu ôl i'r
eglwys ar Ffordd
Penmynydd, oddi ar
Ty'n Cae)

Dydd Mawrth 16
Ionawr 2018
Dydd Mercher 17
Ionawr 2018

Memorial Hall,
Llanfairpwll, LL61
5JB
(behind the
church on Ffordd
Penmynydd, off Ty'n
Cae)

Tuesday
16th January 2018
Wednesday
17th January 2018

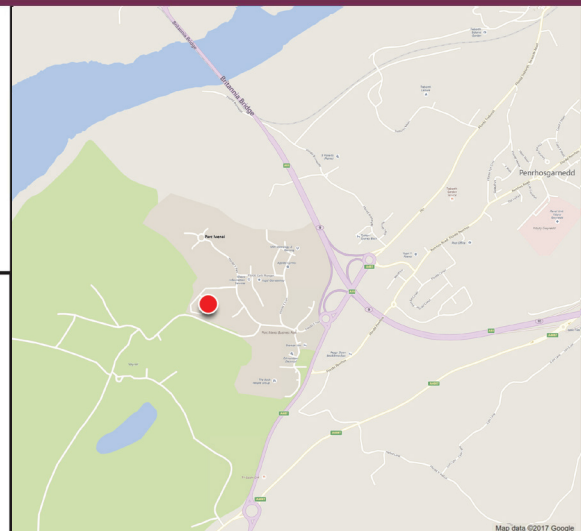


Ty Menai,
Ffordd Penlan,
Parc Busnes Parc
Menai,
Bangor,
LL57 4HJ

Dydd Mawrth 23
Ionawr 2018
Dydd Mercher 24
Ionawr

Ty Menai
Ffordd Penlan,
Parc Menai Business
Park,
Bangor,
LL57 4HJ

Tuesday
23rd January 2018
Wednesday
24th January 2018





Yng Nghynllun Cyllid Trafnidiaeth Cenedlaethol 2015, dywedodd Llywodraeth Cymru y byddai'n datblygu cynllun ar gyfer gwelliannau i bont yr A55 dros y Fenai. Yn sgil yr Arddangosfeydd Gwybodaeth Gyhoeddus yng Ngorffennaf 2017, a gyflwynodd y cynllun, mae Llywodraeth Cymru'n cynnal Ymgynghoriad Cyhoeddus i arddangos yr opsiynau aliniol a'r mathau dangosol o bontydd sydd wedi'u datblygu a'u hasesu. Bydd yr Ymgynghoriad Cyhoeddus ar agor o 15 Rhagfyr 2017 i 9 Mawrth 2018. Mae manylion am sut i gymryd rhan ar gael ar ddiwedd y ddogfen hon.

Yn ystod y cyfnod ymgynghori, cynhelir arddangosfeydd cyhoeddus yn yr ardal leol (mae eu manylion ar glawr blaen y ddogfen hon). Bydd cynrychiolwyr Llywodraeth Cymru a'i hymgyngorwyr ar gael yn yr arddangosfeydd i gofnodi'ch sylwadau ac ateb unrhyw gwestiynau. Byddem yn falch o glywed eich barn am yr amryw opsiynau ar gyfer 3edd bont dros y Fenai. Mae'r ddogfen hon yn cyflwyno opsiynau'r aliniadau a'r mathau dangosol o bontydd sy'n cael eu hystyried. Gallwch weld fersiynau mwy o faint o'r deunydd hwn yn yr Arddangosfeydd Cyhoeddus ac ar-lein ar:

<https://ymgyngoriadau.llyw.cymru/3edd-bont-dros-y-fenai>

- Yn y Ddogfen Ymgynghorol hon, cewch:
- Fanylion am Arddangosfeydd yr Ymgynghoriad Cyhoeddus (ar y clawr blaen);
 - Gwybodaeth am yr astudiaeth o'r opsiynau ar gyfer gwella trafndiaeth a disgrifiadau ohonynt;
 - Manylion am sut i roi sylwadau ar yr opsiynau;
 - Gwybodaeth am y broses a beth fydd yn digwydd nesaf.

Pwrpas yr Astudiaeth:

Yr A55, Pont Britannia, dros y Fenai sy'n darparu'r cyswllt rhwng y tir mawr ac Ynys Môn. Y bont yw'r unig ran sy'n cynnig ffordd gerbydau sengl ac mae'r gostyngiad hwn yn nifer y lonydd yn gallu arwain at dagfeydd yn ystod oriau brig. Amcan Llywodraeth Cymru (LIC) yw archwilio pob opsiwn ar gyfer cynnig capasiti ychwanegol dros Bont Britannia i liniaru tagfeydd traffig presennol a thagfeydd posibl, gwella gwydnwch y rhwydwaith a chynnwys darpariaeth i gerddwyr a beicwyr.

Cafodd rhinweddau cymharol pob opsiwn eu harfarnu gan ddefnyddio Arweiniad ar Arfarnu a Chynllunio Trafnidiaeth Cymru (WelTAG). Crynhoir canlyniadau'r arfarniad yn y Ddogfen Ymgynghorol hon ac maent i'w gweld yn fanylach yn Arddangosfeydd yr Ymgynghoriad Cyhoeddus ac ar wefan y cynllun.

The Welsh government stated in the National Transport Finance Plan 2015 that it will develop a scheme for improvements to the A55 Crossing of the Menai. Following on from the Public Information Exhibitions held in July 2017 which introduced the scheme, Welsh Government is holding a Public Consultation to showcase the alignment options and indicative bridge types that have been developed and assessed. The Public Consultation runs from the 15th December 2017 until 9th March 2018. Details of how you can take part are at the back of this document.

During the consultation period, public exhibitions will be held in the local area (details of these are shown on the front cover of this document). Representatives from Welsh Government and its consultants will be available at these events to record your comments and answer any questions. We welcome your views on the various 3rd Menai Crossing options. This document sets out the alignment options and indicative bridge types under consideration. Larger versions of this material can be viewed at the Public Exhibitions and on-line at:

<https://consultations.gov.wales/a55-3rd-menai-crossing>

- This Consultation Document provides:
- Details of the Public Consultation Exhibitions (on the front cover);
 - Information on the study and descriptions of the transport improvement options;
 - Details on how you can comment on the options;
 - Information on the process and what happens next.

Purpose of the Study:

The A55 Britannia Bridge over the Menai Strait provides the link between the mainland and Anglesey. The bridge is the only section of the route which is single carriageway; this reduction in lanes can lead to congestion at peak times. The objective of the Welsh Government (WG) is to investigate all options to provide additional capacity over Britannia Bridge in order to relieve current and predicted traffic congestion, improve network resilience and make provision for pedestrians and cyclists.

The relative merits of each option have been appraised using the Welsh Transport Planning and Appraisal Guidance (WelTAG). The results of the appraisal are summarised in this Consultation Document and are available in more detail at the Public Consultation Exhibitions and on the scheme web site.



Cafodd ardal astudio'r 3edd bont dros y Fenai ar gyfer yr A55, ei hasesu gan ddefnyddio gweithdrefn yr Arweiniad ar Arfarnu a Chynllunio Trafnidiaeth Cymru ('WelTAG').

Cafodd WelTAG ei ddatblygu gan Lywodraeth Cymru ac mae wedi ei anelu at sicrhau bod cynigion trafndiaeth y sector cyhoeddus yn arddangos y meini prawf canlynol:

- Cyfraniad cadarnhaol at amcanion ar gyfer trafndiaeth;
- Gwerth da am arian;
- Buddion economaidd, cymdeithasol ac amgylcheddol cyffredinol;
- Y budd mwyaf a'r effaith leiaf.

Mae tri phrif gam i broses WelTAG:

- Cam 1: Achos Amlinellol Strategol
- Cam 2: Achos Busnes Amlinellol
- Cam 3: Achos Busnes Llawn

Ar hyn o bryd, rydym wedi cyrraedd yr Ymgynghoriad Cyhoeddus yn WelTAG Cam 2.

The A55 3rd Menai Crossing study corridor has been assessed using the Welsh Transport Planning Appraisal Guidance ('WelTAG') procedure.

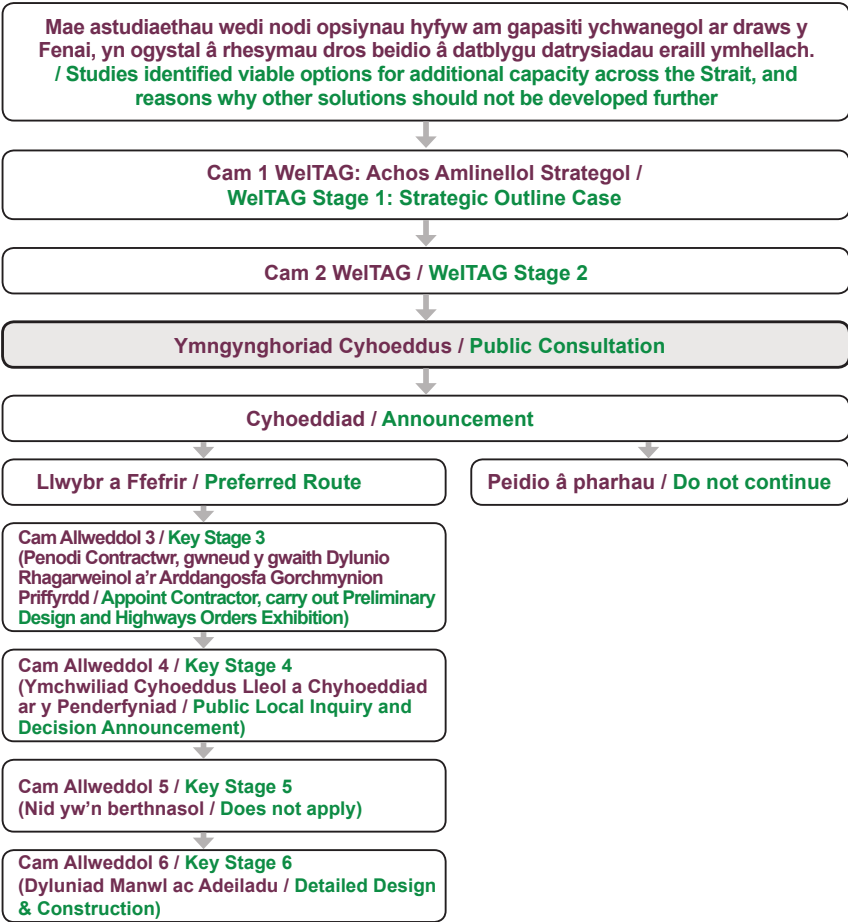
Developed by the Welsh Government, WelTAG is aimed at ensuring that public sector transport proposals demonstrate the following criteria:

- A positive contribution to objectives for transport;
- Good value for money;
- Overall economic, social and environmental benefits;
- Maximum benefit and minimal impact.

There are three main stages of the WelTAG process:

- Stage 1: Strategic Outline Case
- Stage 2: Outline Business Case
- Stage 3: Full Business Case

We are currently at Public Consultation stage within WelTAG Stage 2.



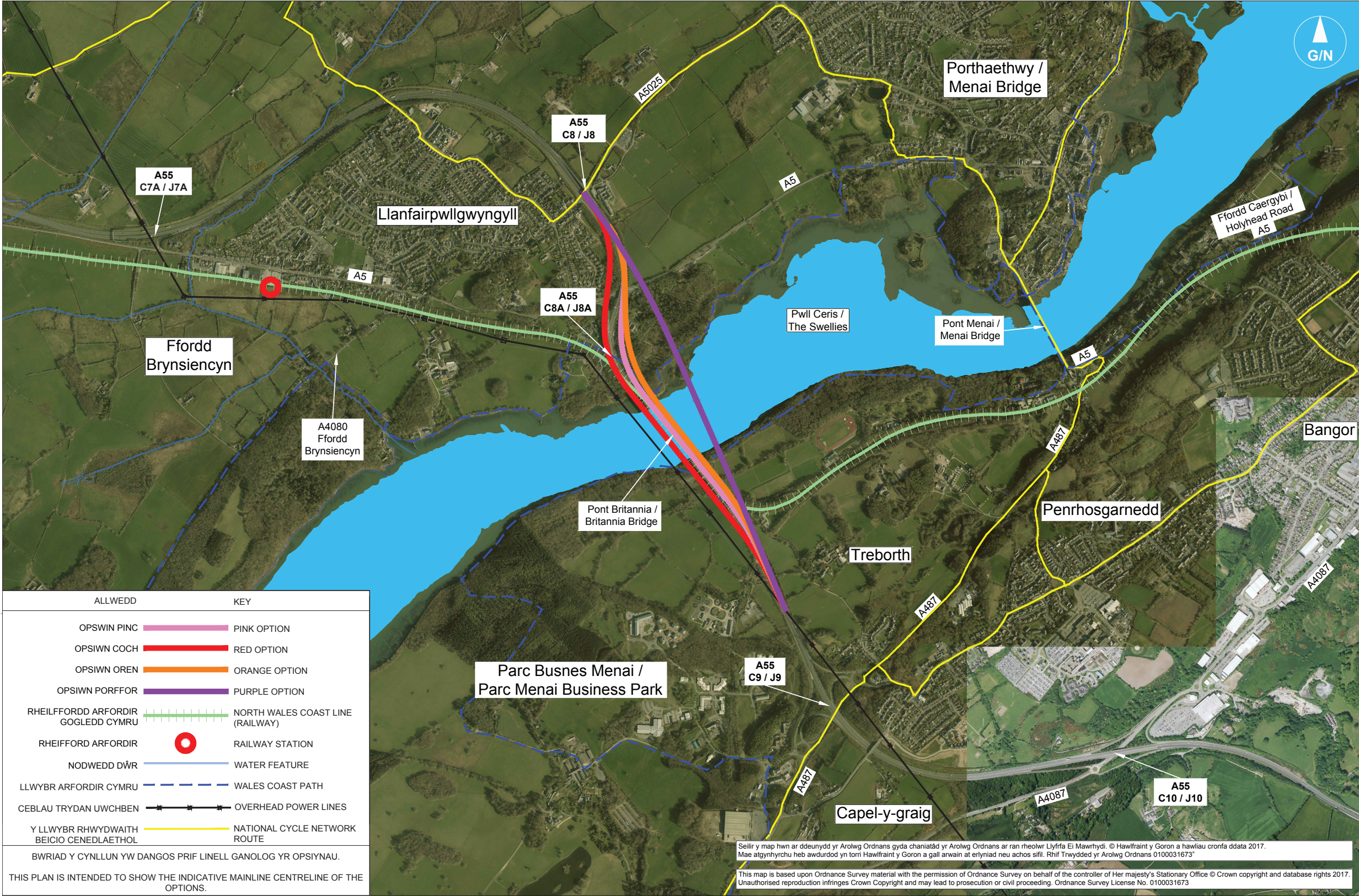
OPSIYNAU ALINIO ARFAETHEDIG

PROPOSED ALIGNMENT OPTIONS



OPSIYNAU ALINIO ARFAETHEDIG

PROPOSED ALIGNMENT OPTIONS



TROSOLWG O'R CYNIGION

OVERVIEW OF PROPOSALS

Mae'r opsiynau alinio wedi eu hadolygu a'u datblygu ymhellach fel rhan o'r cam gwaith presennol.

Rydym wedi bwrw golwg ar nifer o opsiynau alinio i ddarparu ffordd gyda mwy o gapasiti a gwelliannau cyffredinol eraill i'r briffordd:

Opsiwn Coch:

- Pont newydd yn union i'r gorllewin o Bont Britannia
- Gwelliannau yng nghyffordd 8A yr A55

Opsiwn Pinc:

- Ymestyn Pont Britannia neu pont newydd yn union i'r dwyrain o'r bont bresennol i ddarparu lonydd traffig ychwanegol
- Gwelliannau yng nghyffordd 8A yr A55

Opsiwn Oren:

- Pont newydd yn union i'r dwyrain o Bont Britannia
- Gwelliannau yng nghyffordd 8A yr A55

Opsiwn Porffor:

- Pont newydd i'r dwyrain o Bont Britannia
- Gwelliannau yng nghyffordd 8 ac 8A yr A55

Bydd pob Opsiwn yn cynnwys cyfleusterau i gerddwyr a beicwyr allu croesi'r Fenai, naill ai ar y bont newydd neu ar Bont Britannia.

Fel rhan o'r broses ddatblygu'r astudiaeth, aseswyd yr **Opsiwn Llwydfelyn** (sef cyswllt rhwng yr A5 a'r A5025 i'r dwyrain o'r A55) ac atebion eraill ar lefel uchel, a phenderfynwyd peidio â bwrw ymlaen i'w harfarnu'n llawn.

The alignment options have been reviewed and developed further as part of the current stage of work.

We have looked at several alignment options to provide increased road capacity and other general highway improvements.

Red Option:

- New bridge directly to the west of Britannia Bridge
- Improvements at A55 Junction 8A

Pink Option:

- Extension of Britannia Bridge or new bridge immediately east of existing bridge to provide extra traffic lanes
- Improvements at A55 Junction 8A

Orange Options:

- New bridge directly to the east of Britannia Bridge
- Improvements at A55 Junction 8A

Purple Options:

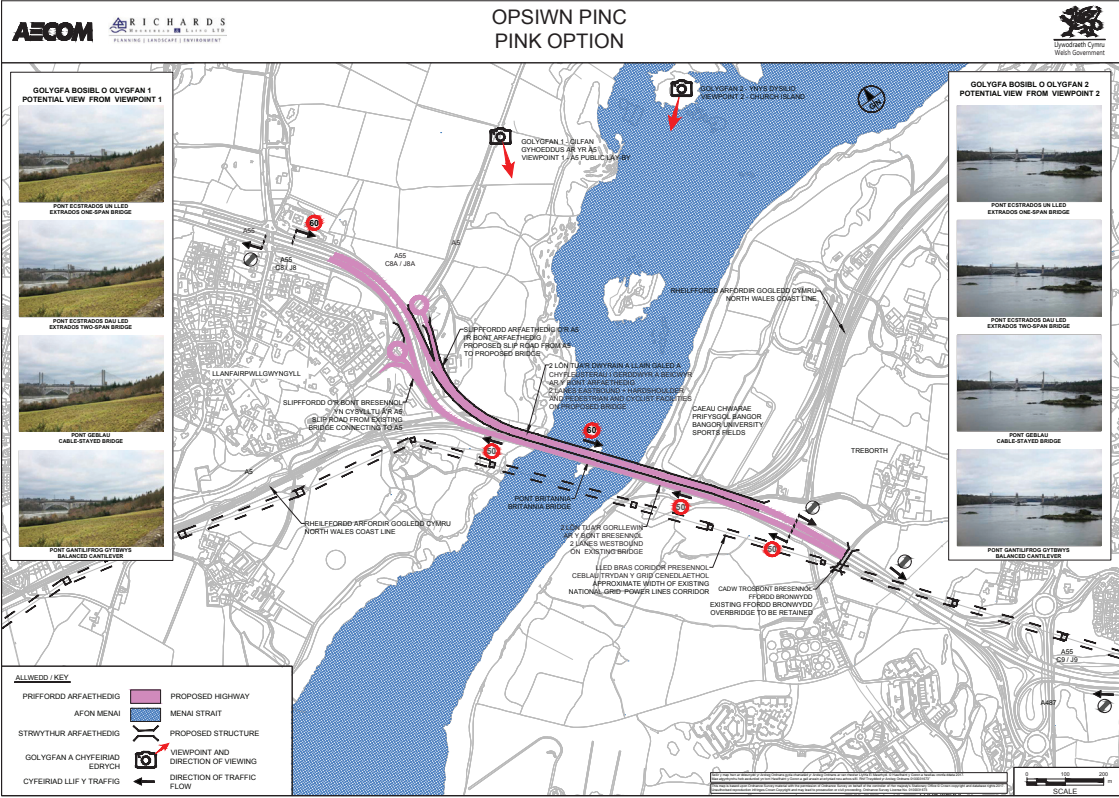
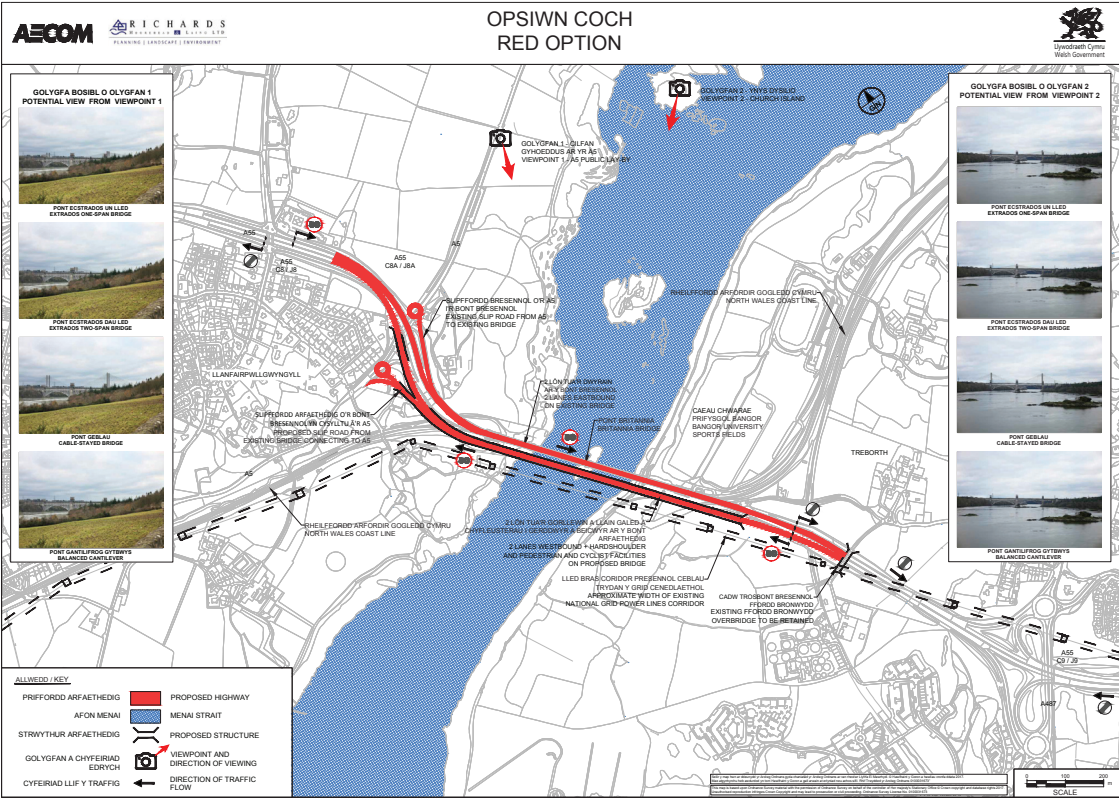
- New bridge to the east of Britannia Bridge
- Improvements at A55 Junctions 8 and 8A

All Options contain facilities for pedestrians and cyclists to cross the Menai Strait either on the new bridge or the existing Britannia Bridge.

As part of the study development process the **Beige option** (a link between the A5 and the A5025 to the east of the A55) and other solutions have been assessed at high level and a decision made not to proceed to full appraisal.

OPSIYNAU ALINIO ARFAETHEDIG - COCH A PHINC

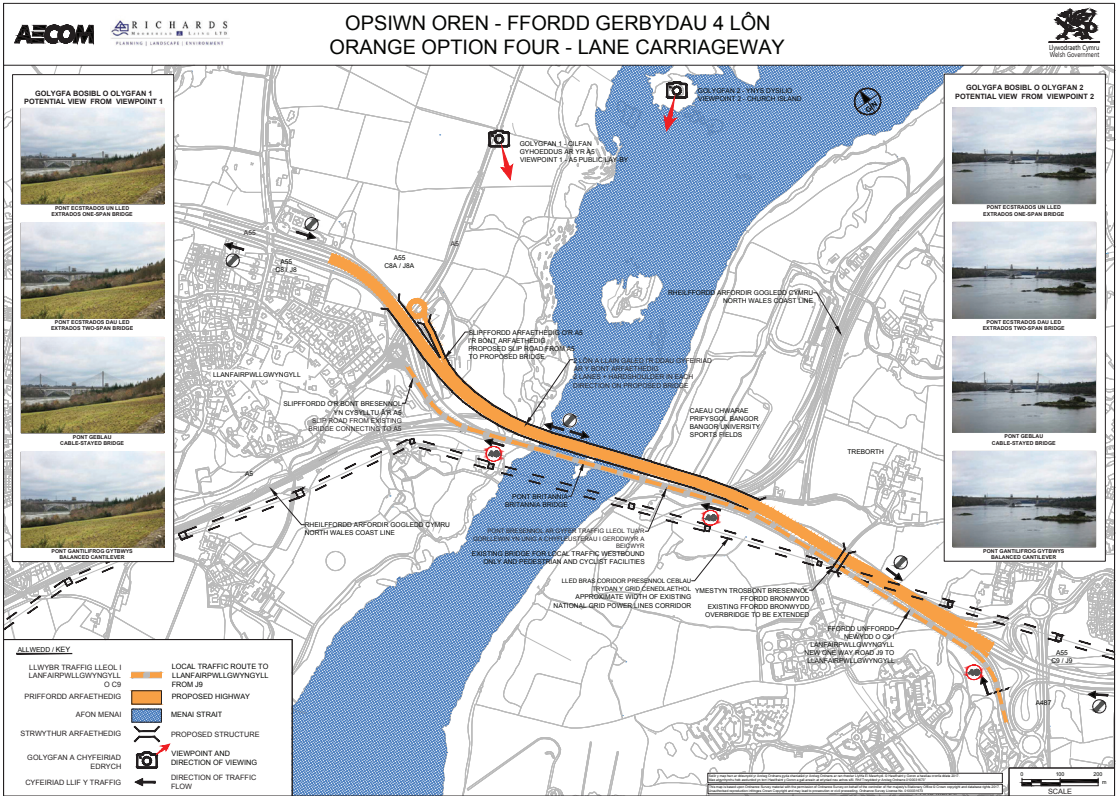
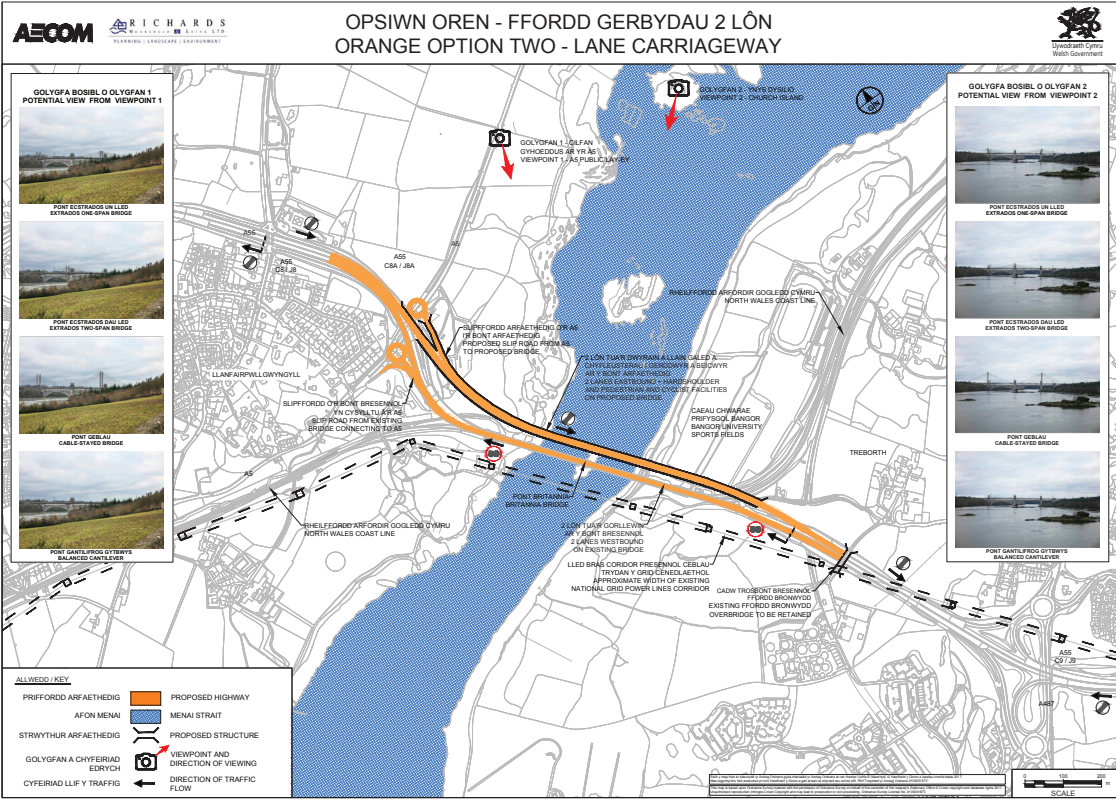
PROPOSED ALIGNMENT OPTIONS – RED AND PINK



OPSIYNAU ALINIO ARFAETHEDIG - Ffordd Gerbydau Dwy Lôn a Phedair Lôn - Oren

PROPOSED ALIGNMENT OPTIONS – ORANGE

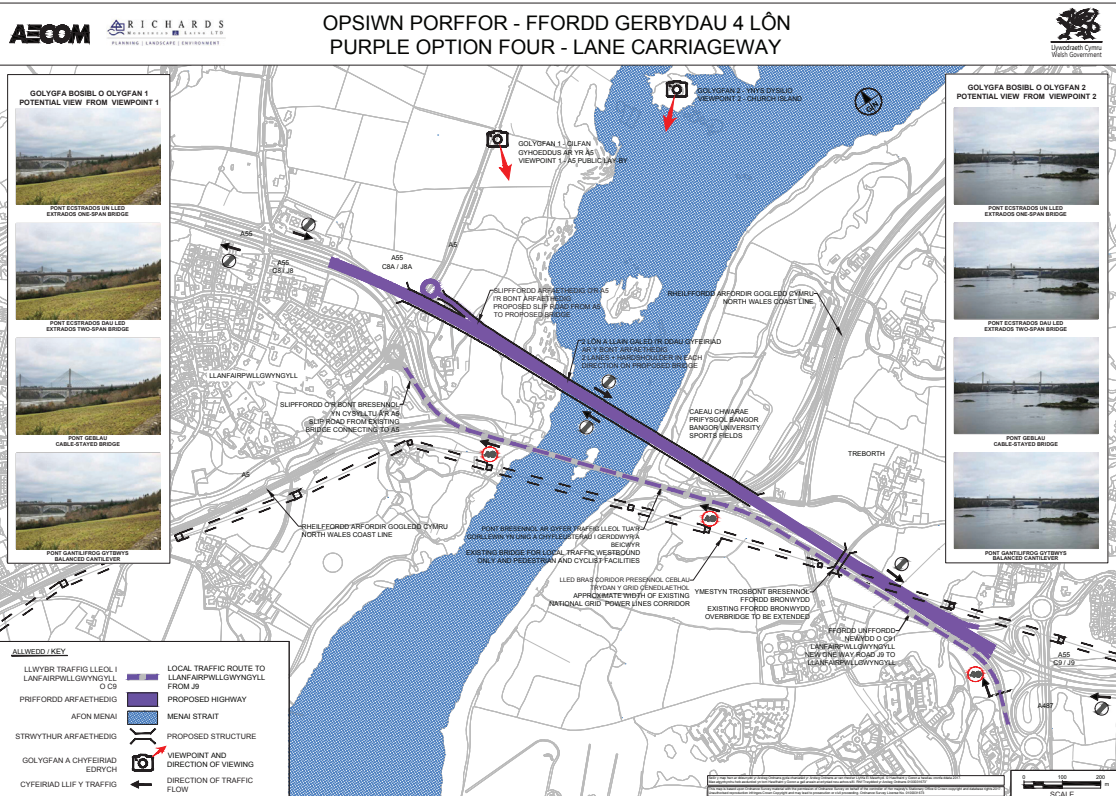
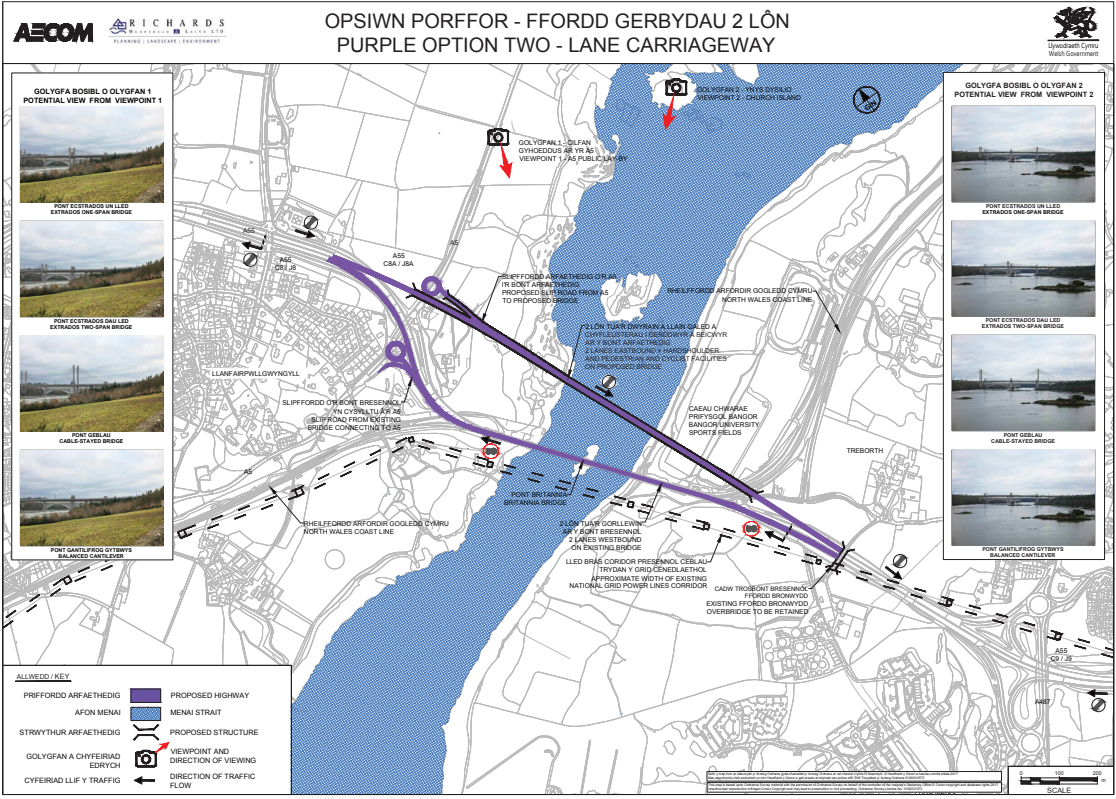
TWO-LANE AND FOUR-LANE CARRIAGEWAY



OPSIYNAU ALINIO ARFAETHEDIG - Ffordd Gerbydau Dwy Lôn a Phedair Lôn - Porffor

PROPOSED ALIGNMENT OPTIONS – PURPLE

TWO-LANE AND FOUR-LANE CARRIAGEWAY

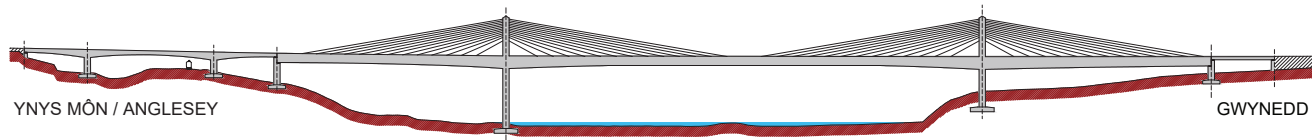


PROFFILIAU DANGOSOL Y PONTYDD

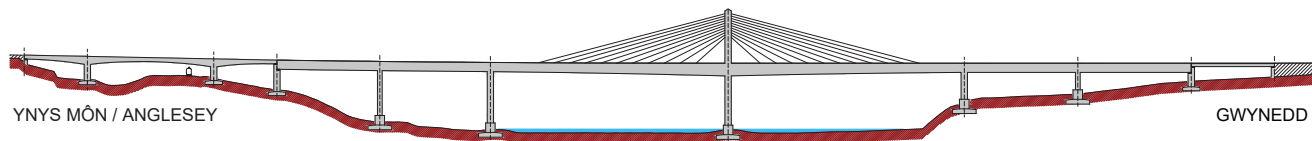
INDICATIVE BRIDGE PROFILES

Ystyriwyd nifer o fathau o bontydd.

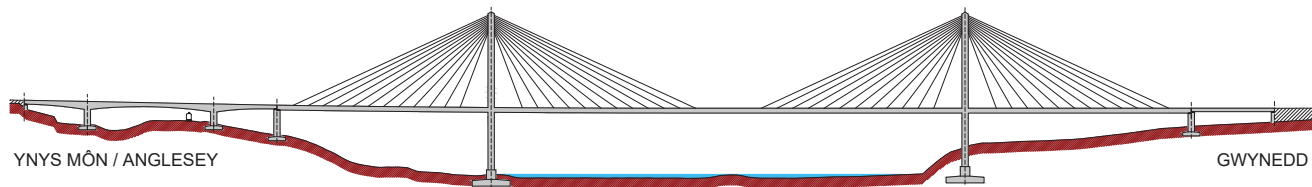
Roedd y mathau o bontydd a ystyriwyd wedi cynnwys pontydd concrit ôl-dyniant, pontydd ecstrados, pontydd ceblau, pontydd cyplau dur, pontydd bwâu clwm a phontydd bwâu gwthiant. Nod y pontydd a ystyriwyd yw achosi cyn lleied â phosibl o wrthdaro esthetig â'r pontydd hanesyddol presennol. Yn ogystal, mae'r detholiad wedi ystyried costau cychwynnol a chostau 'oes gyfan', hyfywedd yr adeiladu, gwaith cynnal a chadw, a gallu'r pontydd i gario ceblau pŵer neu wasanaethau. Dewiswyd y mathau dangosol canlynol o bontydd oherwydd ystyriwyd mai'r rhain sy'n bodloni'r meini prawf uchod orau.



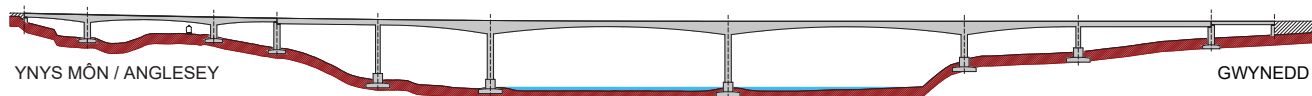
PONT ECSTRADOS UN LLED DROS Y FENAI / EXTRADOS ONE-SPAN BRIDGE OVER THE STRAIT



PONT ECSTRADOS DAU LED DROS Y FENAI / EXTRADOS TWO-SPAN BRIDGE OVER THE STRAIT



PONT GEBLAU / CABLE-STAYED BRIDGE



PONT GANTILIFROG GYTBWYS / BALANCED CANTILEVER BRIDGE



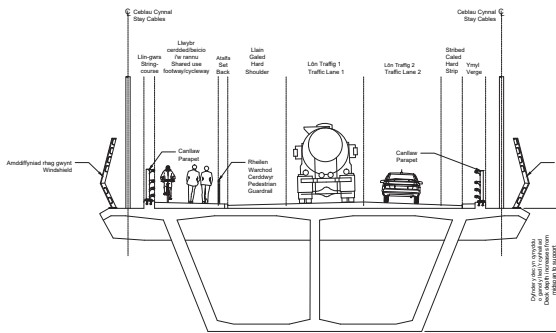
Llywodraeth Cymru
Welsh Government

TRAWSTORIADAU DANGOSOL Y PONTYDD

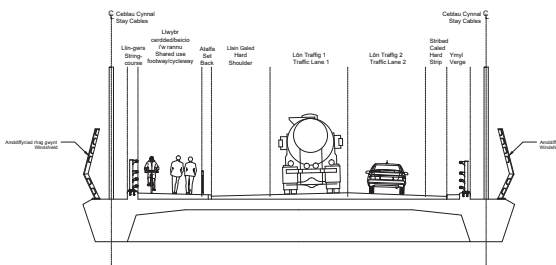
INDICATIVE BRIDGE CROSS SECTIONS

Several bridge types have been considered.

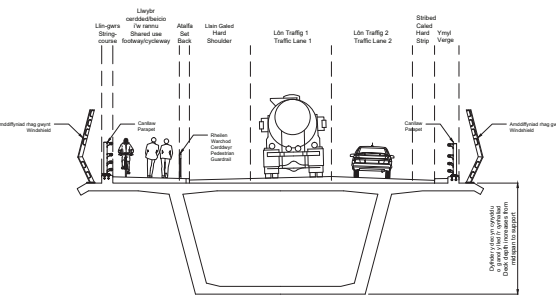
The bridge types considered have included post-tensioned concrete bridges, extrados bridges, cable-stayed bridges, steel truss bridges, tied-arch bridges and thrust-arch bridges. The bridges considered aim to minimise the aesthetic conflicts with the existing historic bridges. The selection has also considered initial and 'whole-life' costs, constructability, maintenance, their ability to carry power cables or services. The following indicative bridge types have been selected as best meeting these criteria.



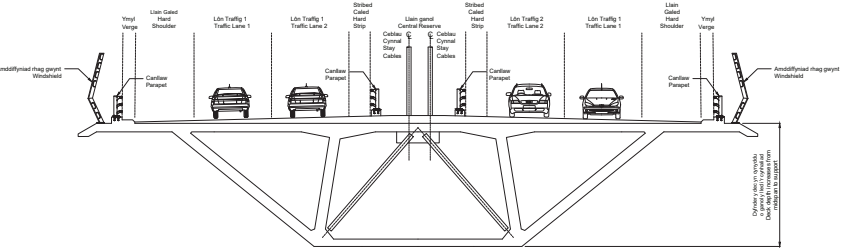
PONT ECSTRADOS Â Ffordd Gerbydau 2 Lôn
EXTRADOS BRIDGE 2-LANE CARRIAGEWAY



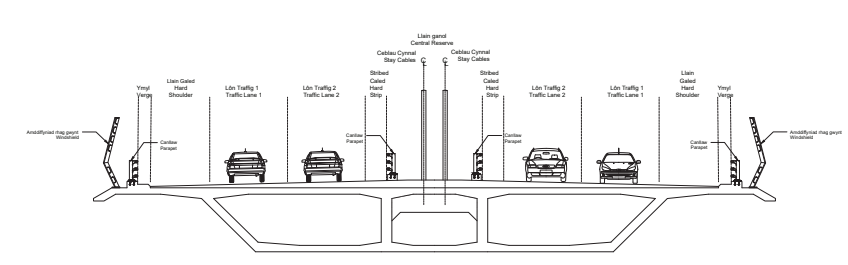
PONT GEBLAU Â Ffordd Gerbydau 2 Lôn
CABLE-STAYED BRIDGE 2-LANE CARRIAGEWAY



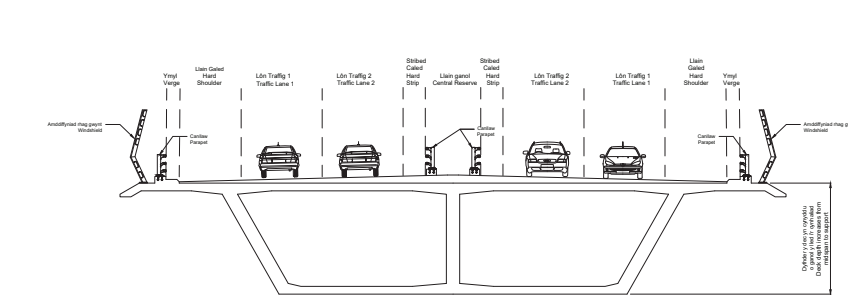
PONT GANTILIFROG GYTBWYS Â Ffordd Gerbydau 2 Lôn
BALANCED CANTILEVER BRIDGE 2-LANE CARRIAGEWAY



PONT ECSTRADOS Â Ffordd Gerbydau 4 Lôn (Cerddwyr ar Bont Britannia)
EXTRADOS BRIDGE 4-LANE CARRIAGEWAY (PEDESTRIANS ON BRITANNIA BRIDGE)



PONT GEBLAU Â Ffordd Gerbydau 4 Lôn (Cerddwyr ar Bont Britannia)
CABLE-STAYED BRIDGE 4-LANE CARRIAGEWAY (PEDESTRIANS ON BRITANNIA BRIDGE)



PONT GANTILIFROG GYTBWYS Â Ffordd Gerbydau 4 Lôn (Cerddwyr ar Bont Britannia)
BALANCED CANTILEVER BRIDGE 4-LANE CARRIAGEWAY (PEDESTRIANS ON BRITANNIA BRIDGE)



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Welsh Government



Llywodraeth Cymru
Welsh Government

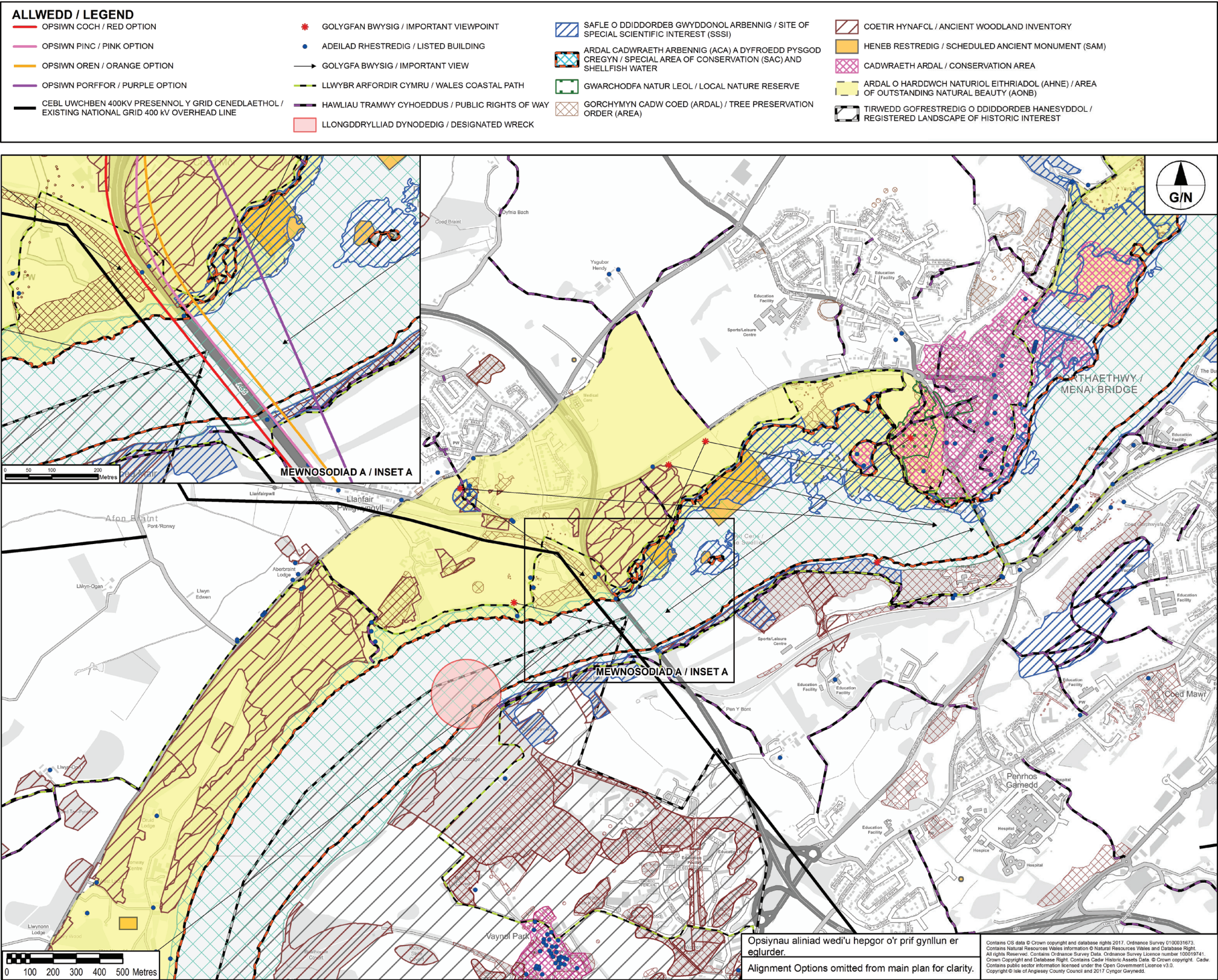
CYFYNGIADAU AMGYLCHEDDOL

ENVIRONMENTAL CONSTRAINTS



CYFYNGIADAU AMGYLCHEDDOL

ENVIRONMENTAL CONSTRAINTS



Mae cyfyngiadau amgylcheddol allweddol wedi'u hamlygu a'u hystyried yn yr asesiad:

Key environmental constraints have been identified and taken into consideration in the assessment:

- Cymunedau a defnydd o dir**
- Llwybrau troed strategol e.e. Llwybrau Arfordir Llŷn ac Ynys Môn, a'r Llwybrau Beicio Cenedlaethol
 - Effeithiau traffig ar gymunedau lleol
- Communities and land use**
- Strategic footpaths eg. The Llŷn and Isle of Anglesey Coast Paths, and National Cycle Routes
 - Effects of traffic on local communities

- Tirwedd a threftadaeth**
- Ardal Tirwedd Arbennig ac Ardal Cymeriad Morol, ac Ardal o Harddwch Naturiol Eithriadol Ynys Môn
 - Mae'r rhan fwyaf o'r draethlin yn dirwedd a ddyluniwyd yn y 19eg ganrif, wedi'i chreu i gynnig gosodiad i'r pontydd
 - Mae golygfannau allweddol yn cynnig golygfeydd rhagorol o'r AHNE a'r pontydd hanesyddol
 - Henebion Rhestredig, gan gynnwys y coredau pysgod yng Nghoed Môr ac Ynys Gorad Goch
 - Adeiladau Rhestredig, gan gynnwys Pont Grog Haearn Telford a Phont Britannia Stephenson
 - Parciau a Gerddi Cofrestredig ym Mhlas Newydd a'r Faenol)
- Landscape and heritage**
- Special Landscape and Marine Character Area and the Isle of Anglesey AONB
 - Most of the shoreline is a 19th century designed landscape, created to provide a setting for the bridges
 - Key viewpoints give excellent views of the AONB and historic bridges
 - SAMs including the Fish Weirs at Coed Mor and Ynys Gored Goch
 - Listed Buildings including Telford's Iron Suspension Bridge & Stephenson's Britannia Bridge
 - Registered Parks and Gardens at Plas Newydd and Faenol)

- Cadwraeth a bywyd gwylt**
- Ardal Gwarchodaeth Arbennig Traeth Lafan, sy'n bwysig ar gyfer adar dŵr sy'n gaeafu, yn enwedig pïod y môr
 - Ardal Cadwraeth Arbennig y Menai a Bae Conwy, ei chynefinoedd morol anghyffredin a chymhleth a chynaeafu pysgod cregyn yn fasnachol
 - SoDdGA Glannau Porthaethwy a SoDdGA Coedydd Afon Menai
 - Coetir Hynafol â rhywogaethau a warchodir (Gwiwerod coch, ystlumod)
 - Mamaliaid y môr (e.e. morloi, llamidyddion a dolffiniaid)
- Conservation and wildlife**
- Lavan Sands SPA, important for wintering water birds, especially Oystercatcher
 - Menai Strait and Conwy Bay SAC, its unusual and complex marine habitats and commercial shellfish harvesting
 - Glannau Porthaethwy SSSI and Coedydd Afon Menai SSSI
 - Ancient Woodland with protected species (Red Squirrels, bats)
 - Marine mammals (e.g. seal, porpoise and dolphin)





		Crynodeb o arwyddocâd / canfyddiad ansoddol arall Summary of significance / other qualitative finding					
		Coch / Red	Pinc / Pink	Ffordd gerbydau 2 lôn – Oren / Orange 2-lane Carriageway	Ffordd gerbydau 4 lôn – Oren / Orange 4-lane Carriageway	Ffordd gerbydau 2 lôn – Porffor / Purple 2-lane Carriageway	Ffordd gerbydau 4 lôn – Porffor / Purple 4-lane Carriageway
YR ECONOMI ECONOMY	Effeithlonrwydd Economaidd Trafnidiaeth (Buddion Economaidd) Transport Economy Efficiency (Economic benefits)	+	+	+	++	+	+++
	Effaith ar Weithgarwch Economaidd ac ar y Lleoliad Effeithiau economaidd ehangach EALI Wider economic impacts	+	+	+	++	+	++
YR AMGYLCHEDD ENVIRONMENT	Sŵn Noise	O	O	O	+	+	+
	Ansawdd Aer Air Quality	O	O	O	O	O	O
	Nwyon tŷ gwydr Greenhouse gases	O	O	O	O	O	O
	Tirwedd a threflun Landscape and townscape	--	--	--	--	---	---
	Yr amgylchedd hanesyddol Historic Environment	--	--	--	--	---	---
	Bioamrywiaeth - y tir Biodiversity – terrestrial	--	--	--	--	---	---
	Bioamrywiaeth - y môr Biodiversity - marine	---	---	---	---	---	---
	Yr Amgylchedd Dŵr Water Environment	--	--	--	--	--	--
CYMDEITHAS SOCIAL	Diogelwch trafnidiaeth Transport safety	++	++	++	++	++	++
	Diogelwch personol Personal security	+	+	+	+	+	+
	Athreiddedd (Effaith ar gerdded/beicio) Permeability (Impact walking/cycling)	+++	+++	+++	+++	+++	+++
	Ffitrwydd corfforol Physical fitness	++	++	++	++	++	++
	Cynhwysiant cymdeithasol Social inclusion	+	+	+	+	+	+
	Cydraddoldeb, Amrywiaeth a Hawliau Dynol Equality, Diversity & Human rights	+	+	+	+	+	+
		+++ Buddiol Sylweddol / Large Beneficial			--- Niweidiol Sylweddol / Large Adverse		
		++ Buddiol Cymedrol / Moderate Beneficial			-- Niweidiol Cymedrol / Moderate Adverse		
		+ Buddiol Bychan / Slight Beneficial			- Niweidiol Bychan / Slight Adverse		
		O Niwtral / Neutral					



TABL CRYNHOI'R ARFARNIAD - CYFYNGIADAU
AMGYLCHEDDOL

APPRAISAL SUMMARY TABLE – ENVIRONMENTAL
CONSTRAINTS



Sŵn:
Byddai pob Opsiwn yn trosglwyddo traffig o Bont Britannia i'r bont newydd ac yn ailddosbarthu rhywfaint o draffig i'r rhwydwaith ehangach, e.e. o Borthaethwy. Mae'r effeithiau sŵn a ragwelir yn amrywio yn ôl aliniad a therfyn cyflymder. Byddai'r Opsiwn Coch yn achosi effaith niweidiol bychan gan fod yr aliniad yn agosach at Lanfairpwll. Byddai'r Opsiynau 4-lôn Oren, 4-lôn Porffor a 2-lôn Porffor yn creu budd bychan gan fod yr aliniad yn bellach i ffwrdd o Lanfairpwll. Mae asesiad ansoddol o'r Opsiynau 2-lôn Pinc ac Oren yn dangos effaith niwtral neu effaith niweidiol bychan.

Ansawdd Aer Lleol:
Byddai crynodiadau NO2 gerllaw'r bont newydd yn cynyddu a byddent yn gostwng gerllaw ffyrdd lleol eraill. Ni fyddai'r lefelau'n croesi uchafsymiau'r amcanion wrth eiddo preswyl, ond byddai'r Opsiwn 4 lôn Porffor yn arwain at gynnydd o 9 eiddo yn y band islaw'r terfyn. Byddai crynodiadau gronynnau (PM10) yn aros ymhell islaw uchafswm yr amcan.

Allyriadau Nwyon Tŷ Gwydr:
Yn y tymor byr, byddai pob Opsiwn yn cyflawni allyriadau is o geir ond allyriadau fymryn yn uwch o gerbydau eraill. Byddai'r Opsiynau'n annog mwy o deithiau, yn enwedig nwyddau ac, felly, yn cynyddu allyriadau rhanbarthol fymryn (0.3%) dros y tymor hir.

Tirwedd a Threflun:
Byddai pob Opsiwn yn achosi newid sylweddol i'r dirwedd. Byddent oll yn effeithio ar olygfeydd o Bont Britannia o olygfannau pwysig i'r dwyrain neu i'r gorllewin, gan ddrysu neu rannol guddio'i ffurf. Mae ffurfiau pontydd ecstrados a cheblau yn ychwanegu elfennau tal newydd sy'n cynyddu graddfa'r newid, er y gallai strwythur modern fod yn ddeniadol ynddo'i hun. Byddai Opsiynau Coch, Pinc ac Oren yn pwysleisio graddfa'r coridor cludiant yn y dirwedd; byddai'r Opsiwn Porffor yn creu coridor newydd drwy'r coetiroedd sy'n ymylu'r Fenai, yn enwedig ar lan Ynys Môn. Byddai darpariaeth groesi newydd i gerddwyr a beicwyr yn cynnig cyfle newydd i fwynhau golygfeydd o'r Fenai.

Noise:
All alignment options would transfer some traffic from Britannia Bridge to the new crossing and redistribute some traffic on the wider network, e.g. away from Menai Bridge. The predicted noise effects vary according to alignment and speed limit but for most residential properties there would be no noticeable change. The Red Option would have neutral effect. The Orange 4-lane, Purple 4-lane and Purple 2-lane options would generate a slight benefit as the alignment is further from Llanfairpwll. A qualitative assessment of the Pink and Orange 2-lane options indicates a neutral effect.

Local Air Quality:
NO2 concentrations close to the new crossing would increase, and close to other local roads they would decrease. The objective limit would not be exceeded at residential properties, but the Purple 4-lane Option would lead to an increase of 9 properties in the band below the limit. Particulates (PM10) concentrations would remain well below the objective limit.

Greenhouse Gas Emissions:
In the short term, all alignment options would achieve lower emissions from cars but slightly higher emissions from other vehicles. The options would encourage more journeys, particularly of freight, and so increase regional emissions marginally (0.3%) over the long term.

Landscape and Townscape:
All alignment options and bridge forms would create a significant change in the landscape. All would affect views of the Britannia Bridge from important viewpoints to the east or west, partly obscuring or confusing its form. Extrados and cable-stayed forms add new tall elements which increase the degree of change, though a modern structure could be attractive in its own right. Red, Pink and Orange Options would reinforce the scale of the transport corridor through the landscape; the Purple Option would create a new corridor through the woodlands which fringe the Strait, particularly on the Anglesey shore. New crossing provision for pedestrians and cyclists would offer a new opportunity to enjoy views of the Strait.

TABL CRYNHOI'R ARFARNIAD - CYFYNGIADAU
AMGYLCHEDDOL

APPRAISAL SUMMARY TABLE – ENVIRONMENTAL
CONSTRAINTS



Yr Amgylchedd Hanesyddol:
Byddai'r bont newydd yn cael effaith sylweddol ar olygfeydd o Bont Britannia, sy'n bont restredig, o'r naill ochr neu'r ddwy. Byddai'r Opsiynau Oren a Phorffor yn debygol o ddifrodi'r Coredau Pysgod neu effeithio'n sylweddol ar eu lleoliad. Byddai effaith ar leoliad asedau hanesyddol eraill hefyd.

Bioamrywiaeth:
Gallai pob Opsiwn ddifrodi neu ddwyn cynefin morol yn yr ACA yn sgil adeiladu pileri. Byddai Opsiynau Oren a Phorffor yn peri colli coetir hynafol ond gallai rheoli'r gweddill yn well liniaru'r golled hon a gwarchod poblogaethau ystlumod a Gwiwerod Coch. Mae angen astudio effaith ffurfiau pontydd ecstrados neu geblau ar boblogaethau adar yn ofalus, yn enwedig yn achos yr Opsiynau Oren a Phorffor.

Yr Amgylchedd Dŵr:
Gallai pob Opsiwn niweidio ansawdd y dŵr yn ystod y gwaith adeiladu, er y byddai camau rheoli a goruchwyliaeth ofalus yn cael eu defnyddio i leihau'r risg hon cymaint â phosibl. Mae ffurfiau pontydd dau led yn gofyn am ddarparu cydrannau mawr o'r môr a chodi o'r Fenai. Byddai tyrrau newydd yn y Fenai, yn enwedig ar gyfer yr Opsiynau Oren a Phorffor â thŵr canolog, yn arwain at effeithiau ar lif a sgwrio lleol. Byddent yn dod â rhwystr newydd i fordwyo. Mae pob Opsiwn ar gyfer pont newydd yn amddiffyn yn well rhag llygredd o'r briffordd. Ni fyddai effaith ar gyrsiau dŵr lleol.

Priddoedd a Daeareg:
Nid yw'r un Opsiwn yn effeithio ar ddaeareg na phriddoedd sy'n cael eu hystyried o bwysigrwydd penodol. Mae ardaloedd y gellid effeithio arnynt yn cynnwys dyfrhaenau calchfaen ac, felly, byddai gwarchod dŵr daear yn bwysig. Effeithiau ar y Gymuned:
Nid yw'r un Opsiwn yn effeithio'n uniongyrchol ar lwybrau beicio na defnydd o Lwybr yr Arfordir. Byddai pont newydd yn darparu cyfleusterau newydd i gerddwyr a beicwyr groesi'r Fenai at ddibenion hamdden ynghyd â mynediad gwell rhwng Llanfairpwll a Pharc Menai / Treborth. Byddai'r cyfleusterau newydd yn cynnig buddion o ran iechyd a lles i ddefnyddwyr

Historic Environment:
The new crossing would significantly affect views of the Listed Britannia Bridge from one or both sides. The Orange and Purple Options would be likely to damage the Fish Weirs or significantly affect their setting. The setting of other historic assets would also be affected.

Biodiversity:
All alignment options could disturb or take marine habitat within the SAC through construction of piers. Ancient woodland would be lost with Orange and Purple Options but improved management of the remainder could mitigate this loss and protect bat and Red Squirrel populations. The effect of Extrados or cable-stayed bridge forms, particularly for Orange and Purple Options, on bird populations requires detailed study.

Water Environment:
All alignment options could damage water quality during construction, though careful controls and management would be used to minimise this risk. Two-span bridge forms require sea delivery of large components and lifting from the Strait. New towers in the Strait, particularly for forms with a central tower on the Orange and Purple alignment Options, would lead to local flow effects and scour. They would introduce a new obstacle to navigation. All new crossing options offer improved protection against highway pollution. Local watercourses would not be affected.

Soils and Geology:
None of the alignment options affects geology or soils considered to be of particular importance. Areas that might be affected do include limestone aquifers and so groundwater protection would be important.

Community Effects:
None of the alignment options directly affects cycle routes or use of the Coastal Path. A new crossing would provide new pedestrian and cycle facilities across the Strait to create circular routes for leisure as well as better access between Llanfairpwll and Parc Menai / Treborth. The new facilities would offer health and well-being benefits for users.



AMCANION CYNLLUNIO TRAFNIDIAETH

TRANSPORT PLANNING OBJECTIVES



Datblygwyd Amcanion Cynllunio Trafnidiaeth y prosiect hwn trwy broses WeITAG.

Mae'r holl opsiynau alinio yn diwallu'r Amcanion Cynllunio Trafnidiaeth:

- 1. Gwellu amseroedd teithiau rhwng cyffyrdd 7 a 10 yr A55 yn ystod cyfnodau brig a chynnal amseroedd teithiau gwell i'r dyfodol.
- 2. Gwellu dibynadwyedd amseroedd teithiau rhwng cyffyrdd 7 a 10 yr A55.
- 3. Gwellu gwydnwch y rhwydwaith a lleihau'r ddibyniaeth ar ddefnyddio Pont Menai yn hytrach yn ystod gwaith cynnal a chadw neu argyfyngau.
- 4. Gwell hygyrchedd i gerddwyr a beicwyr sy'n croesi'r Fenai, gan gynnwys cysylltiadau â llwybrau teithiau pell a safleoedd gwaith allweddol.
- 5. Hybu diogelwch ar gyfer teithiau ar draws y Fenai.

Meini Prawf Asesu Ychwanegol

Yn ogystal â meini prawf WeITAG a ddangoswyd eisoes, mae'r tabl i'r dde yn dangos amrywiaeth o feini prawf ychwanegol a ddefnyddiwyd ar gyfer asesu pob un o'r opsiynau alinio a'r mathau dangosol o bontydd, a rhoi sgôr iddynt

The Transport Planning Objectives for this project were developed through the WeITAG process.

All the alignment options fulfil the following Transport Planning Objectives:

- 1. Improve journey times between A55 Junctions 7 and 10 during peak periods, and to maintain improved journey time into the future.
- 2. Improve journey time reliability between A55 Junctions 7 and 10.
- 3. Improve network resilience and reduce reliance on the use of the Menai Bridge as an alternative route during maintenance or emergencies.
- 4. Improve accessibility for pedestrians and cyclists crossing the Menai Strait including connections to long distance routes and key employment sites.
- 5. Promote safety for trips across the Menai Strait.

Additional Assessment Criteria

In addition to the WeITAG criteria shown previously, the adjacent table shows a range of additional criteria against which each of the alignment options and indicative bridge types have been assessed and scored.

SUT RYDYM WEDI ASESU'R GWAHANOL OPSIYNAU ALINIO A'R MATHAU DANGOSOL O BONTYDD?

HOW HAVE WE ASSESSED THE DIFFERENT ALIGNMENT OPTIONS AND INDICATIVE BRIDGE TYPES?



	Opsiynau'r Briffordd Highway Options						Mathau Dangosol o Bontydd Indicative Bridge Types				
Meini Prawf Criteria	Coch / Red	Pinc / Pink	Ffordd gerbyddau 2 lôn - Oren / Orange 2-lane Carriageway	Ffordd gerbyddau 4 lôn - Oren / Orange 4-lane Carriageway	Ffordd gerbyddau 2 lôn - Porffor / Purple 2-lane Carriageway	Ffordd gerbyddau 4 lôn - Porffor / Purple 4-lane Carriageway					
Gosodiad y Ffordd a Therfyn Cyflymder Road Layout & Speed Limit	⦿	⦿	+	++	++	+++					
Gwydnwch y rhwydwaith a'r gallu i wrthsefyll gwynt Network and Wind Resilience	+	+	+	+++	+	+++					
Meini Prawf Criteria	Pont ecstrasdos un lled Extrados One-Span Bridge	Pont ecstrasdos dau led Extrados Two-Span Bridge	Pont geblau Cable-Stayed Bridge	Pont gantliffrog gytbwys Balanced Cantilever Bridge							
Effaith pileri newydd yn y Fenai Impact of new piers in the Strait	⦿	--		⦿		--				--	
Effaith Amgylcheddol Environmental Impact	-	--		-		--				--	
Gweithredu a Chynnal a Chadw Operation and Maintenance	⦿	+		--		++				++	
Gallu i gario ceblau pŵer neu wasanaethau? Able to carry power cables or services?	+++	+++		+		+++				+++	
	+++ Buddiol Sylweddol / Large Beneficial	+++ Buddiol Cymedrol / Moderate Beneficial	++ Buddiol Bychan / Slight Beneficial	⦿ Niwtrol / Neutral	-- Niweidiol Sylweddol / Large Adverse	-- Niweidiol Cymedrol / Moderate Adverse	- Niweidiol Bychan / Slight Adverse				





		Opsiynau'r Briffordd Highway Options					
		Coch / Red	Pinc / Pink	Ffordd gerbydau 2 lôn - Oren / Orange 2-lane Carriageway	Ffordd gerbydau 4 lôn - Oren / Orange 4-lane Carriageway	Ffordd gerbydau 2 lôn - Porffor / Purple 2-lane Carriageway	Ffordd gerbydau 4 lôn - Porffor / Purple 4-lane Carriageway
Pont ecstrados un lled Extrados One-Span Bridge	Cost Cyfalaf (prisiau 2016) Capital Cost (2016 prices)	£117	£107	£107	£159	£107	£158
	Cyfanswm Gwerth Presennol Buddion Present Value Benefits (PVB) Total	£147	£147	£147	£209	£147	£209
	Cyfanswm Gwerth Presennol Costau Present Value Cost (PVC) Total	£83	£75	£75	£113	£75	£113
	Gwerth Presennol Net Net Present Value	£64	£72	£72	£96	£72	£96
	Cymhareb Cost a Budd Benefit Cost Ratio (BCR)	1.77	1.96	1.96	1.84	1.96	1.86
Pont ecstrados dau lled Extrados Two-Span Bridge	Cost Cyfalaf (prisiau 2016) Capital Cost (2016 prices)	£115	£105	£105	£151	£105	£150
	Cyfanswm Gwerth Presennol Buddion Present Value Benefits (PVB) Total	£147	£147	£147	£209	£147	£209
	Cyfanswm Gwerth Presennol Costau Present Value Cost (PVC) Total	£81	£73	£73	£107	£73	£106
	Gwerth Presennol Net Net Present Value	£66	£74	£74	£102	£74	£103
	Cymhareb Cost a Budd Benefit Cost Ratio (BCR)	1.82	2.01	2.01	1.95	2.01	1.97
Pont geblau Cable-Stayed Bridge	Cost Cyfalaf (prisiau 2016) Capital Cost (2016 prices)	£124	£114	£114	£168	£114	£167
	Cyfanswm Gwerth Presennol Buddion Present Value Benefits (PVB) Total	£147	£147	£147	£209	£147	£209
	Cyfanswm Gwerth Presennol Costau Present Value Cost (PVC) Total	£88	£80	£80	£120	£80	£119
	Gwerth Presennol Net Net Present Value	£59	£67	£68	£89	£67	£90
	Cymhareb Cost a Budd Benefit Cost Ratio (BCR)	1.67	1.84	1.85	1.74	1.84	1.75
Pont gantliffrog gytbwys Balanced Cantilever Bridge	Cost Cyfalaf (prisiau 2016) Capital Cost (2016 prices)	£107	£97	£97	£136	£97	£135
	Cyfanswm Gwerth Presennol Buddion Present Value Benefits (PVB) Total	£147	£147	£147	£209	£147	£209
	Cyfanswm Gwerth Presennol Costau Present Value Cost (PVC) Total	£76	£68	£68	£96	£68	£95
	Gwerth Presennol Net Net Present Value	£72	£79	£79	£113	£79	£114
	Cymhareb Cost a Budd Benefit Cost Ratio (BCR)	1.94	2.16	2.17	2.17	2.16	2.19

Gwerthoedd mewn £miliynau / values in £millions



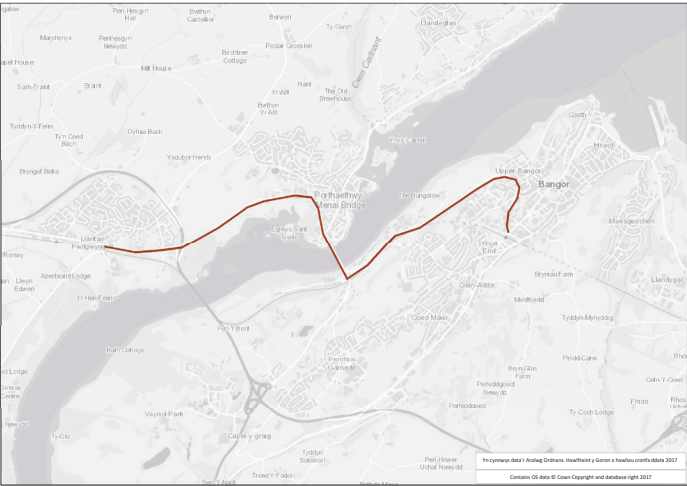
RHAGOLYGN TRAFFIG A GOSTYNGIADAU MEWN
AMSEROEDD TEITHIAU
TRAFFIC FORECAST AND JOURNEY TIME REDUCTIONS



RHAGOLYGN TRAFFIG A GOSTYNGIADAU MEWN
AMSEROEDD TEITHIAU
TRAFFIC FORECAST AND JOURNEY TIME REDUCTIONS

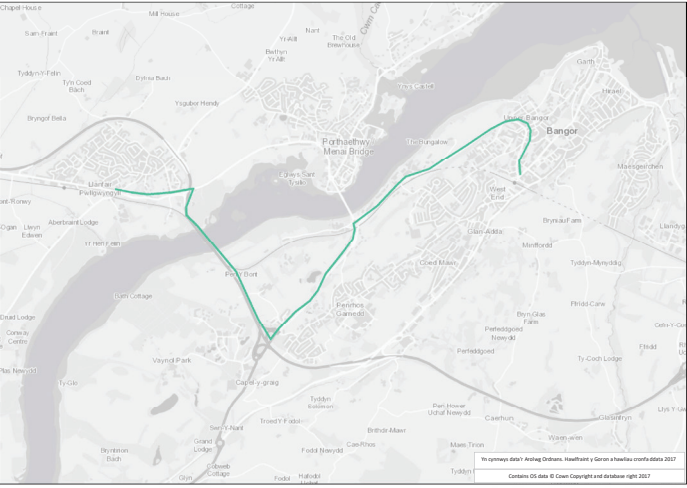
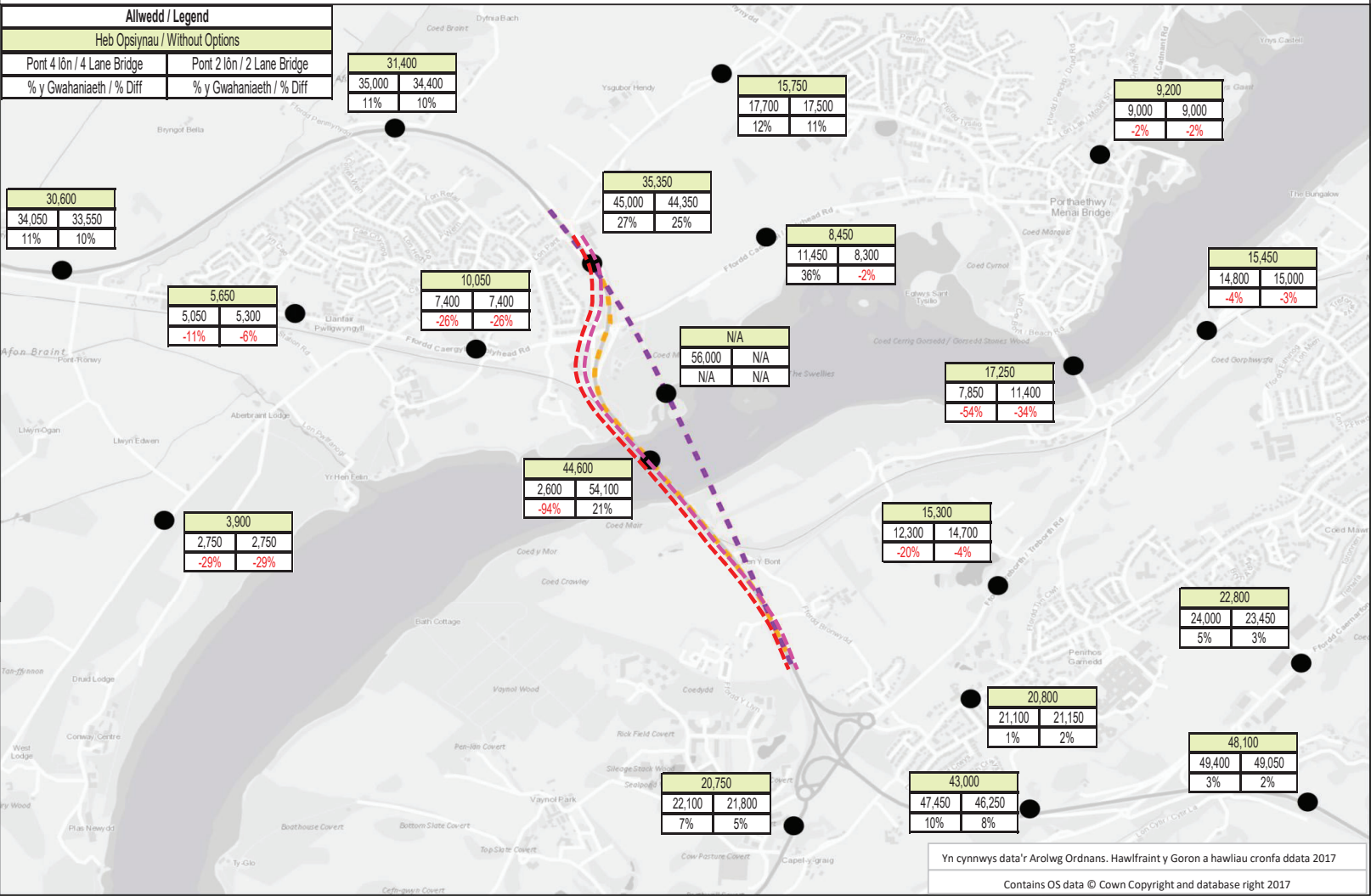


Llywybr 1: Cyffordd 7 - Cyffordd 12 yr A55 / Route 1: A55 Junction 7 - Junction 12	Gwneud y lleiaf posibl Do Minimum	Oriau brig y bore (tua'r dwyrain) Morning Peak (Eastbound)	Oriau brig yr hwyr (tua'r gorllewin) Evening Peak (Westbound)
	Do Minimum	17:25	14:53
Pont 2 lôn 2-Lane Bridge		10:27 (-06:58)	10:26 (-04:27)
Pont 4 lôn (70 mya) 4-Lane Bridge (70mph)		09:43 (-07:42)	09:45 (-05:08)
- Gostyngiad o oddeutu 7 munud mewn amser taith yn ystod oriau brig y bore tua'r dwyrain - Gostyngiad o oddeutu 5 munud mewn amser taith yn ystod oriau brig y prynhawn tua'r gorllewin - Eastbound AM peak hour journey time reduced by approx. 7 minutes - Westbound PM peak hour journey time reduced by approx. 5 minutes			



Llywybr 2: Llanfair PG i Orsaf Bangor gan ddilyn yr A5 Pont Menai Route 2: Llanfair PG to Bangor Station via A5 Menai Bridge	Gwneud y lleiaf posibl Do Minimum	Oriau brig y bore (tua'r dwyrain) Morning Peak (Eastbound)	Oriau brig yr hwyr (tua'r gorllewin) Evening Peak (Westbound)
	Do Minimum	14:41	11:49
Pont 2 lôn 2-Lane Bridge		10:16 (-04:25)	10:02 (-01:47)
Pont 4 lôn (70 mya) 4-Lane Bridge (70mph)		10:04 (-04:37)	10:03 (-01:46)
- Gostyngiad o oddeutu 4 munud mewn amser taith yn ystod oriau brig y bore tua'r dwyrain - Gostyngiad o oddeutu 2 munud mewn amser taith yn ystod oriau brig y prynhawn tua'r gorllewin - Eastbound AM peak hour journey time reduced by approx. 4 minutes - Westbound PM peak hour journey time reduced by approx. 2 minutes			

Rhagolygon Traffig Dyddiol Cyfartalog Blynnyddol Dwyffordd - 2038 Heb Opsiynau a Chydag Opsiwn
Two-way Annual Average Daily Traffic Forecasts - 2038 Without Options and With Option



Llywybr 3: Llanfair PG i Orsaf Bangor gan ddilyn yr A55 / Route 3: Llanfair PG to Bangor Station via A55	Gwneud y lleiaf posibl Do Minimum	Oriau brig y bore (tua'r dwyrain) Morning Peak (Eastbound)	Oriau brig yr hwyr (tua'r gorllewin) Evening Peak (Westbound)
	Do Minimum	16:07	15:08
Pont 2 lôn 2-Lane Bridge		10:29 (-05:38)	10:27 (-04:41)
Pont 4 lôn (70 mya) 4-Lane Bridge (70mph)		10:10 (-05:57)	09:51 (-05:17)
- Gostyngiad o oddeutu 6 munud mewn amser taith yn ystod oriau brig y bore tua'r dwyrain - Gostyngiad o oddeutu 5 munud mewn amser taith yn ystod oriau brig y prynhawn tua'r gorllewin - Eastbound AM peak hour journey time reduced by approx. 6 minutes - Westbound PM peak hour journey time reduced by approx. 5 minutes			



Llywybr 4: Porthaethwy i Barc Menai ar hyd yr A545 / A5 / A457 / Route 4: Menai Bridge to Parc Menai via A545 / A5 / A457	Gwneud y lleiaf posibl Do Minimum	Oriau brig y bore (tua'r de) Morning Peak (Southbound)	Oriau brig yr hwyr (tua'r gogledd) Evening Peak (Northbound)
	Do Minimum	10:57	07:50
Pont 2 lôn 2-Lane Bridge		05:43 (-05:14)	05:40 (-02:10)
Pont 4 lôn (70 mya) 4-Lane Bridge (70mph)		05:29 (-05:28)	05:31 (-02:19)
- Gostyngiad o oddeutu 5 munud mewn amser taith yn ystod oriau brig y bore tua'r de - Gostyngiad o oddeutu 2 munud mewn amser taith yn ystod oriau brig y prynhawn tua'r gogledd - Southbound AM peak hour journey time reduced by approx. 5 minutes - Northbound PM peak hour journey time reduced by approx. 2 minutes			



CRYNODEB A BETH SY'N DIGWYDD NESAF

SUMMARY AND WHAT HAPPENS NEXT



Llywodraeth Cymru
Welsh Government

Sut gallwch chi helpu?

Mae eich barn yn bwysig i ni. Mynnwch olwg ar yr wybodaeth am opsiynau'r briffordd a'r pontydd a rhowch eich sylwadau yn bersonol yn yr arddangosfeydd, ar-lein gan ddefnyddio'r holiadur, trwy e-bost, trwy lythyr neu dros y ffôn erbyn **dydd Gwener 9 Mawrth 2018**. Gallwch gysylltu â'r Swyddog Cyswllt â'r Cyhoedd gan ddefnyddio'r manylion isod.

Dyma gyfeiriad y wefan:

<https://ymgyngoriadau.llyw.cymru/3edd-bont-dros-y-fenai>

Sut i ymateb a gwneud ymholiad

Cysylltwch â Llywodraeth Cymru gyda'ch adborth neu'ch ymholiadau drwy:

- Fynd i un o Arddangosfeydd yr Ymgynghoriad Cyhoeddus
- Dychwelyd yr holiadur am ddim yn yr amlen arbennig a fydd ar gael yn yr arddangosfeydd neu drwy lenwi'r holiadur ar-lein
- Cysylltu â'r Swyddog Cyswllt â'r Cyhoedd drwy e-bost at 3rdmenaicrossing@aecom.com neu dros y ffôn ar 01217101117
- Ysgrifennu i'r cyfeiriad RHADBOST – RHADBOST, Llywodraeth Cymru, Sarn Mynach, Cyffordd Llandudno, Conwy LL31 9RZ

Mynediad at Wybodaeth

Bydd Llywodraeth Cymru'n defnyddio'r data a gesglir o'r holiaduron i gael barn am ddatblygiad pellach trydedd bont dros y Fenai. Caiff y data hyn eu cydgasglu a'u crynhoi, ynghyd â gwybodaeth a ddarperir mewn llythyron, negeseuon e-bost a galwadau ffôn, a'u cyflwyno mewn dogfen ymgynghorol a gyhoeddir ar y wefan; ni fydd unigolion yn cael eu henwi. Caiff yr holl ddata personol sydd wedi'u cynnwys eu brosesu a'u storio, ac adroddir arnynt, yn unol â'n rhwymedigaethau o dan Ddeddf Diogelu Data 1998.

Beth sy'n digwydd nesaf?

Bydd Llywodraeth Cymru a'i Hymgynghorwyr yn ystyried pob ymateb gennych chi, eich awdurdod lleol a chyrrff eraill â budd yn ofalus cyn datblygu'r cynllun ymhellach.

How can you help?

Your views are important to us. Please review the information on the highway and bridge options and return your comments either in person at the exhibitions, on-line via the questionnaire, via email, letter or telephone by **Friday 9th March 2018**. You can also contact the Public Liaison Officer via the details below.

The website address is:

<https://consultations.gov.wales/a55-3rd-menai-crossing>

How to respond and to make an enquiry

Contact Welsh Government with your feedback or queries by:

- Attending one of the Public Consultation Exhibitions
- Returning the questionnaire in a prepaid envelope available at the exhibitions or complete the on-line questionnaire
- Contacting the Public Liaison Officer via email at 3rdmenaicrossing@aecom.com or by telephone on 01217101117
- Writing to FREEPOST address – FREEPOST, Welsh Government, Sarn Mynach, Llandudno Junction, Conwy LL31 9RZ

Access to Information

Welsh Government will use data collected from the questionnaires to capture views on the further development of the Third Menai Crossing. These data will be aggregated and summarised, along with information provided in letters, emails and telephone calls and presented in a consultation document which will be published on the website; no individual will be identified. All personal data contained will be processed, stored and reported in accordance with our obligations under the Data Protection Act, 1998.

What happens next?

All responses from you and from your local authorities and other interested bodies will be considered carefully by the Welsh Government and its Consultants before further scheme development.