Llywodraeth Cymru
Welsh Government

A55 Junctions 14 and 15 Improvements

Traffic Forecasting Report

March 2021

UNDEB EWROPEAIDD
EUROPEAN UNION

Llywodraeth Cymru
Welsh Government

Cronfa Datblygu Rhanbarthol Ewrop
European Regional Development Fund

Intended for
Welsh Government

Document type
Report

Date
February 2020

A55 JUNCTIONS 15 AND 16 IMPROVEMENTS TRAFFIC FORECASTING REPORT (STAGE 3)

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A55 JUNCTIONS 15 AND 16 IMPROVEMENTS
TRAFFIC FORECASTING REPORT (STAGE 3)

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Ref A55J15J16-RAM-60-XX-RP-T-0013

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1. INTRODUCTION

1.1.1 The Welsh Government (WG) originally appointed Carillion in October 2017 to develop the design of the proposed A55 Junctions 15 and 16 Improvements up to publication of Draft Orders. Ramboll was the lead designer to Carillion. In January 2018, Carillion went into liquidation and WG appointed Ramboll directly.

1.1.2 Ramboll have undertaken a transport study on the A55 trunk road Junctions 15 and 16, following the Welsh Transport Planning and Appraisal Guidance 2017 (WelTAG). The study represents the Stage 3 Appraisal, building upon work already undertaken during the previous WelTAG Stages 1 and 2.

1.1.3 Along with WelTAG guidance, development of the traffic model has been undertaken in accordance with Department for Transport (DfT) Transport Analysis Guidance (WebTAG).

1.1.4 The A55 Transport Model (A55TM) has been developed to understand current traffic conditions in the area, to provide evidence for the planning of changes to the transport network and to produce traffic forecasts that are used in the detailed economic, social and environmental appraisal of proposed interventions in the transport system.

1.1.5 The traffic model has been calibrated to represent the traffic conditions observed in the model's base year of 2016. Further details of the base year model are found in the Stage 3 Assignment Model Validation Report (AMVR) (Ref: A55J15J16-RAM-60-XX-RP-T-0012).

1.1.6 The primary purpose of this model is to appraise the impact of two selected preferred junction improvement options at junctions 15 and 16 on the A55 and the local highway network within the study area. Both preferred improvement options are described in chapter 2 and the results of the forecasts for each option are presented in chapter 4.

1.2 Purpose of Report

1.2.1 The purpose of the Traffic Forecasting Report (TFR) is to demonstrate that the forecasting procedure undertaken using the SATURN model is in accordance with WelTAG and WebTAG guidance.

1.2.2 This report describes the process undertaken in preparing the model for use in the forecasting of future traffic conditions in and around Junctions 15 and 16 on the A55 'with' and 'without' the junction scheme improvements. The model forecasts will provide the data required for economic and environmental appraisal of the scheme at WelTAG Stage 3.

1.2.3 This TFR presents the appraisal of the preferred options at junction 15 and 16 and describes the development of the future year matrices for both options for assignment onto the highway network and the results of these assignments. The traffic assignment model has been developed using the guidance in WebTAG Unit M3-1, 'Highway Assignment Modelling' and traffic forecasting has adopted the guidance in WebTAG Unit M4, 'Forecasting and Uncertainty'.

1.3 Forecasting Requirements

In order to robustly assess the impact of the two improvement schemes on the highway network and to account for uncertainty in the calculations of background traffic, traffic forecasts have been prepared considering 3 forecasting assessment scenarios:

1) **Core Scenario** – The core scenario considers the mostly likely estimates of traffic growth as described in Section 5 and the most likely estimate of trip generation for the committed developments within the A55TM study area.

2) **Low Growth Scenario** – This scenario presents a lower estimate of traffic growth within the A55TM study area calculated according to WebTAG guidance (Unit M4: 'Forecasting and Uncertainty') and considers the most likely estimate of trip generation for the committed developments within the study area.

3) **High Growth Scenario** –This high growth scenario presents a higher estimate of traffic growth within the study area calculated according to WebTAG guidance (Unit M4: 'Forecasting and Uncertainty') and considers the most likely estimate of trip generation for the committed developments within the study area.

The derivation of the core scenario and the assessment of this scenario is described in sections 5 to 7 and the derivation of the low and high growth scenarios is explained in section 8.

Traffic forecasts have been produced for 3 peak periods; AM, Inter Peak and PM peaks, for each forecast year (2022, 2037 and 2051), for each scenario (core, low and high growth scenarios).

The AM peak hour represents 08:00 to 09:00, the PM peak hour represents 17:00 to 18:00 and the Inter peak represents an average hour between 10:00 and 16:00.

The model has been split into 5 user classes:

1) Car Employer's Business (or Car Work);
2) Car Commute;
3) Car Other;
4) LGV's; and
5) HGV's.

Traffic forecast growth factors have been calculated for the 3 scenarios for these 5 vehicle user classes and are described in section 5 for the core scenario and section 8 for the for the high and low scenarios.

The outputs from the forecasting process include:

1. Assigned flows for the 3 scenarios (core, low and high growth scenarios) for the forecast years (2022, 2037 and 2051) for the 'Do-Minimum' (DM) and 'Do-Something' (DS) transport networks; and
2. An assessment of the highway impacts as a result of the 3 scenarios.

1.4 Report Structure

1.4.1 This TFR comprises the following Chapters:

- Chapter 2 describes the assessment of the elasticity test for Demand Modelling;
- Chapter 3 provides a description of the future year ''Do Minimum'' and ''Do Something'' networks;
- Chapter 4 describes the committed developments that have been considered within the A55TM;
- Chapter 5 describes the approach to the traffic forecasting for the core scenario;
- Chapter 6 presents the ''Do Minimum'' Assignments for the core scenario;
- Chapter 7 presents the ''Do Something'' Assignments for the core scenario;

- Chapter 8 presents the approach for the low and high growth scenario assessments;
- Chapter 9 discusses the summer peak appraisal; and
- Chapter 10 provides a conclusion.

2. ELASTICITY TEST

2.1.1 The transport modelling for A55 improvement schemes has considered the need for variable demand modelling for traffic forecasting and economic appraisal. The guidance and criteria shown in WebTAG Unit M2 'Variable Demand Modelling' was used in order to determine a suitable test.

2.1.2 A comparison of scheme benefits derived from a fixed demand model and an elastic demand model was made in order to satisfy this comparison.

2.1.3 Section 2.2.6 of WebTAG Unit M2 states:

Where preliminary calculations using an existing variable demand model are carried out, it will be acceptable in general to use a fixed demand assessment where the resulting difference in suppressed/induced traffic when using the demand model does not change benefits resulting from a scheme by more than 10% in the opening year and 15% in the forecast year relative to a fixed demand case.

2.1.4 The variable demand model used for the comparison was an elasticity model with a Power relationship, as considered in Appendix A of Unit M2.

The simplest functional form – an 'own-cost' elasticity model - assumes that changes in the demand for travel between two points can be adequately estimated purely by a function of the change in costs between the two places.

However, if costs do indeed change, the relationship between change in demand and change in costs can take a number of forms, but only exponential and power formulations, and a composite of the two forms (called a Tanner function), will be considered here. With a power formulation the proportionate change in trips is related to the proportionate change in costs. With an exponential formulation, on the other hand, the proportionate change in trips is a function of the absolute change in costs.

2.1.5 For most applications the Power relationship which is a simple own cost elasticity model due to its constant elasticity value is recommended.

The elasticity function should be negative and is the same for all trips in the same user class.

This is a well-behaved formulation that is simple to apply, and is base independent: that is, it is guaranteed to give the same results if forecasts are produced from one year to another directly or via an intermediate year. It assumes that a proportionate change in trips is related to a proportionate change in costs. As the parameter A is constant the implied elasticity is the same for all lengths of trip within the same user class (i.e. it is "distance neutral").

2.1.6 The elastic assignments were carried out using SATURN with the power function set as -0.5, for LGV's and HGV's, as recommended in the User Manual. For the User Classes, Car Employers Business, Car Commute and Car Other, power functions of -0.6, -0.22 and -0.41 respectively, were applied as suggested in WebTAG Unit M2 'Variable Demand Modelling', Table A1. It was considered that this was a proportional response to the model form, given that the elasticity test was a proxy for the full variable demand model and was being used to determine the potential strength of a likely elastic response, rather than the calibration of the elastic parameters. The

elastic assignments were undertaken for each time period and the same user classes as the fixed demand assignments.

2.1.7 Both the fixed demand and the elastic demand assignment were fed into a TUBA appraisal to determine the respective scheme benefits for the opening and design years of the scheme. TUBA version 1.9.13 was used for the appraisal. A summary of the outputs from the appraisal is shown in Table 2.1.

	Fixed Demand	Elastic Demand	Difference	% change
Opening Year 2022	£240	£241	£1	0.0%
Design Year 2037	£269	£295	£26	9.6%

Table 2.1: Comparison of Scheme Benefits (£1,000)

2.1.8 The comparison in Table 2.1 demonstrates that the elastic demand in the model is not sufficiently large to exceed the WebTAG criteria in either the Scheme Opening Year (2022) or the Design Year (2037). Thus, the requirement for the use of a variable demand model for the A55 appraisal has not been determined.

2.1.9 As such the fixed demand model format will be used to assess the forecasting and economic appraisals for the A55 improvement schemes.

3. FUTURE YEAR NETWORKS

3.1.1 This section of the report describes how the ''Do Minimum'' and ''Do Something'' transport networks have been defined within the transport model.

3.2 ''Do Minimum'' Network

3.2.1 It has been determined through liaison with WG and Local Highway Authorities (Conwy, Gwynedd and Denbighshire) that no committed highway schemes are planned in the study area during the modelled assessment period and therefore the '''Do Minimum''' network will remain the same as the validated 2016 base year network.

3.3 ''Do Something'' Network - A55 Improvement Options

3.3.1 The ''Do Something'' network models have been developed by editing the '''Do Minimum''' network to incorporate the two preferred junction improvement designs proposed for junctions 15 and 16. Each junction improvement has been modelled separately and Table 3.1 below presents the two junction improvement options at both junctions providing the model and scheme references for each option and a brief description of each improvement scheme.

A55 Improvement Options

Junc.	Model Ref.	Scheme Ref.	Improvement Scheme Description
15	J15 PREF OP	OPTION D PREF	4-way movement. Extended WB on/off slips leading to separate signal-controlled junction with Penmaenmawr Road. Overbridge over A55 and signal-controlled T junction to allow EB on/off.
16a / 16	J16 PREF OP	OPTION A PREF	4-way movement with bridge across A55 at J16a. Westbound on/off slips at J16. Extended Link road linking to Glan-Yr-Afon Rd and Ysguborwen Rd. Traffic Calming through Dwygyfylchi.

Table 3.1: A55 Junction Improvement Schemes

3.3.2 The following section describes the two preferred junction improvement options for junction 15 and 16 accompanied by drawings of how the improvements will look and be incorporated into the highway network.

3.4 Junction 15 Preferred Option

3.4.1 This option provides four-way movement by utilising an overbridge with a signal-controlled T-junction to the north of the A55 and priority junctions to the south of the A55 to access the westbound on and off slips. The slip roads would be raised locally to allow the bridge to pass over the A55. Access to the Promenade via Shore Road East would be retained. The connecting link road leads to a signalised junction with Penmaenmawr Road. This option would require the realignment of Penmaenmawr Road and consequently the repositioning of the bus stops with new bus laybys. The option incorporates additional active travel route improvements and associated pedestrian crossings, including a shared cycleway / pedestrian path which maintains continuity of the Sustrans National Cycle Network Route 5 at the junction with Penmaenmawr Road.

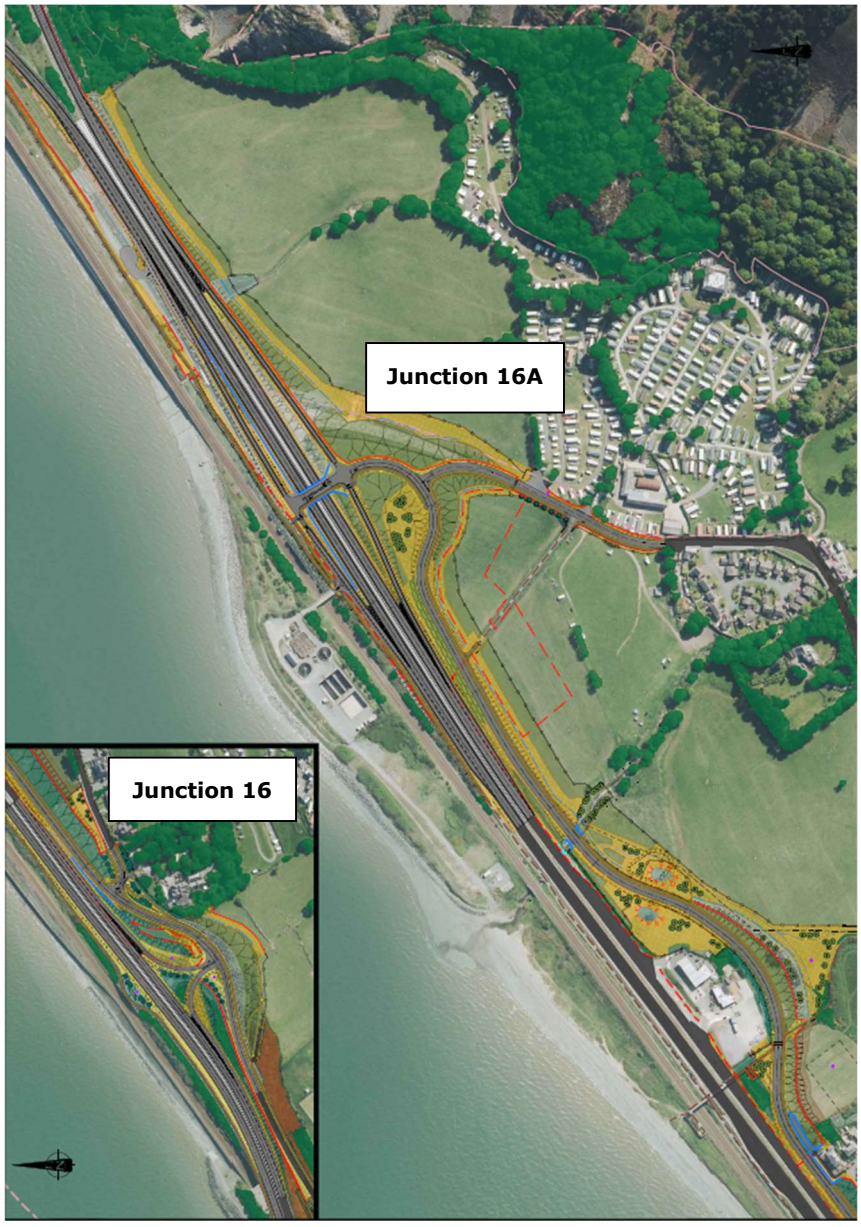
Map data © 2018 Google

Figure 3.1: Junction 15 Preferred Option

3.5 Junction 16 Preferred Option

3.5.1 This option comprises of a four-way movement junction, replacing junction 16A. The roundabout at junction 16 would be removed and replaced by westbound on and off slip roads. The junction 16A arrangement would consist of an overbridge, located to the north-east of the existing roundabout. The slip roads would be constructed on raised embankments. A new link road would be constructed, running roughly parallel to the A55, behind the Puffin Café linking back into Ysguborwen Road near the existing Junction 16. Glan-yr-Afon Road is to be widened to provide a standard road with a separate footpath / cycleway provision. The proposed improvements tie in with the proposed active travel improvement 'Mini-scheme' 1, which is located between the end of the link road and the caravan park.

3.5.2 Provision would be made to retain the existing Sustrans National Cycle Network Route 5, which runs parallel to the north of the A55. Traffic calming would be implemented through Dwygyfylchi to reduce traffic flows through the village and help to direct traffic accessing Junction 16a, to the new Link Road.



Map data © 2018 Google

Figure 3.2: Junction 16 Preferred Option

4. COMMITTED DEVELOPMENTS

4.1.1 This chapter provides details of the future year committed developments that have been considered within the A55TM to ascertain future demands on the highway network. In order to provide a robust assessment of future developments within the study area, estimates of their likely trip generation have been calculated and are presented below.

4.1.2 In order to find which future developments to consider within the A55TM, the local council, Conwy, and its three neighbouring councils; Denbighshire, Gwynedd and Anglesey, were contacted and asked for a list of all committed developments that would become operational between 2022 (opening year) and 2051 (horizon year).

4.1.3 Each council delivered a list of housing and employment sites with accompanying planning application references of all committed developments with planning permission that are set to be developed between 2022 and 2051.

4.1.4 Each application was assessed to find its location (in relation to the model study area), trip generation, trip distribution and year of opening to ascertain if any trips generated by the developments should be included within the model.

4.1.5 Having assessed all the committed development sites in the neighbouring councils of Denbighshire, Gwynedd and Anglesey, it was ascertained that the majority of trips generated from committed developments in these areas would not enter, exit or pass through the model and the remainder were included in TEMPro growth assumptions. Traffic growth within the model has therefore been determined as being equivalent to TEMPro growth.

4.1.6 Table 4.1 presents a list of 21 committed developments in Conwy of which 11 are residential housing schemes and 10 are employment / retail developments (details taken from Conwy County Borough Council (CCBC) JHLAS 2017 Report). Having assessed all these sites it was determined that only 5 residential sites (CONRES001 to CONRES005) were to be modelled explicitly. These 5 sites are shown in Table 4.2 and lie within the study area. The other sites have not been modelled explicitly due to their size and location and it was ascertained that trips associated with these developments would be accounted for within the TEMPro growth assumptions.

No.	Reference	Development	Location	Planning App No.
1	CONRES001	Residential	Sychnant Pass Road, Conwy	0/41960
2	CONRES002	Residential	Penmaenmawr Road, Llanfairfechan	0/42919
3	CONRES003	Residential	Conway Road, Penmaenmawr	0/30397
4	CONRES004	Residential	Penmaenmawr Road, Llanfairfechan	0/41558
5	CONRES005	Residential	Ysguborwen Road, Dwygyfylchi	0/41637
6	CONRES006	Residential	Marine Road, Pensarn	0/42677
7	CONRES007	Residential	St. George's Road, Abergele	0/42148
8	CONRES008	Residential	Abergele Business Park, Abergele	0/42900
9	CONRES009	Residential	Woodlands, Llandudno Junction	0/44548
10	CONRES010	Residential	Nant-y-Glyn Holiday Park, Colwyn Bay	0/41297
11	CONRES011	Residential	St. George's Road, Abergele	0/40507 0/43058
12	CONEMP001	Retail	A55 J18, Llandudno Junction	NA
13	CONEMP002	Retail	Ffordd Newydd, Llandudno Junction	NA

No.	Reference	Development	Location	Planning App No.
14	CONEMP003	Employment	Mochdre Commerce Park	NA
15	CONEMP004	Employment	Ffordd Maelgwyn, Llandudno Junction	NA
16	CONEMP005	Employment	Narrow Lane, Llandudno Junction	NA
17	CONEMP006	Employment	Station Road, Mochdre	NA
18	CONEMP007	Employment	Penrhyn Avenue, Links Road, Rhos on Sea	NA
19	CONEMP008	Employment	Conway Road, Llandudno Junction	NA
20	CONEMP009	Employment	Morfa Conwy Business Park, Conwy	NA
21	CONEMP010	Employment	Ty Gwyn, Llanrwst	NA

Table 4.1: Committed Developments in Conwy

4.1.7 Table 4.2 presents the 5 committed developments considered within the A55TM, all located in CCBC.

No.	Reference	Development	Location
1	CONRES001	Residential	Sychnant Pass Road, Conwy
2	CONRES002	Residential	Penmaenmawr Road, Llanfairfechan
3	CONRES003	Residential	Conway Road, Penmaenmawr
4	CONRES004	Residential	Penmaenmawr Road, Llanfairfechan
5	CONRES005	Residential	Ysguborwen Road, Dwygyfylchi

Table 4.2: Committed Developments included within Model

4.1.8 Figure 4.1 below shows the locations and site size of all the committed developments considered within the A55TM.

Figure 4.1: Committed Development Locations

4.1.9 All committed developments considered in the A55TM are located within the model study area. Distribution of trips for these committed developments has been determined as being the same as the existing distribution for trips within the same zone of the model. All the zones the committed housing schemes sit within are residential zones and it is reasonable to assume that the distribution of new trips will match that of existing trips.

4.1.10 Details of the trip generation and a description of the 5 committed developments considered within the model are presented below. Development flows for each development have been broken down into the three A55TM vehicle classifications (Car, LGV and HGV) and show all arriving and departing trips for each modelled time period (AM, Inter and PM Peak) for each development.

4.1.11 The data used to generate trips for the committed developments can be found in Appendix 1.

4.2 Committed Development – CONRES001

Trip Generation	AM Peak (0800-0900)			Inter Peak 10000-16000)			PM Peak (1700-1800)		
CONRES001	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
Residential Development – 100 Units									
Trip Rates	0.174	0.548	**0.722**	0.212	0.281	**0.494**	0.463	0.296	**0.759**
Total Trips	17	55	**72**	21	28	**49**	46	30	**76**

Table 4.3: CONRES001 Trip Generation

4.2.1 CONRES001 is a residential development located off Sychnant Pass Road in Conwy to the east of the model. The development has planning permission for 100 units and is proposed to be developed by 2022 and has therefore been included in all opening, design and horizon year models.

4.2.2 Trip rates for this development were taken directly from the accompanying Transport Assessment (TA) for the development and are based on peak hour weekday trip rates calculated using the TRICS database for privately owned houses between 50 and 200 units throughout the UK excluding Greater London and Ireland. Details of the TRICS data used to calculate the trip generation this development can be found in Appendix 1.

4.3 Committed Development – CONRES002

Trip Generation	AM Peak (0800-0900)			Inter Peak 10000-16000)			PM Peak (1700-1800)		
CONRES002	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
Residential Development – 17 Units									
Trip Rates	0.171	0.389	**0.560**	0.219	0.208	**0.427**	0.376	0.231	**0.607**
Total Trips	3	7	**10**	4	4	**7**	6	4	**10**

Table 4.4: CONRES002 Trip Generation

4.3.1 CONRES002 is a residential development located on Penmaenmawr Road to the north of Llanfairfechan to the west of the model. The development has planning permission for 17 units (8 apartments and 9 dwellings with associated access) and is proposed to be developed by 2022 and has therefore been included in all opening, design and horizon year models.

4.3.2 Due to there being no development plans or TA found on the CCBC planning portal for this development, trip rates have been taken from CONRES010 (shown in Table 4.5). Although the CONRES010 housing development was not considered within this model, the trip rates (calculated using the TRICS database) found within the accompanying TA were considered to be representative of trip rates for this development due to its similar size, location and development use.

4.4 Committed Development – CONRES003

Trip Generation	AM Peak (0800-0900)			Inter Peak 1000-1600)			PM Peak (1700-1800)		
CONRES003	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
Residential Development – 23 Units									
Trip Rates	0.171	0.389	**0.560**	0.219	0.208	**0.427**	0.376	0.231	**0.607**
Total Trips	4	9	**13**	5	5	**10**	9	5	**14**

Table 4.5: CONRES003 Trip Generation

4.4.1 CONRES003 is a residential development located on Conway Road in Penmaenmawr in the centre of the model. The development has planning permission for 23 units across two blocks (1 block of 16 apartments and 1 block of 7 apartments) and is proposed to be developed by 2022 and has therefore been included in all opening, design and horizon year models.

4.4.2 Similar to CONRES002, as there were no development plans or TA on the CCBC planning portal and the site was of similar size, location and use to CONRES010, trip rates from that development have been used to calculate trip generation for this development (CONRES003).

4.5 Committed Development – CONRES004

Trip Generation	AM Peak (0800-0900)			Inter Peak 1000-1600)			PM Peak (1700-1800)		
CONRES004	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
Residential Development – 28 Units									
Trip Rates	0.156	0.404	**0.560**	0.203	0.183	**0.386**	0.407	0.149	**0.556**
Total Trips	4	11	**16**	6	5	**11**	11	4	**16**

Table 4.6: CONRES004 Trip Generation

4.5.1 CONRES004 is a residential development located on Penmaenmawr Road in Llanfairfechan to the south west of the model. The development has planning permission for 28 units and is proposed to be developed by 2022 and has therefore been included in all opening, design and horizon year models.

4.5.2 Similar to CONRES002 and CONRES003, as there was no trip rate or trip information provided within the development Transport Statement (TS) found on CBC planning portal, CONRES005 trip rates have been used to calculate trip generation for this development as the sites are of a similar size, nature and location.

4.6 Committed Development – CONRES005

Trip Generation	AM Peak (0800-0900)			Inter Peak 1000-1600)			PM Peak (1700-1800)		
CONRES005	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**	**Arrive**	**Depart**	**Total**
Residential Development – 46 Units									
Trip Rates	0.156	0.404	**0.560**	0.203	0.183	**0.386**	0.407	0.149	**0.556**
Total Trips	7	19	**26**	9	8	**18**	19	7	**26**

Table 4.7: CONRES005 Trip Generation

4.6.1 CONRES005 is a residential development located on Ysguborwen Road in Dwygyfylchi in the centre of the model. The development has planning permission for 46 units and is proposed to be developed by 2022 and therefore has been included in all opening, design and horizon models.

4.6.2 Trip rates for this development were taken directly from the accompanying TA for the development and are based on peak hour weekday trip rates calculated using the TRICS database for privately owned houses between 20 and 80 units throughout the UK excluding Greater London and Ireland. Details of the TRICS data used to calculate the trip generation this development can be found in Appendix 1.

5. TRAFFIC FORECASTING

5.1.1 To test the two preferred junction improvement options, assessments have been carried out at the year of opening (2022), a design year 15 years after opening (2037) and a future horizon year 29 years after opening (2051).

Assessment Years	
Base Year	2016
Opening Year	2022
Design Year	2037
Horizon Year	2051

Table 5.1: Assessment Years

5.2 Traffic Forecast Growth Rates

5.2.1 In order to calculate opening, design and horizon year flows for the core scenario, base year traffic matrices presented in the AMVR (Ref: A55J15J16-RAM-60-XX-RP-T-0012) have been factored to opening year 2022, design year 2037 and horizon year 2051 using TEMPro version 7.2 growth forecasts for North Wales (Region) for cars and the National Transport Model (NTM) forecast (Scenario 1, North Wales, S1 SRN-Local Table 3) for LGV and HGV growth.

5.2.2 These rates were derived for the same 3 peak periods as those used in the Base Model and corresponded to:

- AM Peak – 0800-0900
- Average Inter Peak – 1000-1600
- PM Peak – 1700-1800

5.2.3 The forecast matrices were further disaggregated by vehicle type into 5 user classes, representing:

- Car Employer's Business (or Car Work)
- Car Commute
- Car Other
- Light Goods Vehicles (LGVs)
- Heavy Goods Vehicles (HGVs)

5.2.4 The Base Model year for the A55TM was 2016 and growth rates were calculated for cars (work, commute and other), LGV's and HGV's from 2016 to 2022, from 2022 to 2037 and from 2037 to 2051. These growth rates are estimated as being the most likely levels of traffic growth for the study area and represents the traffic growth for the core scenario.

5.2.5 Table 5.2 shows the core scenario growth rates derived for the A55TM for cars from 2016 to 2022, from 2022 to 2037 and from 2037 to 2051.

Car Growth Rates	AM Peak	Inter Peak	PM Peak
2016-2022	1.050	1.056	1.048
2022-2037	1.080	1.081	1.079
2037-2051	1.065	1.050	1.059

Table 5.2: TEMPro Car Growth Rates

5.2.6 In line with WebTAG guidance, Unit M4, section 7.4.11, the TEMPro car growth rates have been adjusted to take account of the fixed demand nature of the forecasting model. These adjustments have been made for income and fuel price, with the adjustment factors being calculated from values in the WebTAG data book, Table M 4.2.1. These factors are presented in Table 5.3.

Income & Fuel Adjustment Factors			
	Income	Fuel	Combined Income & Fuel Factor
2016-2022	1.006	1.007	**1.013**
2022-2037	1.038	1.011	**1.049**
2037-2051	1.026	0.992	**1.018**

Table 5.3: Income & Fuel Adjustment Factors

5.2.7 Table 5.4 presents the adjusted core scenario TEMPro car growth rates. TEMPro rates presented in Table 5.2 have been factored by a combined income and fuel factor for each time period (AM, Inter Peak and PM peak) from base year to opening, design and horizon years. These rates have been used to factor base year matrices to opening, design and horizon years.

Adjusted Car Growth Rates	AM Peak	Inter Peak	PM Peak
2016-2022	1.063	1.070	1.061
2022-2037	1.134	1.134	1.132
2037-2051	1.084	1.069	1.078

Table 5.4: Adjusted TEMPro Car Growth Rates

5.2.8 Table 5.5 shows the core scenario growth rates derived for the A55TM for LGVs from 2016 to 2022, from 2022 to 2037 and from 2037 to 2051.

LGV Growth Rates	AM Peak	Inter Peak	PM Peak
2016-2022	1.166	1.166	1.166
2022-2037	1.322	1.322	1.322
2037-2051	1.212	1.212	1.212

Table 5.5: LGV Growth Rates

5.2.9 Table 5.6 shows the core scenario growth rates derived for the A55TM for HGVs from 2016 to 2022, from 2022 to 2037 and from 2037 to 2051.

Heavy Vehicle Growth Rates	AM Peak	Inter Peak	PM Peak
2016-2022	1.048	1.048	1.048
2022-2037	1.119	1.119	1.119
2037-2051	1.110	1.110	1.110

Table 5.6: HGV Growth Rates

5.2.10 Prior to assignment, the vehicle type matrices were stacked to represent an all vehicle matrix for each time period being modelled.

5.3 Traffic Forecast Count Sites

Ref.	Junction	Location
TFS001	15	A55 west of J14
TFS002	15	A55 eastbound J14 off/on slip
TFS003	15	A55 westbound J14 off/on slip
TFS004	15	A55 between J14 and J15
TFS005	15	Promenade, Llanfairfechan
TFS006	15	Shore Road East, Llanfairfechan
TFS007	15	Aber Road, Llanfairfechan
TFS008	15	Penmaenmawr Road (by Station Road / Village Road Junction), Llanfairfechan
TFS009	15	Penmaenmawr Road (east of TFS008), Llanfairfechan
TFS010	15	Penmaenmawr Road (just off slip), Llanfairfechan
TFS011	15	A55 east of J15
TFS012	15	A55 between J15 and J15A (east of TFS011)
TFS013	15	Station Road, Llanfairfechan
TFS014	16	A55 eastbound off/on slip
TFS015	16	A55 between J15A and J16
TFS016	16	Conway Road (west of J16)
TFS017	16	Ysguborwen Road (east of J16)
TFS018	16	A55 (east of J16)
TFS019	16	A55 eastbound (east of J16A)
TFS020	16	High Street, Penmaenmawr
TFS021	16	Conway Old Road, Penmaenmawr
TFS022	16	Conway Old Road, Capelulo
TFS023	16	Ysguborwen Road, Dwygyfylchi
TFS024	16	Glan-Yr-Afon, Dwygyfylchi
TFS025	16	A55 westbound (east of J16A)
TFS026	16	Bangor Road, Penmaenmawr
TFS027	16	Link Road, Dwygyfylchi
TFS028	16	Treforris Road, Capelulo

Table 5.7: Traffic Forecast Count Site Descriptions

5.3.1 Table 5.7 presents a list of 28 locations within the A55TM network around junctions 15 and 16 of the A55. These sites, referenced as Traffic Forecast Sites (TFS), have been selected to present forecast traffic flows for the ''Do Minimum'' and ''Do Something'' networks for the opening, design and horizon years.

5.3.2 For the purpose of assessment, these Traffic Forecast Sites have been referenced from TFS001 to TFS028, with TFS001 to TFS013 located around junction 15 and TFS014 to TFS028 located around junction 16. It is noted that TFS027 is the TFS located on the new Link Road between junction 16 and junction 16a. Figure 5.1 below shows the location of the Traffic Forecast Sites at junction 15 and Figure 5.2 shows the location of the Traffic Forecast Sites at junction 16.

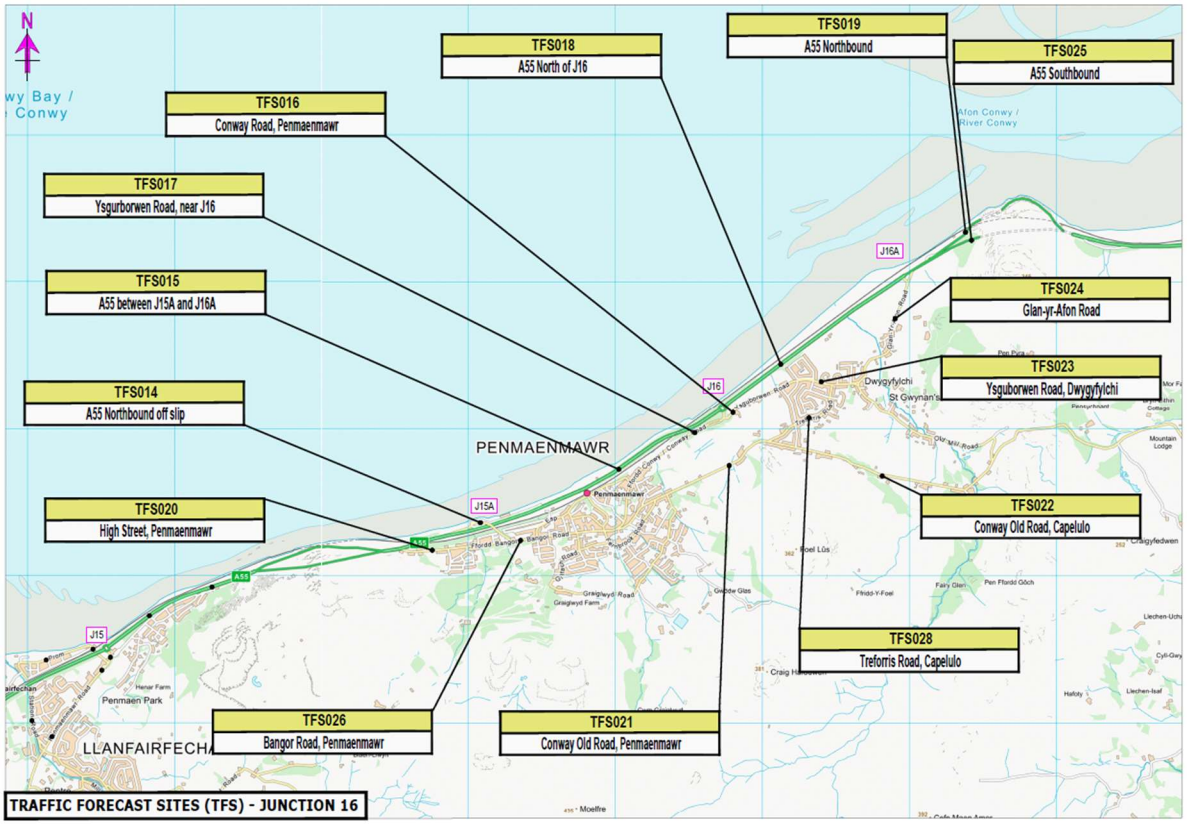


Figure 5.1: Traffic Forecast Site Locations – Junction 16

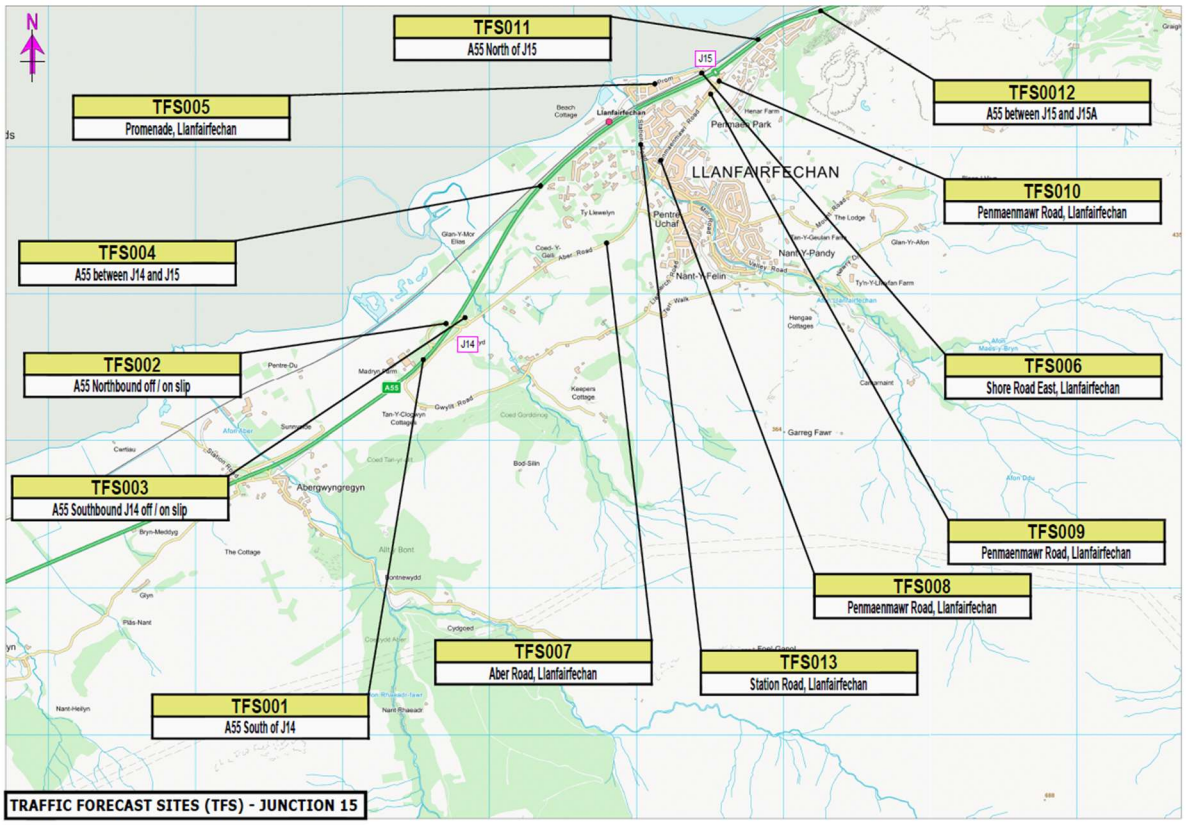


Figure 5.2: Traffic Forecast Site Locations – Junction 15

5.4 Calculation of AADT

5.4.1 For analysis purposes, traffic flows on links around the A55TM network are presented as Annual Average Daily Traffic (AADT) flows. The A55 base year traffic model has been developed for the AM peak, Inter Peak and PM peak hours. These peak hours have been determined from assessment of observed count data recorded by ATC's across the study network and detailed in the Traffic and Accident Data Report (TADR - Ref: A55J15J16-RAM-60-XX-RP-T-0001).

5.4.2 The morning peak period was observed between 07:00 to 10:00 with the peak hour occurring from 08:00 to 09:00. The observed evening peak period was between 16:00 to 19:00, with the peak hour occurring from 17:00 to 18:00. For the inter peak period, the data showed that inter peak conditions prevailed between 10:00 and 16:00 with the modelled inter peak hour taken as an average of the 6 hours across this inter peak period.

5.4.3 To calculate representative AADT flows; AM peak, Inter Peak and PM peak hour modelled average weekday flows have been factored using the ATC data presented in the TADR, to factor peak hour flows to 7-day peak period flows and then into an AADT flow. The AM peak hour modelled flow (08:00 to 09:00) has been factored to the 7-day AM peak period (07:00 to 10:00) using the AM peak hour factor. The average inter peak hour modelled flow (average between 09:00 to 17:00) has been factored to the 7-day inter peak period (10:00 to 16:00) using the inter peak hour factor and the PM peak hour modelled flow (17:00 t0 18:00) has been factored to the 7-day PM peak period (16:00 to 19:00) using the PM peak hour factor. The AM peak, Inter Peak and PM peak factors used to convert peak hour flows to peak period flows are presented in Table 5.8.

AADT - Peak Hour Factors	
AM Peak	3.015
IP Peak	6.000
PM Peak	2.866

Table 5.8: AADT Peak Hour Factors

5.4.4 Once the peak hour flows have been factored to peak period flows, they were added together to represent a 12-hour flow. These 12-hour flows have then been factored to 24-hour AADT flows using the 12-hour to 24-hour factor presented in Table 5.9.

AADT – 12h to 24h Factors	
12h > 24h	1.209

Table 5.9: 12 Hour to 24 Hour Factor

5.4.5 This process was undertaken to convert all peak hour flows to AADT flows for the core scenario for the ‘‘Do Minimum’’ and ‘‘Do Something’’ assignments. These flows are presented in tabular and graphical form in sections 6 and 7.

6. DO-MINIMUM ASSIGNMENTS – CORE SCENARIO

6.1.1 The '"Do Minimum"' assignments for the Core Scenario have been produced by assigning the stacked forecast 2022, 2037 and 2051 matrices to the '"Do Minimum"' network. The same assignment techniques adopted for the Base Model development have been used for this purpose. The following section describes the derivation and calculation of the 'Generalised Cost' parameters for the forecast years.

6.2 Generalised Costs

6.2.1 The generalised cost of travel is based on a combination of factors that drivers consider when choosing routes, mainly time and distance. Generalised cost parameters are used in SATURN to represent travellers' value of time, by pence per minute (PPM) and distance, by pence per kilometre (PPK). The Generalised Cost calculation is based on the following cost formula found within WebTAG Unit M3.1, section 2.8.

Cost = (PPM x Time (in mins)) + (PPK x Distance (in km))

Where:

- PPM = Pence per minute
- PPK = Pence per kilometre

6.2.2 Where a choice of route exists, these values are used to determine which available route has a lower 'cost' to the traveller. If the PPK value is high, low cost routes will be those which minimise distance, conversely if PPM is high, low cost routes will be those that minimise the travel time.

6.2.3 As mentioned, values of the PPM and PPK parameters were derived from the method set out in WebTAG Unit A1.3 and incorporated values from the latest WebTAG Data Book – October 2019. The values are both expressed in 2010 prices and in perceived costs, reflecting the users 'awareness' of indirect taxation. The values of PPM were taken from WebTAG Data Book Table A1.3.6 for all purposes except Car Work which was calculated from a combination of Table A1.3.2 (Value of Time per Person) and Table A1.3.3 (Car Occupancies). Values of PPK were calculated from Tables A1.3.12 (fuel costs - work), A1.3.13 (fuel costs non-work) and Table A1.3.14 (non-fuel costs).

6.2.4 The generalised cost parameters used in the model and calculated for the forecast years of 2022, 2037 and 2051, determined by both time period and user class are shown in Tables 6.1, 6.2 and 6.3 respectively, below.

User Class	AM Peak		Inter Peak		PM Peak	
	PPM	PPK	PPM	PPK	PPM	PPK
Car Work	33.92	9.67	33.64	9.67	33.07	9.67
Car Commute	21.43	7.53	21.78	7.53	21.50	7.53
Car Other	14.78	7.53	15.75	7.53	15.48	7.53
LGV's	26.49	10.46	26.49	10.46	26.49	10.46
HGV's	27.29	31.73	27.29	31.73	27.29	31.73

Table 6.1: Generalised Cost Parameter Values 2022

User Class	AM Peak		Inter Peak		PM Peak	
	PPM	PPK	PPM	PPK	PPM	PPK
Car Work	43.82	9.42	43.45	9.42	42.72	9.42
Car Commute	27.69	7.31	28.14	7.31	27.79	7.31
Car Other	19.10	7.31	20.35	7.31	20.01	7.31
LGV's	34.23	10.91	34.23	10.91	26.49	10.91
HGV's	35.26	34.02	35.26	34.02	27.29	34.02

Table 6.2: Generalised Cost Parameter Values 2037

User Class	AM Peak		Inter Peak		PM Peak	
	PPM	PPK	PPM	PPK	PPM	PPK
Car Work	57.24	9.56	56.76	9.56	55.81	9.56
Car Commute	36.17	7.42	36.75	7.42	36.29	7.42
Car Other	24.95	7.42	26.58	7.42	26.13	7.42
LGV's	44.71	11.33	44.71	11.33	44.71	11.33
HGV's	46.05	35.57	46.05	35.57	46.05	35.57

Table 6.3: Generalised Cost Parameter Values 2051

6.2.5 The resulting '''Do Minimum''' assignment forecast flows, without the improvement schemes are presented in Table 6.4 (below) for 2022, 2037 & 2051. The flows are presented as AADT flows at the Traffic Forecast Sites near junctions 15 and 16.

''Do Minimum'' Forecast Flows		AADT (Vehicles)			
TFS	**Junction**	**2016 Base**	**2022**	**2037**	**2051**
TFS001	15	34251	37066	42933	47241
TFS002	15	1481	1551	1668	1742
TFS003	15	1995	2170	2440	2621
TFS004	15	30775	33345	38825	42879
TFS005	15	1148	1248	1444	1584
TFS006	15	1148	1248	1444	1584
TFS007	15	3476	3722	4108	4363
TFS008	15	3764	4167	4865	5355
TFS009	15	3828	4320	5170	5794
TFS010	15	5306	5985	7101	7919
TFS011	15	35079	38084	44107	48522
TFS012	15	35079	38084	44107	48522
TFS013	15	1181	1271	1465	1600
TFS014	16	1063	1158	1274	1284
TFS015	16	32736	35576	41277	45517
TFS016	16	1070	1369	1591	1742
TFS017	16	3975	4321	4985	5458
TFS018	16	36644	39782	46120	50823
TFS019	16	18775	20402	23631	26063
TFS020	16	1280	1350	1556	1722
TFS021	16	457	497	516	473
TFS022	16	346	348	342	268
TFS023	16	735	928	1084	1187
TFS024	16	713	920	1067	1174
TFS025	16	18583	20300	23557	25934
TFS026	16	2486	2662	3006	3198
TFS027			N/A		
TFS028	16	112	150	175	206

Table 6.4: '''Do Minimum''' AADT Forecast Flows

6.2.6 The ''Do Minimum'' assignments demonstrate that whilst there is significant traffic growth over the modelled period, this does not appear to engender a rerouting of traffic in order to minimise travel delay. This is symptomatic of the fact that while junction delays clearly increase with traffic volume increases, they do not reach a level where they present a deterrent to movement. Count site TFS027 represents the new Link Road between Junction 16 and Junction 16a, which only features in the ''Do Something'' scenario.

6.2.7 Appendix 2 presents Figures for the AM peak, Inter Peak, PM peak and AADT ''Do Minimum'' modelled flows for the 3 forecast years (2022, 2037 and 2051) for the two preferred options at junctions 15 and 16.

7. DO-SOMETHING ASSIGNMENTS – CORE SCENARIO

7.1.1 The ‘‘Do Something’’ network for the core scenario has been developed by editing the ‘‘‘Do Minimum’’’ network to incorporate the two preferred junction improvements at junctions 15 and 16.

7.1.2 The 2022, 2037 and 2051 core scenario forecast matrices, described previously, were assigned to the two preferred option ‘‘Do Something’’ network models to produce the ‘‘Do Something’’ assignment forecast flows. These core scenario forecast flows are presented as AADT flows in Table 7.2 for Junction 15 and Table 7.3 for Junction 16.

7.1.3 These tables show the ‘‘Do Minimum’’ AADT flows alongside the ‘‘Do Something’’ AADT flows in order to provide a comparison between the two scenarios.

7.1.4 Table 7.1, below, provides a description of the information provided in the subsequent traffic forecast tables.

‘‘Do Something’’ Traffic Forecast Table Title Description	
TFS	Traffic Forecast Sites
DM AADT	‘‘‘Do Minimum’’’ AADT flows at each TFS
AADT	AADT at each TFS
Diff. to DM	Difference in AADT flows compared to the ‘‘‘Do Minimum’’’ AADT for each TFS
% Diff.	% Difference of AADT flows

Table 7.1: ‘‘Do Something’’ Traffic Forecast Table Title Descriptions

7.1.5 Appendix 3 presents Figures for the AM peak, Inter Peak, PM peak and AADT ‘‘Do Something’’ modelled flows for the Core Scenario for the 3 forecast years (2022, 2037 and 2051) for the two preferred options at junctions 15 and 16.

7.2 Traffic Forecasts – Junction 15 Preferred Option – Core Scenario

J15 PREF OPTION	2016	2022				2037				2051			
Traffic Forecast Sites	Base AADT	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.
TFS001	34251	37066	37066	0	0	42933	42933	0	0	47241	47241	0	0
TFS002	1481	1551	1527	-24	-2	1668	1639	-28	-2	1742	1711	-31	-2
TFS003	1995	2170	2029	-142	-7	2440	2339	-101	-4	2621	2556	-65	-2
TFS004	30775	33345	33511	166	0	38825	38954	129	0	42879	42974	95	0
TFS005	1148	1248	1248	1	0	1444	1445	1	0	1584	1587	4	0
TFS006	1148	1248	1248	1	0	1444	1445	1	0	1584	1587	3	0
TFS007	3476	3722	3556	-166	-4	4108	3979	-129	-3	4363	4267	-96	-2
TFS008	3764	4167	4049	-118	-3	4865	4792	-73	-2	5355	5325	-31	-1
TFS009	3828	4320	4487	167	4	5170	5300	130	3	5794	5887	93	2
TFS010	5306	5985	6151	166	3	7101	7230	129	2	7919	8015	96	1
TFS011	35079	38084	38084	0	0	44107	44107	0	0	48522	48522	0	0
TFS012	35079	38084	38084	0	0	44107	44107	0	0	48522	48522	0	0
TFS013	1181	1271	1270	-1	0	1465	1465	-1	0	1600	1598	-3	0
TFS014	1063	1158	1158	0	0	1274	1297	23	2	1284	1290	6	0
TFS015	32736	35576	35576	0	0	41277	41254	-23	0	45517	45513	-3	0
TFS016	1070	1369	1369	0	0	1591	1591	0	0	1742	1745	2	0
TFS017	3975	4321	4321	0	0	4985	4985	0	0	5458	5458	0	0
TFS018	36644	39782	39782	0	0	46120	46097	-23	0	50823	50817	-6	0
TFS019	18775	20402	20402	0	0	23631	23607	-23	0	26063	26057	-6	0
TFS020	1280	1350	1350	0	0	1556	1556	0	0	1722	1720	-2	0
TFS021	457	497	497	0	0	516	540	23	4	473	477	3	1
TFS022	346	348	348	0	0	342	366	23	7	268	274	6	2
TFS023	735	928	928	0	0	1084	1084	0	0	1187	1189	2	0
TFS024	713	920	920	0	0	1067	1067	0	0	1174	1174	0	0
TFS025	18583	20300	20300	0	0	23557	23557	0	0	25934	25934	0	0
TFS026	2486	2662	2662	0	0	3006	3029	23	1	3198	3201	3	0
TFS027	N/A	N/A				N/A				N/A			
TFS028	112	150	150	0	0	175	175	0	0	206	204	-2	-1

Table 7.2: Traffic Forecasts – Junction 15 Preferred Option – Core Scenario

7.2.1 The above table reflects the "Do Something" network changes around Junction 15. In this scenario there are no changes to the 'Do Minimum' network around Junction 16/16a and therefore no traffic changes are shown for this area of the network.

7.2.2 The comparison between "Do Minimum" and "Do Something" scenarios show similar patterns of change for all forecast years modelled. This manifests itself as a small rerouting of local traffic from the north-eastern part of Llanfairfechan travelling through the town to Junction 14 in the 'Do Minimum' scenario, changing to use the upgraded Junction 15. This is due to the reduction in delay associated with accessing the A55 at Junction 15.

7.3 Traffic Forecasts – Junction 16 Preferred Option – Core Scenario

J16 PREF OPTION	2016	2022				2037				2051			
Traffic Forecast Sites	Base AADT	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.
TFS001	34251	37066	37066	0	0	42933	42933	0	0	47241	47241	0	0
TFS002	1481	1551	1552	0	0	1668	1668	0	0	1742	1745	3	0
TFS003	1995	2170	2172	2	0	2440	2440	0	0	2621	2621	0	0
TFS004	30775	33345	33343	-2	0	38825	38824	0	0	42879	42875	-3	0
TFS005	1148	1248	1248	0	0	1444	1444	0	0	1584	1584	0	0
TFS006	1148	1248	1248	0	0	1444	1444	0	0	1584	1584	0	0
TFS007	3476	3722	3723	2	0	4108	4108	0	0	4363	4366	3	0
TFS008	3764	4167	4168	1	0	4865	4865	0	0	5355	5352	-3	0
TFS009	3828	4320	4318	-2	0	5170	5170	0	0	5794	5791	-3	0
TFS010	5306	5985	5983	-2	0	7101	7101	0	0	7919	7916	-3	0
TFS011	35079	38084	38084	0	0	44107	44107	0	0	48522	48522	0	0
TFS012	35079	38084	38084	0	0	44107	44107	0	0	48522	48522	0	0
TFS013	1181	1271	1271	0	0	1465	1465	0	0	1600	1600	0	0
TFS014	1063	1158	1280	122	11	1274	1477	203	16	1284	1622	338	26
TFS015	32736	35576	35459	-117	0	41277	41074	-203	0	45517	45191	-326	-1
TFS016	1070	1369	2869	1500	110	1591	3317	1726	108	1742	3639	1897	109
TFS017	3975	4321	4669	348	8	4985	5388	403	8	5458	5901	443	8
TFS018	36644	39782	37259	-2523	-6	46120	43145	-2975	-6	50823	47452	-3370	-7
TFS019	18775	20402	20596	194	1	23631	23795	164	1	26063	26130	67	0
TFS020	1280	1350	1346	-5	0	1556	1556	0	0	1722	1709	-12	-1
TFS021	457	497	266	-231	-46	516	317	-199	-39	473	356	-117	-25
TFS022	346	348	169	-179	-51	342	201	-142	-41	268	225	-43	-16
TFS023	735	928	576	-352	-38	1084	662	-422	-39	1187	634	-553	-47
TFS024	713	920	955	35	4	1067	1101	33	3	1174	1114	-59	-5
TFS025	18583	20300	20304	5	0	23557	23557	0	0	25934	25934	0	0
TFS026	2486	2662	2779	117	4	3006	3209	203	7	3198	3524	326	10
TFS027	N/A	N/A				N/A				N/A			
TFS028	112	150	2751	2601	1736	175	3181	3006	1719	206	3579	3372	1635

Table 7.3: Traffic Forecasts – Junction 16 Preferred Option – Core Scenario

7.3.1 The above table reflects the "Do Something" network changes around Junction 16 and Junction 16a. In this scenario there are no changes to the 'Do Minimum' network around Junction 15 and therefore no traffic changes are shown for this area of the network.

7.3.2 The comparison between 'Do Minimum' and "Do Something" scenarios show similar patterns of change for all forecast years modelled and this manifests itself as a rerouting of local traffic accessing the A55. The major change in the network relates to replacing the all-movements junction at Junction 16 with a restricted movements junction plus an all movements junction at Junction 16a. The two are connected in the 'Do Something' scheme by a Link Road running parallel to A55.

7.3.3 The main changes in local traffic routing consist of traffic travelling eastbound from A55 West to Penmaenmawr East and Dwygyfylchi exiting at Junction 15a and travelling through the town, instead of continuing to Junction 16. Traffic from Penmaenmawr East travelling eastbound to A55 East (Conwy, Llandudno etc.) continues along the Link Road to Junction 16a to reach A55. This is due to Junction 16 not accommodating these movements in the Do Something scheme. These changes in traffic flows manifest themselves as increases in traffic at site TFS016 (Conwy Road) and decreases on A55 at the parallel site TFS018.

7.3.4 Traffic travelling between Junction 16 and 16a bypasses Dwygyfylchi and uses the Link Road. There is a redistribution of local traffic movements in Dwygyfylchi to enable traffic wishing to travel east on A55 to reach Junction 16a instead of Junction 16, as currently.

7.3.5 The changes in traffic movements described above are reflected in the differences in traffic flows at the count sites shown in Table 7.3. At site TFS027 there is traffic on the Link Road in the "Do Something" but no comparison can be made with the 'Do Minimum' as this location does not exist in this network.

7.4 Summary

7.4.1 In general terms, the ''Do Something'' options make the A55 corridor more attractive for through traffic by removing the existing at-grade roundabouts and the inherent junction delays caused by vehicles needing to slow down to negotiate the intersections. Therefore, no reassignment away from the A55 with either of the forecast improvement options is shown in the modelling.

7.4.2 However, this is not the same for side road traffic which still accesses the strategic route through controlled junctions. The proposed improvements do, however, reduce the constraint for entry and access speeds are increased slightly, reducing delay.

8. LOW & HIGH GROWTH ASSESSMENT

8.1.1 In order to forecast the impact of transport schemes for appraisal, transport models with different sets of assumptions are produced and are used to predict the future benefits and costs of a scheme. Understanding the errors, associated uncertainty and what impact this may have on the analysis is required. Uncertainty around assumptions creates a risk that the scheme will not be as successful as forecast, or that the forecasts will hide some side effects (including some environmental and social impacts) which could occur.

8.1.2 This section discusses the two alternative forecast scenarios undertaken as part of the modelling to account for uncertainty in model assumptions over the forecast years.

8.1.3 The core scenario is intended to be the best foundation for decision-making given current evidence, however, there is no guarantee that the outcome will match the assumptions. Key questions are:

- Under low demand assumptions, is the intervention still economically viable; and
- Under high demand assumptions, is the intervention still effective in reducing congestion, or are there any adverse effects, e.g. on safety or the environment?

8.1.4 Most models will not be able to reflect the uncertainty of national trends such as GDP growth, fuel price trends and vehicle efficiency changes as they will be relying on the national models underlying NTEM. Therefore, it is best to test the impact of this uncertainty using a sensitivity test for low and high growth scenarios.

8.1.5 It may be appropriate to vary local assumptions about demand in the low and high growth scenarios, for example:

- In the **low growth scenario**, some of the less likely sources of growth that were included in the Core Scenario should be excluded; and
- In the **high growth scenario**, some of the most likely sources of growth that had not been included in the Core Scenario should be included.

8.1.6 To account for the uncertainty within the background traffic growth (presented in Section 5), traffic growth uncertainty factors have been derived in accordance with WebTAG guidance (Unit M4: 'Forecasting and Uncertainty') and have been applied to the core scenario growth rates to provide low and high growth estimates.

8.1.7 The formula for calculating the Low and High Growth factors is shown below:

Low & High Growth Factor = +/- √ (Y) x (P) (where P=0.025 or 2.5%)

8.1.8 Background traffic growth rates have been decreased (low growth scenario) or increased (high growth scenario) by 2.5% (P), multiplied by the square root of the number of forecast years (Y) from the base year (2016). This provides an adjusted background growth factor to account for uncertainty of traffic growth projections in NTEM.

8.1.9 Table 8.1 below presents the traffic growth uncertainty factors to be applied to the 2022, 2037 and 2051 core scenario matrices to account for the uncertainty of low and high growth estimates of background traffic within the model. These factors were calculated by applying the above formula to each forecast year and subtracting or adding from the base growth of 1 in line with WebTAG guidance.

Forecast Year	No. of Forecast Years from Base Year (Y)	SQRT (Y) x (P) P=0.025	Low Growth Factor	High Growth Factor
Base Year (2016)	1	0.025		
Opening Year (2022)	6	0.0612	0.9388	1.0612
Design Year (2037)	21	0.1146	0.8854	1.1146
Horizon Year (2051)	36	0.150	0.850	1.150

Table 8.1: Low & High Growth Uncertainty Factors

8.1.10 Tables 8.2 to 8.5 present the traffic forecasts for the low and high growth scenarios for the two preferred options at 2022, 2037 and 2051.

8.1.11 Appendix 4 presents drawings showing the AM peak, Inter Peak, PM peak and AADT ''Do Something'' modelled flows for the low and high growth scenarios for the two preferred options.

8.2 Traffic Forecasts – Junction 15 Preferred Option – Low Growth Scenario

J15 PREF OPTION	2016	2022				2037				2051			
Traffic Forecast Sites	Base AADT	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.
TFS001	34251	34798	34798	0	0	38013	38013	0	0	40155	40155	0	0
TFS002	1481	1498	1472	-26	-2	1552	1522	-29	-2	1585	1559	-26	-2
TFS003	1995	2044	1904	-139	-7	2155	2071	-84	-4	2202	2168	-34	-2
TFS004	30775	31256	31422	166	1	34306	34419	113	0	36368	36428	60	0
TFS005	1148	1171	1172	1	0	1279	1279	1	0	1346	1354	8	1
TFS006	1148	1171	1172	1	0	1279	1279	1	0	1346	1354	8	1
TFS007	3476	3542	3376	-166	-5	3706	3594	-113	-3	3787	3727	-60	-2
TFS008	3764	3877	3763	-114	-3	4227	4172	-55	-1	4422	4421	-1	0
TFS009	3828	4008	4174	167	4	4509	4622	114	3	4846	4899	53	1
TFS010	5306	5570	5736	166	3	6218	6331	113	2	6653	6713	60	1
TFS011	35079	35754	35754	0	0	39052	39052	0	0	41244	41244	0	0
TFS012	35079	35754	35754	0	0	39052	39052	0	0	41244	41244	0	0
TFS013	1181	1193	1193	-1	0	1298	1297	-1	0	1360	1353	-8	-1
TFS014	1063	1087	1087	0	0	1002	1005	3	0	1055	1055	0	0
TFS015	32736	33403	33398	-5	0	36672	36670	-3	0	38736	38736	0	0
TFS016	1070	1285	1285	0	0	1409	1409	0	0	1491	1492	0	0
TFS017	3975	4056	4056	0	0	4414	4414	0	0	4639	4640	0	0
TFS018	36644	37352	37346	-5	0	40960	40958	-3	0	43236	43236	0	0
TFS019	18775	19154	19154	0	0	21048	21045	-3	0	22190	22190	0	0
TFS020	1280	1263	1269	5	0	1378	1378	0	0	1453	1453	0	0
TFS021	457	462	467	5	1	332	334	3	1	355	355	0	0
TFS022	346	322	328	5	2	178	180	3	1	191	191	0	0
TFS023	735	871	871	0	0	960	960	0	0	1019	1019	0	0
TFS024	713	864	864	0	0	945	945	0	0	998	998	0	0
TFS025	18583	19062	19056	-5	0	20857	20857	0	0	22044	22044	0	0
TFS026	2486	2494	2500	5	0	2536	2539	3	0	2671	2671	0	0
TFS027	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TFS028	112	140	140	0	0	155	155	0	0	165	164	0	0

Table 8.2: Traffic Forecasts – Junction 15 Preferred Option – Low Growth Scenario

8.2.1 The above table reflects the "Do Something" network changes around Junction 15. In this scenario there are no changes to the 'Do Minimum' network around Junction 16/16a and therefore no traffic changes are shown for this area of the network.

8.2.2 The comparison between 'Do Minimum' and "Do Something" scenarios show similar patterns of change for all forecast years modelled and this manifests itself as a small rerouting of local traffic from the north-eastern part of Llanfairfechan travelling through the town to Junction 14 in the 'Do Minimum' scenario, changing to use the upgraded Junction 15. This is due to the reduction in delay associated with accessing the A55 at Junction 15.

8.3 Traffic Forecasts – Junction 16 Preferred Option – Low Growth Scenario

J16 PREF OPTION	2016	2022				2037				2051			
Traffic Forecast Sites	Base AADT	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.
TFS001	34251	34798	34798	0	0	38013	38013	0	0	40155	40155	0	0
TFS002	1481	1498	1496	-2	0	1552	1552	0	0	1585	1585	0	0
TFS003	1995	2044	2044	0	0	2155	2155	0	0	2202	2202	0	0
TFS004	30775	31256	31258	2	0	34306	34306	0	0	36368	36368	0	0
TFS005	1148	1171	1171	0	0	1279	1279	0	0	1346	1346	0	0
TFS006	1148	1171	1171	0	0	1279	1279	0	0	1346	1346	0	0
TFS007	3476	3542	3540	-2	0	3706	3707	0	0	3787	3787	0	0
TFS008	3764	3877	3879	2	0	4227	4227	0	0	4422	4422	0	0
TFS009	3828	4008	4010	2	0	4509	4508	0	0	4846	4846	0	0
TFS010	5306	5570	5572	2	0	6218	6218	0	0	6653	6653	0	0
TFS011	35079	35754	35754	0	0	39052	39052	0	0	41244	41244	0	0
TFS012	35079	35754	35754	0	0	39052	39052	0	0	41244	41244	0	0
TFS013	1181	1193	1193	0	0	1298	1298	0	0	1360	1360	0	0
TFS014	1063	1087	1202	115	11	1002	1308	305	30	1055	1379	324	31
TFS015	32736	33403	33289	-115	0	36672	36367	-305	-1	38736	38412	-324	-1
TFS016	1070	1285	2693	1408	110	1409	2937	1528	108	1491	3093	1602	107
TFS017	3975	4056	4383	327	8	4414	4770	356	8	4639	5015	376	8
TFS018	36644	37352	34978	-2373	-6	40960	38201	-2760	-7	43236	40334	-2902	-7
TFS019	18775	19154	19335	182	1	21048	21068	20	0	22190	22211	21	0
TFS020	1280	1263	1263	0	0	1378	1378	0	0	1453	1453	0	0
TFS021	457	462	250	-212	-46	332	281	-51	-15	355	303	-52	-15
TFS022	346	322	159	-164	-51	178	178	0	0	191	191	0	0
TFS023	735	871	541	-330	-38	960	586	-374	-39	1019	542	-477	-47
TFS024	713	864	897	33	4	945	974	29	3	998	951	-47	-5
TFS025	18583	19062	19063	1	0	20857	20857	0	0	22044	22044	0	0
TFS026	2486	2494	2609	115	5	2536	2842	305	12	2671	2995	324	12
TFS027	N/A	N/A	2583	N/A	N/A	N/A	2816	N/A	N/A	N/A	3038	N/A	N/A
TFS028	112	140	92	-49	-35	155	104	-51	-33	165	112	-52	-32

Table 8.3: Traffic Forecasts – Junction 16 Preferred Option – Low Growth Scenario

8.3.1 The above table reflects the "Do Something" network changes around Junction 16 and Junction 16a. In this scenario there are no changes to the 'Do Minimum' network around Junction 15 and therefore no traffic changes are shown for this area of the network.

8.3.2 The comparison between 'Do Minimum' and "Do Something" scenarios show similar patterns of change for all forecast years modelled and this manifests itself as a rerouting of local traffic accessing the A55. The major change in the network relates to replacing the all-movements junction at Junction 16 with a restricted movements junction plus an all movements junction at Junction 16a. The two are connected in the 'Do Something' scheme by a Link Road running parallel to A55.

8.3.3 The main changes in local traffic routing consist of traffic travelling from A55 West to Penmaenmawr East exiting at Junction 15a and travelling through the town, instead of continuing

to Junction 16. Traffic from Penmaenmawr East travelling to A55 East continues along the Link Road to Junction 16a to reach A55.

8.3.4 Traffic travelling between Junction 16 and 16a bypasses Dwygyfylchi and uses the Link Road. There is a redistribution of local traffic movements in Dwygyfylchi to enable traffic wishing to travel east on A55 to reach Junction 16a instead of Junction 16, as currently.

8.3.5 The changes in traffic movements described above are reflected in the differences in traffic flows at the count sites shown in Table 7.3. At site TFS027 there is traffic on the Link Road in the "Do Something" but no comparison can be made with the 'Do Minimum' as this location does not exist in this network.

8.4 Traffic Forecasts – Junction 15 Preferred Option – High Growth Scenario

J15 PREF OPTION	2016	2022				2037				2051			
Traffic Forecast Sites	Base AADT	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.
TFS001	34251	39335	39335	0	0	47853	47853	0	0	54328	54328	0	0
TFS002	1481	1606	1576	-30	-2	1779	1747	-32	-2	1911	1882	-29	-2
TFS003	1995	2296	2153	-143	-6	2720	2608	-113	-4	3064	2942	-122	-4
TFS004	30775	35433	35606	173	0	43354	43498	144	0	49352	49503	151	0
TFS005	1148	1324	1325	1	0	1609	1611	1	0	1823	1824	1	0
TFS006	1148	1324	1325	1	0	1610	1611	1	0	1823	1824	1	0
TFS007	3476	3902	3729	-173	-4	4499	4355	-144	-3	4976	4824	-151	-3
TFS008	3764	4454	4341	-114	-3	5503	5421	-82	-1	6302	6211	-91	-1
TFS009	3828	4632	4806	174	4	5843	5988	145	2	6707	6859	153	2
TFS010	5306	6398	6571	173	3	7995	8139	144	2	9152	9300	148	2
TFS011	35079	40415	40415	0	0	49162	49162	0	0	55801	55801	0	0
TFS012	35079	40415	40415	0	0	49162	49162	0	0	55801	55801	0	0
TFS013	1181	1349	1348	-1	0	1633	1633	0	0	1839	1843	5	0
TFS014	1063	1229	1229	0	0	1479	1479	0	0	1675	1674	-1	0
TFS015	32736	37752	37741	-11	0	45916	45920	3	0	52040	52030	-10	0
TFS016	1070	1452	1452	0	0	1742	1745	3	0	1849	1807	-42	-2
TFS017	3975	4585	4585	0	0	5557	5557	0	0	6143	6183	40	1
TFS018	36644	42216	42204	-11	0	51346	51346	0	0	58115	58189	75	0
TFS019	18775	21651	21651	0	0	26279	26280	0	0	29418	29474	56	0
TFS020	1280	1434	1445	11	1	1766	1763	-3	0	2086	2098	11	1
TFS021	457	528	540	11	2	667	664	-3	-1	983	952	-30	-3
TFS022	346	370	382	11	3	441	441	0	0	704	675	-29	-4
TFS023	735	985	985	0	0	1177	1180	3	0	1468	1458	-11	-1
TFS024	713	976	976	0	0	1190	1190	0	0	1576	1592	16	1
TFS025	18583	21541	21529	-11	0	26256	26256	0	0	29822	29824	1	0
TFS026	2486	2825	2837	11	0	3442	3439	-3	0	3982	3992	10	0
TFS027	N/A	N/A				N/A				N/A			
TFS028	112	159	159	0	0	227	224	-3	-1	279	278	-1	0

Table 8.4: Traffic Forecasts – Junction 15 Preferred Option – High Growth Scenario

8.4.1 The above table reflects the "Do Something" network changes around Junction 15. In this scenario there are no changes to the "Do Minimum" network around Junction 16/16a and therefore no traffic changes are shown for this area of the network.

8.4.2 The comparison between "Do Minimum" and "Do Something" scenarios show similar patterns of change for all forecast years modelled and this manifests itself as a small rerouting of local traffic from the north-eastern part of Llanfairfechan travelling through the town to Junction 14 in the "Do Minimum" scenario, changing to use the upgraded Junction 15. This is due to the reduction in delay associated with accessing the A55 at Junction 15.

8.5 Traffic Forecasts – Junction 16 Preferred Option – High Growth Scenario

J16 PREF OPTION	2016	2022				2037				2051			
Traffic Forecast Sites	Base AADT	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.	DM AADT	DS AADT	Diff. to DM	% Diff.
TFS001	34251	39335	39335	0	0	47853	47853	0	0	54328	54328	0	0
TFS002	1481	1606	1606	0	0	1779	1781	2	0	1911	1885	-26	-1
TFS003	1995	2296	2296	0	0	2720	2720	0	0	3064	3081	16	1
TFS004	30775	35433	35433	0	0	43354	43352	-2	0	49352	49362	10	0
TFS005	1148	1324	1324	0	0	1609	1609	0	0	1823	1841	18	1
TFS006	1148	1324	1324	0	0	1610	1609	0	0	1823	1841	17	1
TFS007	3476	3902	3902	0	0	4499	4501	2	0	4976	4966	-10	0
TFS008	3764	4454	4455	0	0	5503	5501	-2	0	6302	6329	27	0
TFS009	3828	4632	4633	0	0	5843	5841	-2	0	6707	6700	-6	0
TFS010	5306	6398	6399	0	0	7995	7993	-2	0	9152	9165	13	0
TFS011	35079	40415	40415	0	0	49162	49162	0	0	55801	55801	0	0
TFS012	35079	40415	40415	0	0	49162	49162	0	0	55801	55801	0	0
TFS013	1181	1349	1349	0	0	1633	1633	0	0	1839	1848	9	1
TFS014	1063	1229	1358	129	11	1479	1646	167	11	1675	1895	220	13
TFS015	32736	37752	37629	-123	0	45916	45781	-135	0	52040	51940	-100	0
TFS016	1070	1452	3044	1592	110	1742	3697	1956	112	1849	4185	2336	126
TFS017	3975	4585	4955	370	8	5557	6005	449	8	6143	6786	643	10
TFS018	36644	42216	39539	-2676	-6	51346	48089	-3257	-6	58115	54540	-3574	-6
TFS019	18775	21651	21857	206	1	26279	26522	242	1	29418	30019	601	2
TFS020	1280	1434	1428	-6	0	1766	1734	-32	-2	2086	1966	-121	-6
TFS021	457	528	282	-246	-47	667	353	-314	-47	983	439	-543	-55
TFS022	346	370	179	-191	-52	441	224	-217	-49	704	289	-416	-59
TFS023	735	985	612	-374	-38	1177	725	-451	-38	1468	720	-749	-51
TFS024	713	976	1014	37	4	1190	1214	24	2	1576	1272	-304	-19
TFS025	18583	21541	21547	6	0	26256	26256	0	0	29822	29824	1	0
TFS026	2486	2825	2949	123	4	3442	3577	135	4	3982	4082	100	3
TFS027	N/A	N/A	2919	N/A	N/A	N/A	3558	N/A	N/A	N/A	4124	N/A	N/A
TFS028	112	159	104	-55	-35	227	131	-96	-42	279	152	-127	-46

Table 8.5: Traffic Forecasts – Junction 16 Preferred Option – High Growth Scenario

8.5.1 The above table reflects the ''Do Something'' network changes around Junction 16 and Junction 16a. In this scenario there are no changes to the ''Do Minimum'' network around Junction 15 and therefore no traffic changes are shown for this area of the network.

8.5.2 The comparison between ''Do Minimum'' and ''Do Something'' scenarios show similar patterns of change for all forecast years modelled and this manifests itself as a rerouting of local traffic accessing the A55. The major change in the network relates to replacing the all-movements junction at Junction 16 with a restricted movements junction, plus an all movements junction at Junction 16a. The two are connected in the ''Do Something'' scheme by a Link Road running parallel to A55.

8.5.3 The main changes in local traffic routing consist of traffic travelling from A55 West to Penmaenmawr East exiting at Junction 15a and travelling through the town, instead of continuing to Junction 16. Traffic from Penmaenmawr East travelling to A55 East continues along the Link Road to Junction 16a to reach A55.

8.5.4 Traffic travelling between Junction 16 and 16a bypasses Dwygyfylchi and uses the Link Road. There is a redistribution of local traffic movements in Dwygyfylchi to enable traffic wishing to travel east on A55 to reach Junction 16a instead of Junction 16, as currently.

8.5.5 The changes in traffic movements described above are reflected in the differences in traffic flows at the count sites shown in Table 7.3. At site TFS027 there is traffic on the Link Road in the ''Do Something'' but no comparison can be made with the ''Do Minimum'' as this location does not exist in this network.

9. SUMMER PEAK APPRAISAL

9.1.1 Due to the A55 being a recreational route, traffic flows are seasonal. Lower than average flows are observed throughout the Winter months and higher than average flows observed during the summer months and at Bank Holiday periods. In order to clarify this phenomenon and quantify the traffic flow changes, long-term Automatic Traffic Count data (ATC), within the study area, was obtained.

9.1.2 ATC traffic data was obtained from Transport for Wales (TfW) for a permanent count site at Penmaenbach on A55. Data for a full year was available for 2017 and this was used for the assessment. The data was split for different vehicle types, hourly flows, daily flows, monthly flows and yearly flows. Different summaries were obtained for the differing directions of travel in order to determine if there was noticeable tidality in the data.

9.1.3 Analysis of the ATC data confirmed that traffic flow levels were seasonal, with the highest flows being observed in August. When compared to average monthly traffic flow levels, the data showed that flows in August were 22% higher for eastbound traffic and 21% higher for westbound traffic.

9.1.4 This data has been used to factor the forecast matrices for 2022, 2037 and 2051 to represent peak summer conditions. The factored matrices have formed part of the operational assessment modelling using the Paramics models. These assessments were carried out for the core scenario and the summer peak scenario for the forecast years in order to establish the nature of potential delays during construction of the scheme and as a comparison between the ‘‘Do Minimum’’ and ‘‘Do Something’’ operational assessments. These model assessments are reported in the Paramics LMVR and Traffic Forecasting Report.

9.1.5 More detailed analysis of the A55 ATC data will be undertaken to determine how peak hourly flows throughout the year can be allocated to peak periods for analysis and economic appraisal. This process will follow WebTAG guidelines and provide a more accurate refinement to the average allocation used previously for the TUBA economic appraisal. This process will be further reported in the A55 Economic Appraisal Report.

10. CONCLUSION

10.1.1 The A55TM presents an appropriate assessment of the likely traffic impacts of the preferred improvements for A55 junctions 15 and 16. The modelling process follows and builds on the modelling carried out for the Base Model assessment.

10.1.2 The traffic forecasting process has followed appropriate WelTAG guidance and DfT WebTAG guidance for traffic forecasting models. Reference is made to the guidance, in this report, at the appropriate Stages of model development.

10.1.3 The preferred improvements considered in this appraisal, demonstrate overall benefits in terms of traffic movements compared to the ''Do Minimum'' situation.

10.1.4 There is a reduction in queuing delay and journey travel time for all options assessed. Average vehicle speeds throughout the study area are therefore slightly increased by the adoption of the highway improvements.

10.1.5 The outputs from this SATURN modelling process will be taken forward to the economic appraisal of the preferred schemes.

10.1.6 Changes in traffic flow forecasts resulting from this assessment will be used to inform the environmental impact assessments and WelTAG appraisal of the scheme improvement options.

APPENDIX 1
COMMITTED DEVELOPMENTS - TRIP GENERATION & TRICS DATA

A55
COMMITTED DEVELOPMENTS

Council	Conwy
Development	Residential
Reference	CONRES001

Details

App. No.	0/41960
Development	100 dwellings
Location	Sychnant Pass Road, Conwy
Model Year	2022, 2037, 2051

Trip Generation

		Trip Rates		Trips	100
Time Range		**Arr**	**Dep**	**Arr**	**Dep**
07:00	08:00			0	0
08:00	**09:00**	**0.174**	**0.548**	**17**	**55**
09:00	10:00			0	0
10:00	11:00			0	0
11:00	12:00			0	0
12:00	13:00	0.212	0.281	21	28
13:00	14:00			0	0
14:00	15:00			0	0
15:00	16:00			0	0
16:00	17:00			0	0
17:00	**18:00**	**0.463**	**0.296**	**46**	**30**
18:00	19:00			0	0

Trip rates taken from development TA

Final Arriving / Departing Trips

CONRES001	Within Model					
Trips	**Trip Rate**	**Arr**	**Trip Rate**	**Dep**	**Trip Rate**	**Total**
AM Peak	0.174	17	0.548	55	0.722	72
Inter Peak	0.212	21	0.281	28	0.494	49
PM Peak	0.463	46	0.296	30	0.759	76
					1.975	

A55
COMMITTED DEVELOPMENTS

Council	Conwy
Development	Residential
Reference	CONRES002

Details

App. No.	0/42919
Development	17 dwellings (8 Apartments / 9 Houses)
Location	Penmaenmawr Road, Llanfairfechan
Model Year	2022, 2037, 2051

Trip Generation

		Trip Rates		Trips	17
Time Range		**Arr**	**Dep**	**Arr**	**Dep**
07:00	08:00	0.082	0.283	1	5
08:00	**09:00**	**0.171**	**0.389**	**3**	**7**
09:00	10:00	0.17	0.237	3	4
10:00	11:00	0.159	0.189	3	3
11:00	12:00	0.219	0.211	4	4
12:00	13:00	0.203	0.195	3	3
13:00	14:00	0.217	0.204	4	3
14:00	15:00	0.216	0.206	4	4
15:00	16:00	0.262	0.219	4	4
16:00	17:00	0.305	0.204	5	3
17:00	**18:00**	**0.376**	**0.231**	**6**	**4**
18:00	19:00	0.278	0.193	5	3
		2.658	**2.761**		

Used same trip rates as CONRES010

Final Arriving / Departing Trips

CONRES002	Within Model					
Trips	**Trip Rate**	**Arr**	**Trip Rate**	**Dep**	**Trip Rate**	**Total**
AM Peak	0.171	3	0.389	7	0.560	10
Inter Peak	0.219	4	0.208	4	0.427	7
PM Peak	0.376	6	0.231	4	0.607	11
					1.594	

A55
COMMITTED DEVELOPMENTS

Council	Conwy
Development	Residential
Reference	CONRES003

Details

App. No.	0/30397
Development	23 dwellings (23 Apartments in 2 blocks)
Location	Conway Road, Penmaenmawr
Model Year	2022, 2037, 2051

Trip Generation

		Trip Rates		Trips	23
Time Range		**Arr**	**Dep**	**Arr**	**Dep**
07:00	08:00	0.082	0.283	2	7
08:00	**09:00**	**0.171**	**0.389**	**4**	**9**
09:00	10:00	0.17	0.237	4	5
10:00	11:00	0.159	0.189	4	4
11:00	12:00	0.219	0.211	5	5
12:00	13:00	0.203	0.195	5	4
13:00	14:00	0.217	0.204	5	5
14:00	15:00	0.216	0.206	5	5
15:00	16:00	0.262	0.219	6	5
16:00	17:00	0.305	0.204	7	5
17:00	**18:00**	**0.376**	**0.231**	**9**	**5**
18:00	19:00	0.278	0.193	6	4
		2.658	**2.761**		

Used same trip rates as CONRES010

Final Arriving / Departing Trips

CONRES003	Within Model					
Trips	**Trip Rate**	**Arr**	**Trip Rate**	**Dep**	**Trip Rate**	**Total**
AM Peak	0.171	4	0.389	9	0.560	13
Inter Peak	0.219	5	0.208	5	0.427	10
PM Peak	0.376	9	0.231	5	0.607	14
					1.594	

A55
COMMITTED DEVELOPMENTS

Council	Conwy
Development	Residential
Reference	CONRES004

Details

App. No.	0/41558
Development	28 dwellings (7 Houses / 4 Flats / 17 Apartments)
Location	Penmaenmawr Road, Llanfairfechan
Model Year	2022, 2037, 2051

Trip Generation

		Trip Rates		Trips	28
Time Range		**Arr**	**Dep**	**Arr**	**Dep**
07:00	08:00	0.104	0.262	3	7
08:00	**09:00**	**0.156**	**0.404**	**4**	**11**
09:00	10:00	0.175	0.213	5	6
10:00	11:00	0.135	0.173	4	5
11:00	12:00	0.191	0.201	5	6
12:00	13:00	0.182	0.156	5	4
13:00	14:00	0.191	0.175	5	5
14:00	15:00	0.189	0.189	5	5
15:00	16:00	0.243	0.175	7	5
16:00	17:00	0.314	0.184	9	5
17:00	**18:00**	**0.407**	**0.149**	**11**	**4**
18:00	19:00	0.251	0.132	7	4
		2.538	**2.413**		

Used same trip rates as CONRES010

Final Arriving / Departing Trips

CONRES004	Within Model					
Trips	**Trip Rate**	**Arr**	**Trip Rate**	**Dep**	**Trip Rate**	**Total**
AM Peak	0.156	4	0.404	11	0.560	16
Inter Peak	0.203	6	0.183	5	0.386	11
PM Peak	0.407	11	0.149	4	0.556	16
					1.502	

A55
COMMITTED DEVELOPMENTS

Council	Conwy
Development	Residential
Reference	CONRES005

Details

App. No.	0/41637
Development	46 dwellings
Location	Ysguborwen Road, Dwygyfylchi
Model Year	2022, 2037, 2051

Trip Generation

		Trip Rates		Trips	46
Time Range		**Arr**	**Dep**	**Arr**	**Dep**
07:00	08:00	0.104	0.262	5	12
08:00	**09:00**	**0.156**	**0.404**	**7**	**19**
09:00	10:00	0.175	0.213	8	10
10:00	11:00	0.135	0.173	6	8
11:00	12:00	0.191	0.201	9	9
12:00	13:00	0.182	0.156	8	7
13:00	14:00	0.191	0.175	9	8
14:00	15:00	0.189	0.189	9	9
15:00	16:00	0.243	0.175	11	8
16:00	17:00	0.314	0.184	14	8
17:00	**18:00**	**0.407**	**0.149**	**19**	**7**
18:00	19:00	0.251	0.132	12	6
		2.538	**2.413**		

Trip rates taken from development TA

Final Arriving / Departing Trips

CONRES005	Within Model					
Trips	**Trip Rate**	**Arr**	**Trip Rate**	**Dep**	**Trip Rate**	**Total**
AM Peak	0.156	7	0.404	19	0.560	26
Inter Peak	0.203	9	0.183	8	0.386	18
PM Peak	0.407	19	0.149	7	0.556	26
					1.502	

TRICS DATA

USED TO CALCULATE TRIP GENERATION FOR COMMITTED DEVELOPMENT CONRES001

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	SC	SURREY	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	NF	NORFOLK	1 days
	SF	SUFFOLK	2 days
05	**EAST MIDLANDS**		
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	2 days
	WM	WEST MIDLANDS	2 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NE	NORTH EAST LINCOLNSHIRE	1 days
	NY	NORTH YORKSHIRE	3 days
	SY	SOUTH YORKSHIRE	1 days
08	**NORTH WEST**		
	CH	CHESHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	1 days
10	**WALES**		
	CF	CARDIFF	1 days
11	**SCOTLAND**		
	AD	ABERDEEN CITY	1 days
	FA	FALKIRK	1 days
	FI	FIFE	1 days
	HI	HIGHLAND	2 days
	SR	STIRLING	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of dwellings
Actual Range:	52 to 196 (units:)
Range Selected by User:	50 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/06 to 20/05/14

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	9 days
Tuesday	5 days
Wednesday	4 days
Thursday	3 days
Friday	7 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	28 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	15
Edge of Town	12

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	23
Out of Town	1
No Sub Category	4

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3	28 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	3 days
5,001 to 10,000	7 days
10,001 to 15,000	3 days
15,001 to 20,000	9 days
20,001 to 25,000	4 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	4 days
50,001 to 75,000	3 days
75,001 to 100,000	5 days
100,001 to 125,000	6 days
125,001 to 250,000	5 days
250,001 to 500,000	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	7 days
1.1 to 1.5	20 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	28 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 **AD-03-A-01** **SEMI-DETACHED** **ABERDEEN CITY**
SPRINGFIELD ROAD

ABERDEEN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 59
Survey date: FRIDAY *18/05/12* *Survey Type: MANUAL*

2 **CB-03-A-04** **SEMI DETACHED** **CUMBRIA**
MOORCLOSE ROAD
SALTERBACK
WORKINGTON
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: FRIDAY *24/04/09* *Survey Type: MANUAL*

3 **CF-03-A-02** **MIXED HOUSES** **CARDIFF**
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY *05/10/07* *Survey Type: MANUAL*

4 **CH-03-A-06** **SEMI-DET./ BUNGALOWS** **CHESHIRE**
CREWE ROAD

CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY *14/10/08* *Survey Type: MANUAL*

5 **CW-03-A-02** **SEMI D./ DETATCHED** **CORNWALL**
BOSVEAN GARDENS

TRURO
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: TUESDAY *18/09/07* *Survey Type: MANUAL*

6 **FA-03-A-02** **MIXED HOUSES** **FALKIRK**
ROSEBANK AVENUE & SPRINGFIELD DRIVE

FALKIRK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 161
Survey date: WEDNESDAY *29/05/13* *Survey Type: MANUAL*

7 **FI-03-A-03** **MIXED HOUSES** **FIFE**
WOODMILL ROAD

DUNFERMLINE
Edge of Town
Residential Zone
Total Number of dwellings: 155
Survey date: MONDAY *30/04/07* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8 **HI-03-A-11** **BUNGALOWS** **HIGHLAND**
STEVENSON ROAD
INSHES
INVERNESS
Edge of Town
Residential Zone
Total Number of dwellings: 85
Survey date: MONDAY *05/06/06* *Survey Type: MANUAL*

9 **HI-03-A-14** **SEMI-DETACHED** **HIGHLAND**
CALEDONIAN ROAD
DALNEIGH
INVERNESS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: FRIDAY *13/05/11* *Survey Type: MANUAL*

10 **LN-03-A-01** **MIXED HOUSES** **LINCOLNSHIRE**
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY *15/05/07* *Survey Type: MANUAL*

11 **LN-03-A-02** **MIXED HOUSES** **LINCOLNSHIRE**
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY *14/05/07* *Survey Type: MANUAL*

12 **NE-03-A-03** **PRIVATE HOUSES** **NORTH EAST LINCOLNSHIRE**
STATION ROAD

SCUNTHORPE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 180
Survey date: TUESDAY *20/05/14* *Survey Type: MANUAL*

13 **NF-03-A-02** **HOUSES & FLATS** **NORFOLK**
DEREHAM ROAD

NORWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 98
Survey date: MONDAY *22/10/12* *Survey Type: MANUAL*

14 **NT-03-A-03** **SEMI DETACHED** **NOTTINGHAMSHIRE**
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY *28/06/06* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

15 **NY-03-A-06** **BUNGALOWS & SEMI DET.** **NORTH YORKSHIRE**
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY *14/10/11* *Survey Type: MANUAL*

16 **NY-03-A-09** **MIXED HOUSING** **NORTH YORKSHIRE**
GRAMMAR SCHOOL LANE

NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

17 **NY-03-A-10** **HOUSES AND FLATS** **NORTH YORKSHIRE**
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: TUESDAY *17/09/13* *Survey Type: MANUAL*

18 **SC-03-A-04** **DETACHED & TERRACED** **SURREY**
HIGH ROAD

BYFLEET
Edge of Town
Residential Zone
Total Number of dwellings: 71
Survey date: THURSDAY *23/01/14* *Survey Type: MANUAL*

19 **SF-03-A-01** **SEMI DETACHED** **SUFFOLK**
A1156 FELIXSTOWE ROAD
RACECOURSE
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 77
Survey date: WEDNESDAY *23/05/07* *Survey Type: MANUAL*

20 **SF-03-A-03** **MIXED HOUSES** **SUFFOLK**
BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS
Edge of Town
Out of Town
Total Number of dwellings: 101
Survey date: MONDAY *15/05/06* *Survey Type: MANUAL*

21 **SH-03-A-04** **TERRACED** **SHROPSHIRE**
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY *11/06/09* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

22 **SH-03-A-05** **SEMI-DETACHED/ TERRACED** **SHROPSHIRE**
SANDCROFT
SUTTON HILL
TELFORD
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

23 **SR-03-A-01** **DETACHED** **STIRLING**
BENVIEW

STIRLING
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: MONDAY *23/04/07* *Survey Type: MANUAL*

24 **SY-03-A-01** **SEMI DETACHED HOUSES** **SOUTH YORKSHIRE**
A19 BENTLEY ROAD
BENTLEY RISE
DONCASTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

25 **WL-03-A-01** **SEMI D./ TERRACED W. BASSETT** **WILTSHIRE**
MAPLE DRIVE

WOOTTON BASSETT
Edge of Town
Residential Zone
Total Number of dwellings: 99
Survey date: MONDAY *02/10/06* *Survey Type: MANUAL*

26 **WM-03-A-01** **TERRACED** **WEST MIDLANDS**
FOLESHILL ROAD
FOLESHILL
COVENTRY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 79
Survey date: FRIDAY *03/02/06* *Survey Type: MANUAL*

27 **WM-03-A-03** **MIXED HOUSING** **WEST MIDLANDS**
BASELEY WAY
ROWLEYS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 84
Survey date: MONDAY *24/09/07* *Survey Type: MANUAL*

28 **WO-03-A-03** **DETACHED** **WORCESTERSHIRE**
BLAKEBROOK
BLAKEBROOK
KIDDERMINSTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY *05/05/06* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Ranking Type: **TOTALS** Time Range: 08:00-09:00

15th Percentile = No. **24** CH-03-A-06 Tot: 0.403

85th Percentile = No. **5** FI-03-A-03 Tot: 0.722

Median Values		Mean Values	
Arrivals:	0.117	Arrivals:	0.142
Departures:	0.393	Departures:	0.382
Totals:	0.510	Totals:	0.524

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces
								Arrivals	Departures	Totals	Per Dwelling
1	SR-03-A-01	DETACHED	STIRLING	STIRLING	115	Mon	23/04/07	0.165	0.678	0.843	2.86
2	WO-03-A-03	DETACHED	KIDDERMINSTER	WORCESTERSHIRE	138	Fri	05/05/06	0.203	0.543	0.746	3.14
3	SH-03-A-04	TERRACED	SHREWSBURY	SHROPSHIRE	108	Thu	11/06/09	0.287	0.454	0.741	1.86
4	WM-03-A-03	MIXED HOUSING	COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.321	0.405	0.726	2.60
5	**FI-03-A-03**	**MIXED HOUSES**	**DUNFERMLINE**	**FIFE**	**155**	**Mon**	**30/04/07**	**0.174**	**0.548**	**0.722**	**2.84**
6	NY-03-A-10	HOUSES AND FLA	RIPON	NORTH YORKSHIRE	71	Tue	17/09/13	0.183	0.521	0.704	0.83
7	SF-03-A-03	MIXED HOUSES	BURY ST EDMUNDS	SUFFOLK	101	Mon	15/05/06	0.109	0.554	0.663	4.34
8	LN-03-A-01	MIXED HOUSES	LINCOLN	LINCOLNSHIRE	150	Tue	15/05/07	0.187	0.440	0.627	4.91
9	LN-03-A-02	MIXED HOUSES	LINCOLN	LINCOLNSHIRE	186	Mon	14/05/07	0.183	0.425	0.608	4.13
10	WM-03-A-01	TERRACED	COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.152	0.418	0.570	0.96
11	HI-03-A-11	BUNGALOWS	INVERNESS	HIGHLAND	85	Mon	05/06/06	0.129	0.424	0.553	1.59
12	CB-03-A-04	SEMI DETACHED	WORKINGTON	CUMBRIA	82	Fri	24/04/09	0.183	0.366	0.549	1.74
13	CF-03-A-02	MIXED HOUSES	CARDIFF	CARDIFF	196	Fri	05/10/07	0.107	0.413	0.520	1.98
14	SF-03-A-01	SEMI DETACHED	IPSWICH	SUFFOLK	77	Wed	23/05/07	0.104	0.416	0.520	2.22
15	SH-03-A-05	SEMI-DETACHED/	TELFORD	SHROPSHIRE	54	Thu	24/10/13	0.130	0.370	0.500	1.17
16	NY-03-A-06	BUNGALOWS & SE	BOROUGHBRIDGE	NORTH YORKSHIRE	115	Fri	14/10/11	0.096	0.400	0.496	3.50
17	SC-03-A-04	DETACHED & TER	BYFLEET	SURREY	71	Thu	23/01/14	0.141	0.352	0.493	2.49
18	NF-03-A-02	HOUSES & FLATS	NORWICH	NORFOLK	98	Mon	22/10/12	0.122	0.347	0.469	2.24
19	SY-03-A-01	SEMI DETACHED	DONCASTER	SOUTH YORKSHIRE	54	Wed	18/09/13	0.056	0.389	0.445	1.13
20	NE-03-A-03	PRIVATE HOUSES	SCUNTHORPE	NORTH EAST LINCOLNS	180	Tue	20/05/14	0.144	0.283	0.427	2.68
21	CW-03-A-02	SEMI D./DETATC	TRURO	CORNWALL	73	Tue	18/09/07	0.096	0.329	0.425	3.73
22	NT-03-A-03	SEMI DETACHED	KIRKBY-IN-ASHFIELD	NOTTINGHAMSHIRE	166	Wed	28/06/06	0.108	0.313	0.421	1.61
23	WL-03-A-01	SEMI D./TERRAC	WOOTTON BASSETT	WILTSHIRE	99	Mon	02/10/06	0.071	0.333	0.404	2.12
24	**CH-03-A-06**	**SEMI-DET./ BUNG**	**CREWE**	**CHESHIRE**	**129**	**Tue**	**14/10/08**	**0.163**	**0.240**	**0.403**	**2.59**
25	NY-03-A-09	MIXED HOUSING	NORTHALLERTON	NORTH YORKSHIRE	52	Mon	16/09/13	0.173	0.212	0.385	2.60
26	FA-03-A-02	MIXED HOUSES	FALKIRK	FALKIRK	161	Wed	29/05/13	0.062	0.280	0.342	1.66
27	HI-03-A-14	SEMI-DETACHED	INVERNESS	HIGHLAND	73	Fri	13/05/11	0.096	0.164	0.260	2.05
28	AD-03-A-01	SEMI-DETACHED	ABERDEEN	ABERDEEN CITY	59	Fri	18/05/12	0.017	0.085	0.102	2.68

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	SC	SURREY	1 days
03	**SOUTH WEST**		
	CW	CORNWALL	1 days
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	NF	NORFOLK	1 days
	SF	SUFFOLK	2 days
05	**EAST MIDLANDS**		
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	2 days
	WM	WEST MIDLANDS	2 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NE	NORTH EAST LINCOLNSHIRE	1 days
	NY	NORTH YORKSHIRE	3 days
	SY	SOUTH YORKSHIRE	1 days
08	**NORTH WEST**		
	CH	CHESHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	1 days
10	**WALES**		
	CF	CARDIFF	1 days
11	**SCOTLAND**		
	AD	ABERDEEN CITY	1 days
	FA	FALKIRK	1 days
	FI	FIFE	1 days
	HI	HIGHLAND	2 days
	SR	STIRLING	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of dwellings
Actual Range:	52 to 196 (units:)
Range Selected by User:	50 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/06 to 20/05/14

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	9 days
Tuesday	5 days
Wednesday	4 days
Thursday	3 days
Friday	7 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	28 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	15
Edge of Town	12

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	23
Out of Town	1
No Sub Category	4

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3	28 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	3 days
5,001 to 10,000	7 days
10,001 to 15,000	3 days
15,001 to 20,000	9 days
20,001 to 25,000	4 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	4 days
50,001 to 75,000	3 days
75,001 to 100,000	5 days
100,001 to 125,000	6 days
125,001 to 250,000	5 days
250,001 to 500,000	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	7 days
1.1 to 1.5	20 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	28 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 **AD-03-A-01** **SEMI-DETACHED** **ABERDEEN CITY**
SPRINGFIELD ROAD

ABERDEEN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 59
Survey date: FRIDAY *18/05/12* *Survey Type: MANUAL*

2 **CB-03-A-04** **SEMI DETACHED** **CUMBRIA**
MOORCLOSE ROAD
SALTERBACK
WORKINGTON
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: FRIDAY *24/04/09* *Survey Type: MANUAL*

3 **CF-03-A-02** **MIXED HOUSES** **CARDIFF**
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY *05/10/07* *Survey Type: MANUAL*

4 **CH-03-A-06** **SEMI-DET./ BUNGALOWS** **CHESHIRE**
CREWE ROAD

CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY *14/10/08* *Survey Type: MANUAL*

5 **CW-03-A-02** **SEMI D./ DETATCHED** **CORNWALL**
BOSVEAN GARDENS

TRURO
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: TUESDAY *18/09/07* *Survey Type: MANUAL*

6 **FA-03-A-02** **MIXED HOUSES** **FALKIRK**
ROSEBANK AVENUE & SPRINGFIELD DRIVE

FALKIRK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 161
Survey date: WEDNESDAY *29/05/13* *Survey Type: MANUAL*

7 **FI-03-A-03** **MIXED HOUSES** **FIFE**
WOODMILL ROAD

DUNFERMLINE
Edge of Town
Residential Zone
Total Number of dwellings: 155
Survey date: MONDAY *30/04/07* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8 **HI-03-A-11** **BUNGALOWS** **HIGHLAND**
STEVENSON ROAD
INSHES
INVERNESS
Edge of Town
Residential Zone
Total Number of dwellings: 85
Survey date: MONDAY *05/06/06* *Survey Type: MANUAL*

9 **HI-03-A-14** **SEMI-DETACHED** **HIGHLAND**
CALEDONIAN ROAD
DALNEIGH
INVERNESS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: FRIDAY *13/05/11* *Survey Type: MANUAL*

10 **LN-03-A-01** **MIXED HOUSES** **LINCOLNSHIRE**
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY *15/05/07* *Survey Type: MANUAL*

11 **LN-03-A-02** **MIXED HOUSES** **LINCOLNSHIRE**
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY *14/05/07* *Survey Type: MANUAL*

12 **NE-03-A-03** **PRIVATE HOUSES** **NORTH EAST LINCOLNSHIRE**
STATION ROAD

SCUNTHORPE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 180
Survey date: TUESDAY *20/05/14* *Survey Type: MANUAL*

13 **NF-03-A-02** **HOUSES & FLATS** **NORFOLK**
DEREHAM ROAD

NORWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 98
Survey date: MONDAY *22/10/12* *Survey Type: MANUAL*

14 **NT-03-A-03** **SEMI DETACHED** **NOTTINGHAMSHIRE**
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY *28/06/06* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

15 **NY-03-A-06** **BUNGALOWS & SEMI DET.** **NORTH YORKSHIRE**
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY *14/10/11* *Survey Type: MANUAL*

16 **NY-03-A-09** **MIXED HOUSING** **NORTH YORKSHIRE**
GRAMMAR SCHOOL LANE

NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

17 **NY-03-A-10** **HOUSES AND FLATS** **NORTH YORKSHIRE**
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: TUESDAY *17/09/13* *Survey Type: MANUAL*

18 **SC-03-A-04** **DETACHED & TERRACED** **SURREY**
HIGH ROAD

BYFLEET
Edge of Town
Residential Zone
Total Number of dwellings: 71
Survey date: THURSDAY *23/01/14* *Survey Type: MANUAL*

19 **SF-03-A-01** **SEMI DETACHED** **SUFFOLK**
A1156 FELIXSTOWE ROAD
RACECOURSE
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 77
Survey date: WEDNESDAY *23/05/07* *Survey Type: MANUAL*

20 **SF-03-A-03** **MIXED HOUSES** **SUFFOLK**
BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS
Edge of Town
Out of Town
Total Number of dwellings: 101
Survey date: MONDAY *15/05/06* *Survey Type: MANUAL*

21 **SH-03-A-04** **TERRACED** **SHROPSHIRE**
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY *11/06/09* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

22 **SH-03-A-05** **SEMI-DETACHED/ TERRACED** **SHROPSHIRE**
SANDCROFT
SUTTON HILL
TELFORD
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

23 **SR-03-A-01** **DETACHED** **STIRLING**
BENVIEW

STIRLING
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: MONDAY *23/04/07* *Survey Type: MANUAL*

24 **SY-03-A-01** **SEMI DETACHED HOUSES** **SOUTH YORKSHIRE**
A19 BENTLEY ROAD
BENTLEY RISE
DONCASTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

25 **WL-03-A-01** **SEMI D./ TERRACED W. BASSETT** **WILTSHIRE**
MAPLE DRIVE

WOOTTON BASSETT
Edge of Town
Residential Zone
Total Number of dwellings: 99
Survey date: MONDAY *02/10/06* *Survey Type: MANUAL*

26 **WM-03-A-01** **TERRACED** **WEST MIDLANDS**
FOLESHILL ROAD
FOLESHILL
COVENTRY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 79
Survey date: FRIDAY *03/02/06* *Survey Type: MANUAL*

27 **WM-03-A-03** **MIXED HOUSING** **WEST MIDLANDS**
BASELEY WAY
ROWLEYS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 84
Survey date: MONDAY *24/09/07* *Survey Type: MANUAL*

28 **WO-03-A-03** **DETACHED** **WORCESTERSHIRE**
BLAKEBROOK
BLAKEBROOK
KIDDERMINSTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY *05/05/06* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Ranking Type: **TOTALS** Time Range: 17:00-18:00

15th Percentile = No. **24** SH-03-A-05 Tot: 0.371

85th Percentile = No. **5** SH-03-A-04 Tot: 0.759

Median Values		Mean Values	
Arrivals:	0.348	Arrivals:	0.356
Departures:	0.205	Departures:	0.207
Totals:	0.553	Totals:	0.562

Rank	Site-Ref	Description	Town/City	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Park Spaces
								Arrivals	Departures	Totals	Per Dwelling
1	SR-03-A-01	DETACHED	STIRLING	STIRLING	115	Mon	23/04/07	0.583	0.304	0.887	2.86
2	WO-03-A-03	DETACHED	KIDDERMINSTER	WORCESTERSHIRE	138	Fri	05/05/06	0.558	0.319	0.877	3.14
3	LN-03-A-02	MIXED HOUSES	LINCOLN	LINCOLNSHIRE	186	Mon	14/05/07	0.495	0.355	0.850	4.13
4	WM-03-A-03	MIXED HOUSING	COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.405	0.369	0.774	2.60
5	**SH-03-A-04**	**TERRACED**	**SHREWSBURY**	**SHROPSHIRE**	**108**	**Thu**	**11/06/09**	**0.463**	**0.296**	**0.759**	**1.86**
6	SF-03-A-03	MIXED HOUSES	BURY ST EDMUNDS	SUFFOLK	101	Mon	15/05/06	0.525	0.228	0.753	4.34
7	NT-03-A-03	SEMI DETACHED	KIRKBY-IN-ASHFIELD	NOTTINGHAMSHIRE	166	Wed	28/06/06	0.398	0.307	0.705	1.61
8	HI-03-A-14	SEMI-DETACHED	INVERNESS	HIGHLAND	73	Fri	13/05/11	0.356	0.329	0.685	2.05
9	FI-03-A-03	MIXED HOUSES	DUNFERMLINE	FIFE	155	Mon	30/04/07	0.419	0.245	0.664	2.84
10	CW-03-A-02	SEMI D./DETATC	TRURO	CORNWALL	73	Tue	18/09/07	0.425	0.219	0.644	3.73
11	LN-03-A-01	MIXED HOUSES	LINCOLN	LINCOLNSHIRE	150	Tue	15/05/07	0.413	0.213	0.626	4.91
12	CF-03-A-02	MIXED HOUSES	CARDIFF	CARDIFF	196	Fri	05/10/07	0.398	0.214	0.612	1.98
13	NY-03-A-10	HOUSES AND FLA	RIPON	NORTH YORKSHIRE	71	Tue	17/09/13	0.479	0.099	0.578	0.83
14	CB-03-A-04	SEMI DETACHED	WORKINGTON	CUMBRIA	82	Fri	24/04/09	0.354	0.207	0.561	1.74
15	WM-03-A-01	TERRACED	COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.342	0.203	0.545	0.96
16	FA-03-A-02	MIXED HOUSES	FALKIRK	FALKIRK	161	Wed	29/05/13	0.317	0.224	0.541	1.66
17	HI-03-A-11	BUNGALOWS	INVERNESS	HIGHLAND	85	Mon	05/06/06	0.376	0.141	0.517	1.59
18	WL-03-A-01	SEMI D./TERRAC	WOOTTON BASSETT	WILTSHIRE	99	Mon	02/10/06	0.374	0.141	0.515	2.12
19	NY-03-A-06	BUNGALOWS & SE	BOROUGHBRIDGE	NORTH YORKSHIRE	115	Fri	14/10/11	0.296	0.174	0.470	3.50
20	SC-03-A-04	DETACHED & TER	BYFLEET	SURREY	71	Thu	23/01/14	0.366	0.099	0.465	2.49
21	NY-03-A-09	MIXED HOUSING	NORTHALLERTON	NORTH YORKSHIRE	52	Mon	16/09/13	0.269	0.192	0.461	2.60
22	SF-03-A-01	SEMI DETACHED	IPSWICH	SUFFOLK	77	Wed	23/05/07	0.247	0.169	0.416	2.22
23	NF-03-A-02	HOUSES & FLATS	NORWICH	NORFOLK	98	Mon	22/10/12	0.235	0.143	0.378	2.24
24	**SH-03-A-05**	**SEMI-DETACHED/**	**TELFORD**	**SHROPSHIRE**	**54**	**Thu**	**24/10/13**	**0.241**	**0.130**	**0.371**	**1.17**
25	SY-03-A-01	SEMI DETACHED	DONCASTER	SOUTH YORKSHIRE	54	Wed	18/09/13	0.278	0.056	0.334	1.13
26	NE-03-A-03	PRIVATE HOUSES	SCUNTHORPE	NORTH EAST LINCOLNS	180	Tue	20/05/14	0.128	0.183	0.311	2.68
27	CH-03-A-06	SEMI-DET./BUNG	CREWE	CHESHIRE	129	Tue	14/10/08	0.132	0.140	0.272	2.59
28	AD-03-A-01	SEMI-DETACHED	ABERDEEN	ABERDEEN CITY	59	Fri	18/05/12	0.085	0.085	0.170	2.68

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

TRICS DATA

USED TO CALCULATE TRIP GENERATION FOR COMMITTED DEVELOPMENTS CONRES002 & CONRES003

APPENDIX G

Traffic Generation

Holiday Accommodation

TRICS 2008(b)v6.2.2 161208 B13.26 (C) 2008 JMP Consultants Ltd on behalf of the TRICS Consortium **Wednesday 25/02/09**
Page 3
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TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION
VEHICLES
Calculation factor: 1 UNITS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate
00:00 - 01:00	1	65	0.000	1	65	0.000	1	65	0.000
01:00 - 02:00	1	65	0.000	1	65	0.000	1	65	0.000
02:00 - 03:00	1	65	0.000	1	65	0.000	1	65	0.000
03:00 - 04:00	1	65	0.000	1	65	0.000	1	65	0.000
04:00 - 05:00	1	65	0.000	1	65	0.000	1	65	0.000
05:00 - 06:00	1	65	0.015	1	65	0.031	1	65	0.046
06:00 - 07:00	1	65	0.000	1	65	0.077	1	65	0.077
07:00 - 08:00	1	65	0.108	1	65	0.169	1	65	0.277
08:00 - 09:00	1	65	0.292	1	65	0.277	1	65	0.569
09:00 - 10:00	1	65	0.431	**1**	**65**	**0.708**	1	65	1.139
10:00 - 11:00	1	65	0.092	1	65	0.538	1	65	0.630
11:00 - 12:00	1	65	0.323	1	65	0.231	1	65	0.554
12:00 - 13:00	1	65	0.185	1	65	0.262	1	65	0.447
13:00 - 14:00	1	65	0.169	1	65	0.262	1	65	0.431
14:00 - 15:00	1	65	0.677	1	65	0.415	1	65	1.092
15:00 - 16:00	1	65	0.554	1	65	0.431	1	65	0.985
16:00 - 17:00	**1**	**65**	**0.846**	1	65	0.508	**1**	**65**	**1.354**
17:00 - 18:00	1	65	0.631	1	65	0.431	1	65	1.062
18:00 - 19:00	1	65	0.615	1	65	0.308	1	65	0.923
19:00 - 20:00	1	65	0.338	1	65	0.338	1	65	0.676
20:00 - 21:00	1	65	0.308	1	65	0.200	1	65	0.508
21:00 - 22:00	1	65	0.077	1	65	0.015	1	65	0.092
22:00 - 23:00	1	65	0.185	1	65	0.123	1	65	0.308
23:00 - 24:00	1	65	0.015	1	65	0.092	1	65	0.107
Total Rates:			5.861			5.416			11.277

APPENDIX G

Traffic Generation (continued)

Housing

TRICS 7.2.1 240315 B17.12 (C) 2015 TRICS Consortium Ltd **Monday 20/04/15**
RichardBrounAssociates20042015HousesPrivatelyOwned **Page 7**
Bureau Service TRICS Consortium Limited Bureau Service Licence No: 700101

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	16	80	0.082	16	80	0.283	16	80	0.365
08:00 - 09:00	16	80	0.171	**16**	**80**	**0.389**	16	80	0.560
09:00 - 10:00	16	80	0.170	16	80	0.237	16	80	0.407
10:00 - 11:00	16	80	0.159	16	80	0.189	16	80	0.348
11:00 - 12:00	16	80	0.219	16	80	0.211	16	80	0.430
12:00 - 13:00	16	80	0.203	16	80	0.195	16	80	0.398
13:00 - 14:00	16	80	0.217	16	80	0.204	16	80	0.421
14:00 - 15:00	16	80	0.216	16	80	0.206	16	80	0.422
15:00 - 16:00	16	80	0.262	16	80	0.219	16	80	0.481
16:00 - 17:00	16	80	0.305	16	80	0.204	16	80	0.509
17:00 - 18:00	**16**	**80**	**0.376**	16	80	0.231	**16**	**80**	**0.607**
18:00 - 19:00	16	80	0.278	16	80	0.193	16	80	0.471
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.658			2.761			5.419

	Trip (veh/house)	Vehicles - 33 Houses	Trip Rate (veh/unit)	Vehicles - 34 Holiday Units
Max Departures 0800-0900	.389	13	.277	9
Total 0800-0900	.560	18	.569	19
Max Arrivals 1700-1800	.376	12	.631	21
Total 1700-1800	.607	20	1.062	36
Busiest Hour (Houses) 1600-1700	.607	20	1.062	36
Busiest Hour (Holiday Units) 1600-1700	.509	17	1.354	46
12-hour 0900-1900	5.419	179	9.463	322

TRICS DATA

USED TO CALCULATE TRIP GENERATION FOR COMMITTED DEVELOPMENT CONRES004 & CONRES005

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	SC	SURREY	1 days
03	**SOUTH WEST**		
	DC	DORSET	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	2 days
08	**NORTH WEST**		
	GM	GREATER MANCHESTER	1 days
09	**NORTH**		
	CB	CUMBRIA	1 days
11	**SCOTLAND**		
	EA	EAST AYRSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 20 to 71 (units:)
Range Selected by User: 20 to 80 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/06 to 24/03/14

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	2 days
Wednesday	2 days
Thursday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town	9
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	8
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C1	1 days
C3	9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS® .

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	4 days
15,001 to 20,000	2 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
75,001 to 100,000	3 days
100,001 to 125,000	2 days
250,001 to 500,000	2 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	9 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	10 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 **CB-03-A-03** **SEMI DETACHED** **CUMBRIA**
HAWKSHEAD AVENUE

WORKINGTON
Edge of Town
Residential Zone
Total Number of dwellings: 40
Survey date: THURSDAY *20/11/08* *Survey Type: MANUAL*

2 **DC-03-A-08** **BUNGALOWS** **DORSET**
HURSTDENE ROAD
CASTLE LANE WEST
BOURNEMOUTH
Edge of Town
Residential Zone
Total Number of dwellings: 28
Survey date: MONDAY *24/03/14* *Survey Type: MANUAL*

3 **DS-03-A-01** **SEMI D./ TERRACED** **DERBYSHIRE**
THE AVENUE
HOLMESDALE
DRONFIELD
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 20
Survey date: THURSDAY *22/06/06* *Survey Type: MANUAL*

4 **EA-03-A-01** **DETATCHED** **EAST AYRSHIRE**
TALISKER AVENUE

KILMARNOCK
Edge of Town
Residential Zone
Total Number of dwellings: 39
Survey date: THURSDAY *05/06/08* *Survey Type: MANUAL*

5 **GM-03-A-10** **DETACHED/ SEMI** **GREATER MANCHESTER**
BUTT HILL DRIVE
PRESTWICH
MANCHESTER
Edge of Town
Residential Zone
Total Number of dwellings: 29
Survey date: WEDNESDAY *12/10/11* *Survey Type: MANUAL*

6 **NY-03-A-10** **HOUSES AND FLATS** **NORTH YORKSHIRE**
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: TUESDAY *17/09/13* *Survey Type: MANUAL*

7 **NY-03-A-11** **PRIVATE HOUSING** **NORTH YORKSHIRE**
HORSEFAIR

BOROUGHBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8	**SC-03-A-04**	**DETACHED & TERRACED**	**SURREY**
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	*23/01/14*	*Survey Type: MANUAL*
9	**SH-03-A-05**	**SEMI-DETACHED/ TERRACED**	**SHROPSHIRE**
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	*24/10/13*	*Survey Type: MANUAL*
10	**WO-03-A-02**	**SEMI DETACHED**	**WORCESTERSHIRE**
	MEADOWHILL ROAD		
	REDDITCH		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	48	
	Survey date: TUESDAY	*02/05/06*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	42	0.104	10	42	0.262	10	42	0.366
08:00 - 09:00	10	42	0.156	**10**	**42**	**0.404**	**10**	**42**	**0.560**
09:00 - 10:00	10	42	0.175	10	42	0.213	10	42	0.388
10:00 - 11:00	10	42	0.135	10	42	0.173	10	42	0.308
11:00 - 12:00	10	42	0.191	10	42	0.201	10	42	0.392
12:00 - 13:00	10	42	0.182	10	42	0.156	10	42	0.338
13:00 - 14:00	10	42	0.191	10	42	0.175	10	42	0.366
14:00 - 15:00	10	42	0.189	10	42	0.189	10	42	0.378
15:00 - 16:00	10	42	0.243	10	42	0.175	10	42	0.418
16:00 - 17:00	10	42	0.314	10	42	0.184	10	42	0.498
17:00 - 18:00	**10**	**42**	**0.407**	10	42	0.149	10	42	0.556
18:00 - 19:00	10	42	0.251	10	42	0.132	10	42	0.383
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.538			2.413			4.951

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	20 - 71 (units:)
Survey date date range:	01/01/06 - 24/03/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	42	0.005	10	42	0.014	10	42	0.019
08:00 - 09:00	10	42	0.000	**10**	**42**	**0.028**	10	42	0.028
09:00 - 10:00	10	42	0.000	10	42	0.007	10	42	0.007
10:00 - 11:00	10	42	0.000	10	42	0.009	10	42	0.009
11:00 - 12:00	10	42	0.005	10	42	0.002	10	42	0.007
12:00 - 13:00	10	42	0.005	10	42	0.002	10	42	0.007
13:00 - 14:00	10	42	0.007	10	42	0.002	10	42	0.009
14:00 - 15:00	10	42	0.005	10	42	0.000	10	42	0.005
15:00 - 16:00	10	42	0.012	10	42	0.002	10	42	0.014
16:00 - 17:00	**10**	**42**	**0.026**	10	42	0.009	**10**	**42**	**0.035**
17:00 - 18:00	10	42	0.012	10	42	0.002	10	42	0.014
18:00 - 19:00	10	42	0.007	10	42	0.000	10	42	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.084			0.077			0.161

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	20 - 71 (units:)
Survey date date range:	01/01/06 - 24/03/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	42	0.113	10	42	0.340	10	42	0.453
08:00 - 09:00	10	42	0.203	**10**	**42**	**0.605**	**10**	**42**	**0.808**
09:00 - 10:00	10	42	0.203	10	42	0.258	10	42	0.461
10:00 - 11:00	10	42	0.158	10	42	0.222	10	42	0.380
11:00 - 12:00	10	42	0.253	10	42	0.251	10	42	0.504
12:00 - 13:00	10	42	0.239	10	42	0.201	10	42	0.440
13:00 - 14:00	10	42	0.239	10	42	0.241	10	42	0.480
14:00 - 15:00	10	42	0.255	10	42	0.229	10	42	0.484
15:00 - 16:00	10	42	0.395	10	42	0.229	10	42	0.624
16:00 - 17:00	10	42	0.423	10	42	0.255	10	42	0.678
17:00 - 18:00	**10**	**42**	**0.520**	10	42	0.189	10	42	0.709
18:00 - 19:00	10	42	0.340	10	42	0.173	10	42	0.513
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.341			3.193			6.534

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	20 - 71 (units:)
Survey date date range:	01/01/06 - 24/03/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	42	0.019	10	42	0.052	10	42	0.071
08:00 - 09:00	10	42	0.083	**10**	**42**	**0.210**	**10**	**42**	**0.293**
09:00 - 10:00	10	42	0.066	10	42	0.085	10	42	0.151
10:00 - 11:00	10	42	0.035	10	42	0.066	10	42	0.101
11:00 - 12:00	10	42	0.054	10	42	0.054	10	42	0.108
12:00 - 13:00	10	42	0.043	10	42	0.047	10	42	0.090
13:00 - 14:00	10	42	0.050	10	42	0.045	10	42	0.095
14:00 - 15:00	10	42	0.043	10	42	0.040	10	42	0.083
15:00 - 16:00	**10**	**42**	**0.139**	10	42	0.052	10	42	0.191
16:00 - 17:00	10	42	0.083	10	42	0.057	10	42	0.140
17:00 - 18:00	10	42	0.071	10	42	0.040	10	42	0.111
18:00 - 19:00	10	42	0.066	10	42	0.031	10	42	0.097
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.752			0.779			1.531

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	20 - 71 (units:)
Survey date date range:	01/01/06 - 24/03/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	42	0.000	10	42	0.007	10	42	0.007
08:00 - 09:00	10	42	0.000	10	42	0.000	10	42	0.000
09:00 - 10:00	10	42	0.000	10	42	0.007	10	42	0.007
10:00 - 11:00	10	42	0.000	**10**	**42**	**0.009**	**10**	**42**	**0.009**
11:00 - 12:00	**10**	**42**	**0.007**	10	42	0.002	10	42	0.009
12:00 - 13:00	10	42	0.005	10	42	0.002	10	42	0.007
13:00 - 14:00	10	42	0.000	10	42	0.002	10	42	0.002
14:00 - 15:00	10	42	0.000	10	42	0.000	10	42	0.000
15:00 - 16:00	10	42	0.005	10	42	0.000	10	42	0.005
16:00 - 17:00	10	42	0.005	10	42	0.000	10	42	0.005
17:00 - 18:00	10	42	0.002	10	42	0.000	10	42	0.002
18:00 - 19:00	10	42	0.007	10	42	0.000	10	42	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.031			0.029			0.060

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	20 - 71 (units:)
Survey date date range:	01/01/06 - 24/03/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	42	0.137	10	42	0.414	10	42	0.551
08:00 - 09:00	10	42	0.286	**10**	**42**	**0.844**	**10**	**42**	**1.130**
09:00 - 10:00	10	42	0.270	10	42	0.357	10	42	0.627
10:00 - 11:00	10	42	0.194	10	42	0.307	10	42	0.501
11:00 - 12:00	10	42	0.319	10	42	0.310	10	42	0.629
12:00 - 13:00	10	42	0.291	10	42	0.253	10	42	0.544
13:00 - 14:00	10	42	0.296	10	42	0.291	10	42	0.587
14:00 - 15:00	10	42	0.303	10	42	0.270	10	42	0.573
15:00 - 16:00	10	42	0.551	10	42	0.284	10	42	0.835
16:00 - 17:00	10	42	0.537	10	42	0.322	10	42	0.859
17:00 - 18:00	**10**	**42**	**0.605**	10	42	0.232	10	42	0.837
18:00 - 19:00	10	42	0.421	10	42	0.203	10	42	0.624
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.210			4.087			8.297

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	20 - 71 (units:)
Survey date date range:	01/01/06 - 24/03/14
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

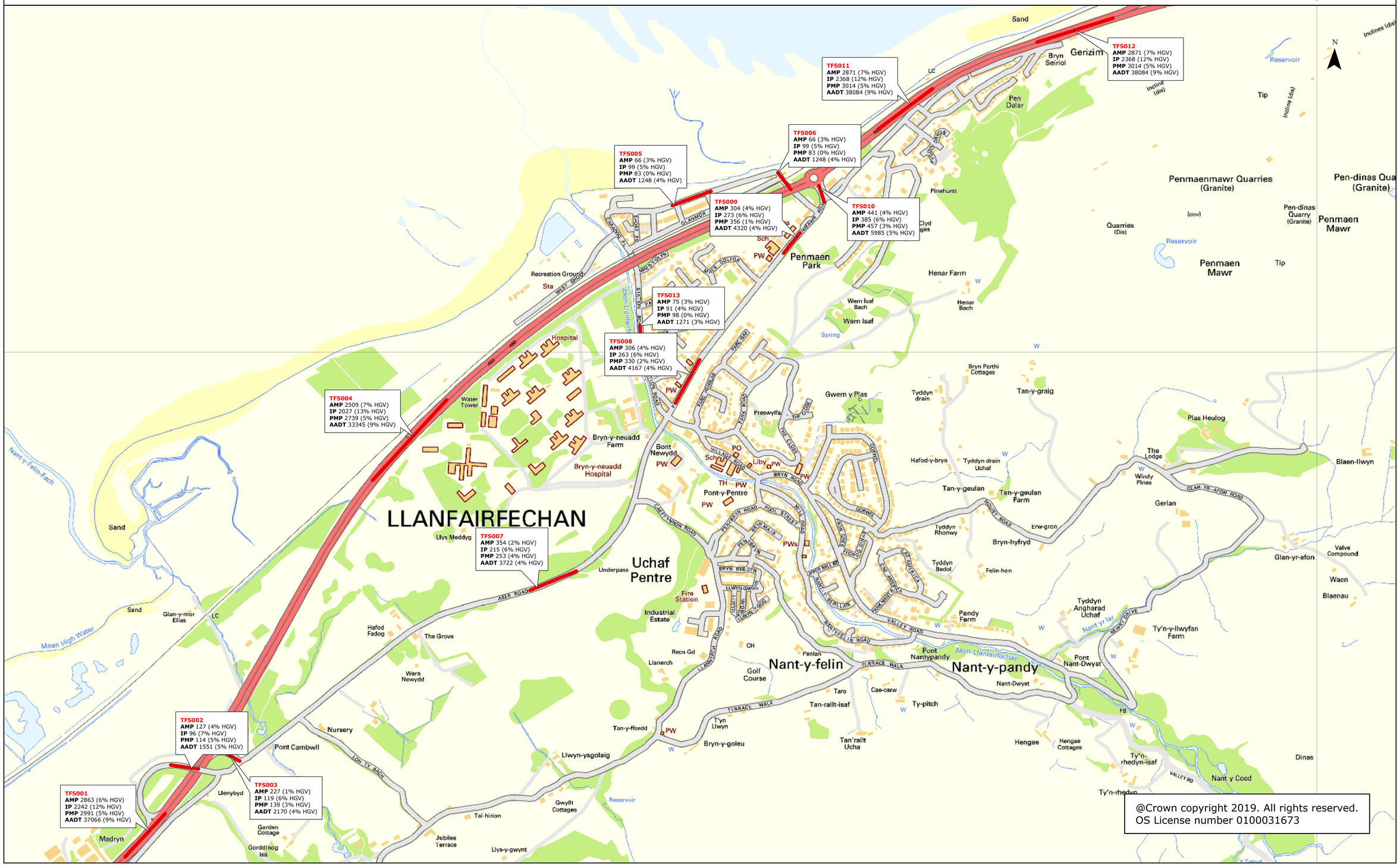
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX 2
''DO MINIMUM'' FORECAST TRAFFIC FLOWS – CORE SCENARIO

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2022 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

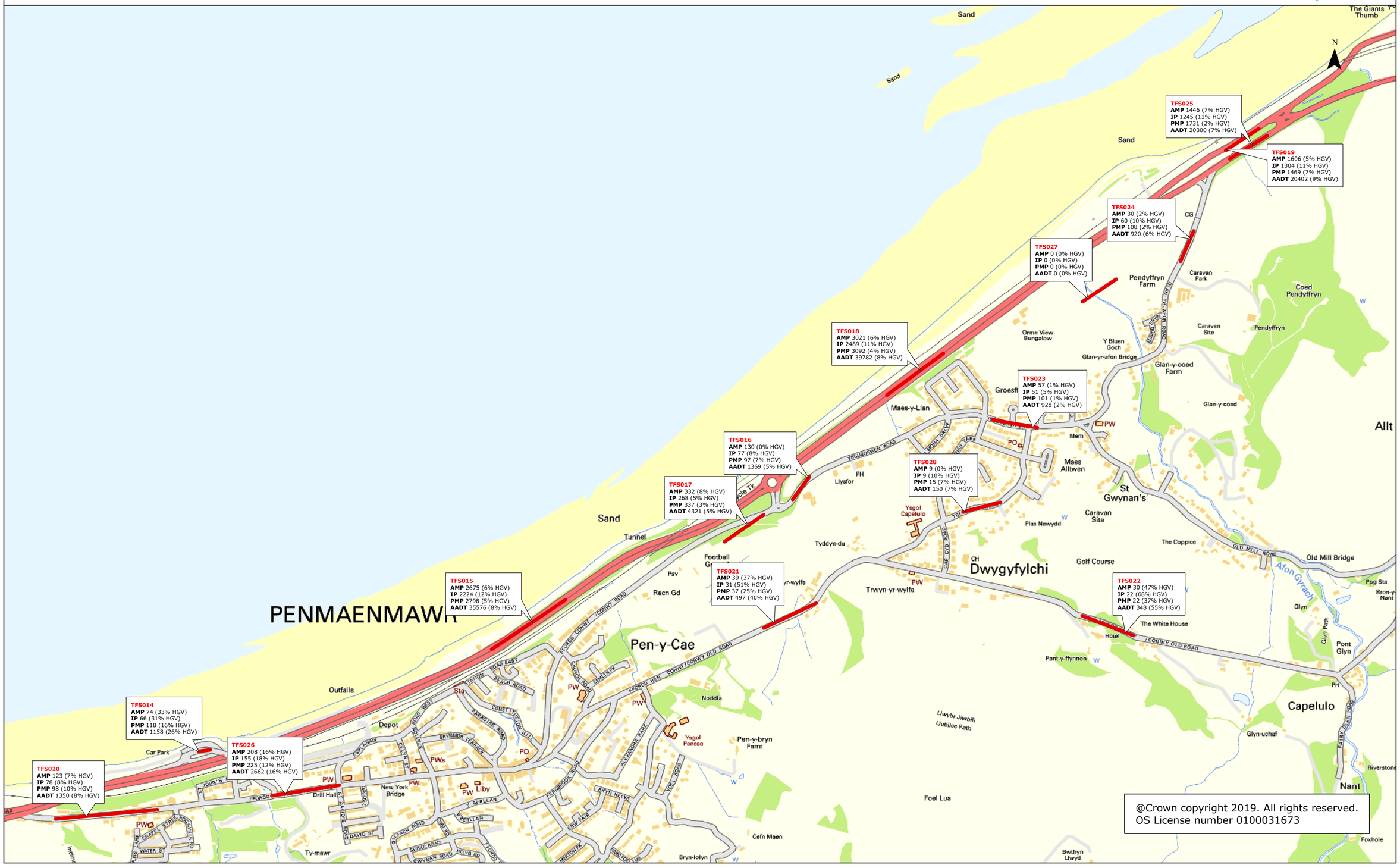
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2022 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

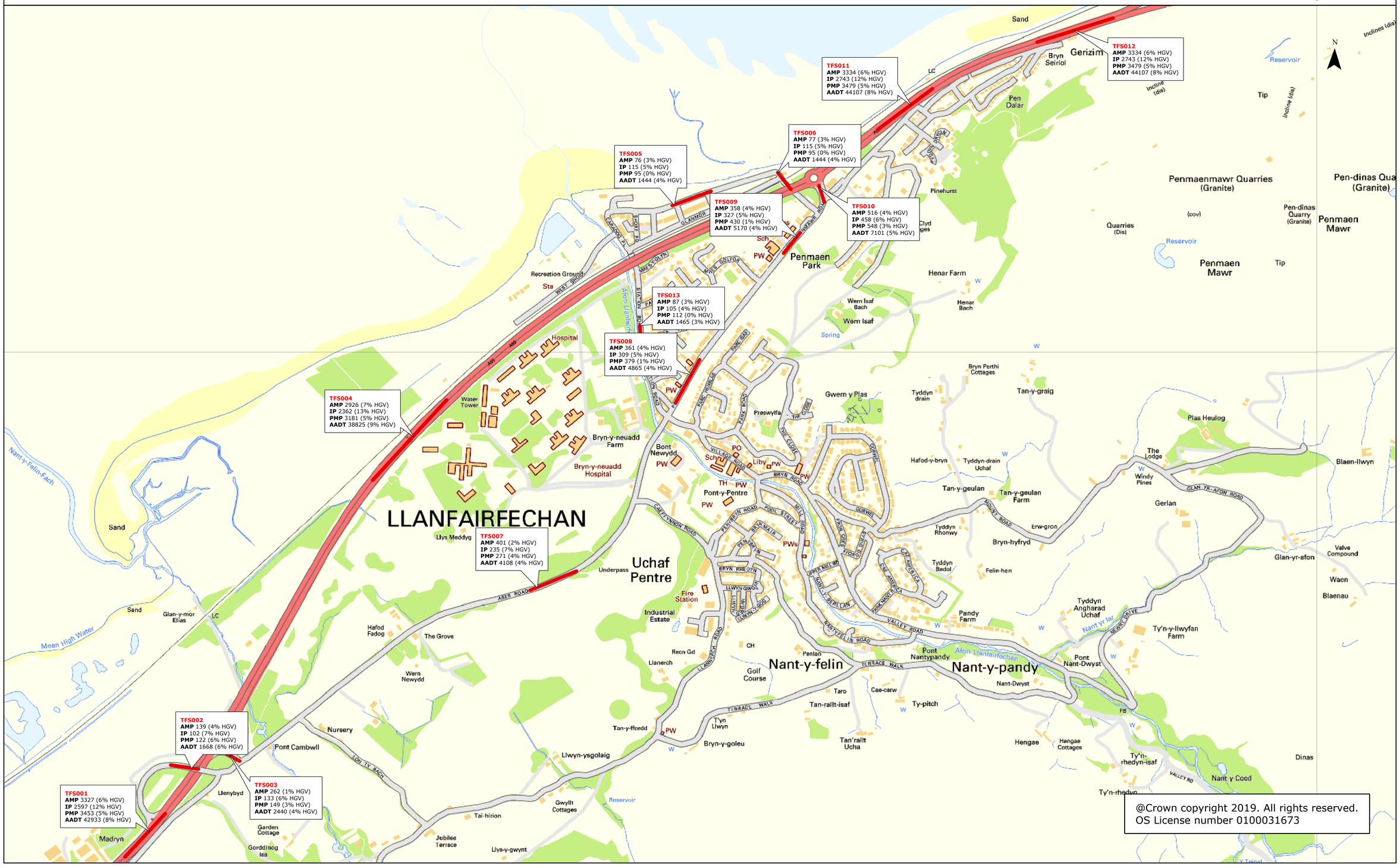
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2037 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

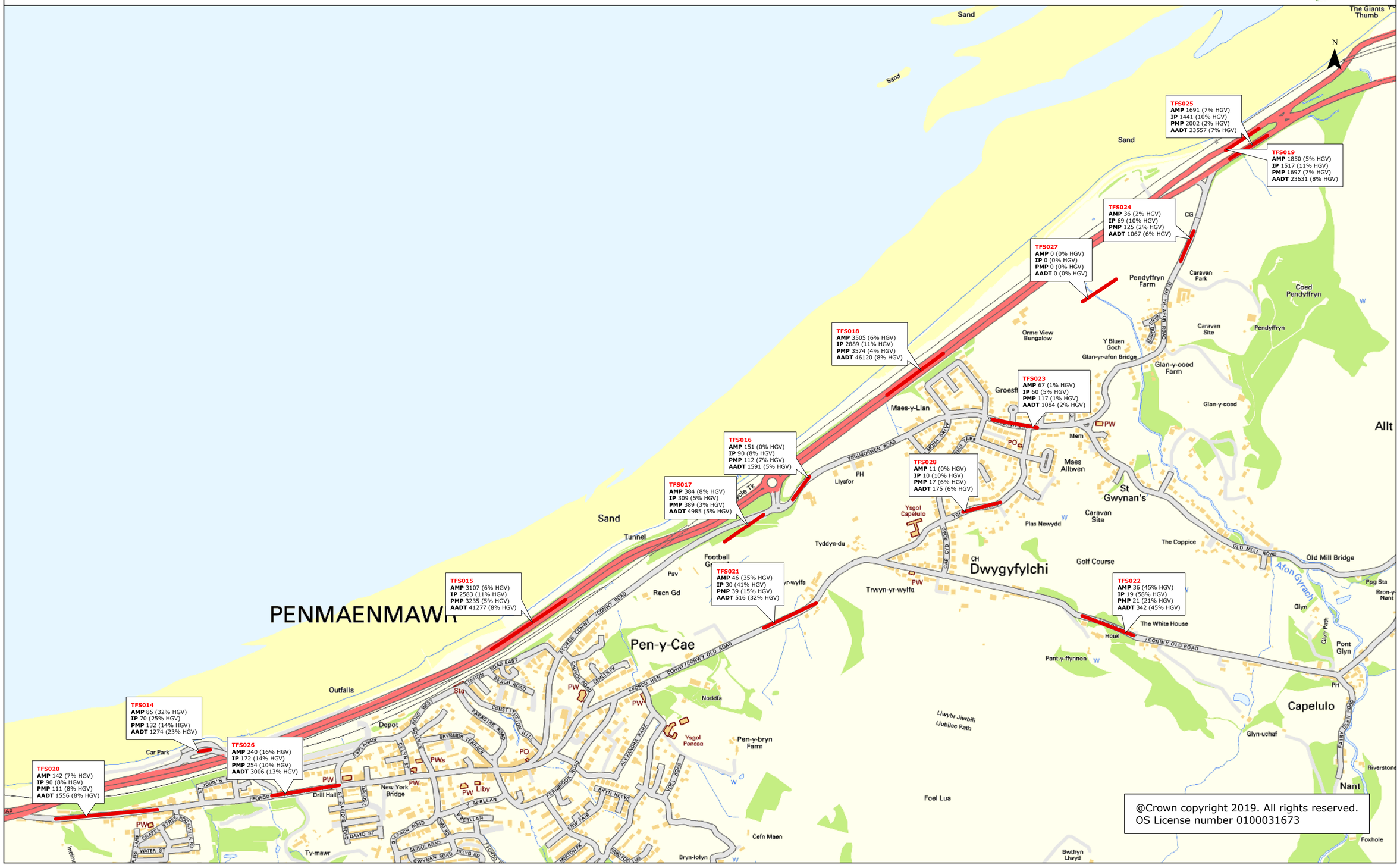
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2037 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2051 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 3688 (6% HGV)
IP 2848 (12% HGV)
PMP 3792 (5% HGV)
AADT 47241 (9% HGV)

TFS002
AMP 148 (4% HGV)
IP 105 (7% HGV)
PMP 127 (6% HGV)
AADT 1742 (6% HGV)

TFS003
AMP 289 (1% HGV)
IP 138 (7% HGV)
PMP 164 (3% HGV)
AADT 2621 (4% HGV)

TFS004
AMP 3251 (7% HGV)
IP 2605 (13% HGV)
PMP 3500 (5% HGV)
AADT 42879 (9% HGV)

TFS005
AMP 84 (3% HGV)
IP 126 (5% HGV)
PMP 104 (0% HGV)
AADT 1584 (4% HGV)

TFS006
AMP 84 (3% HGV)
IP 126 (5% HGV)
PMP 104 (0% HGV)
AADT 1584 (4% HGV)

TFS007
AMP 436 (2% HGV)
IP 243 (7% HGV)
PMP 291 (4% HGV)
AADT 4363 (5% HGV)

TFS008
AMP 403 (3% HGV)
IP 334 (5% HGV)
PMP 421 (1% HGV)
AADT 5355 (4% HGV)

TFS009
AMP 400 (4% HGV)
IP 369 (5% HGV)
PMP 478 (1% HGV)
AADT 5794 (4% HGV)

TFS010
AMP 574 (4% HGV)
IP 513 (6% HGV)
PMP 609 (3% HGV)
AADT 7919 (5% HGV)

TFS011
AMP 3695 (6% HGV)
IP 3007 (12% HGV)
PMP 3821 (5% HGV)
AADT 48522 (8% HGV)

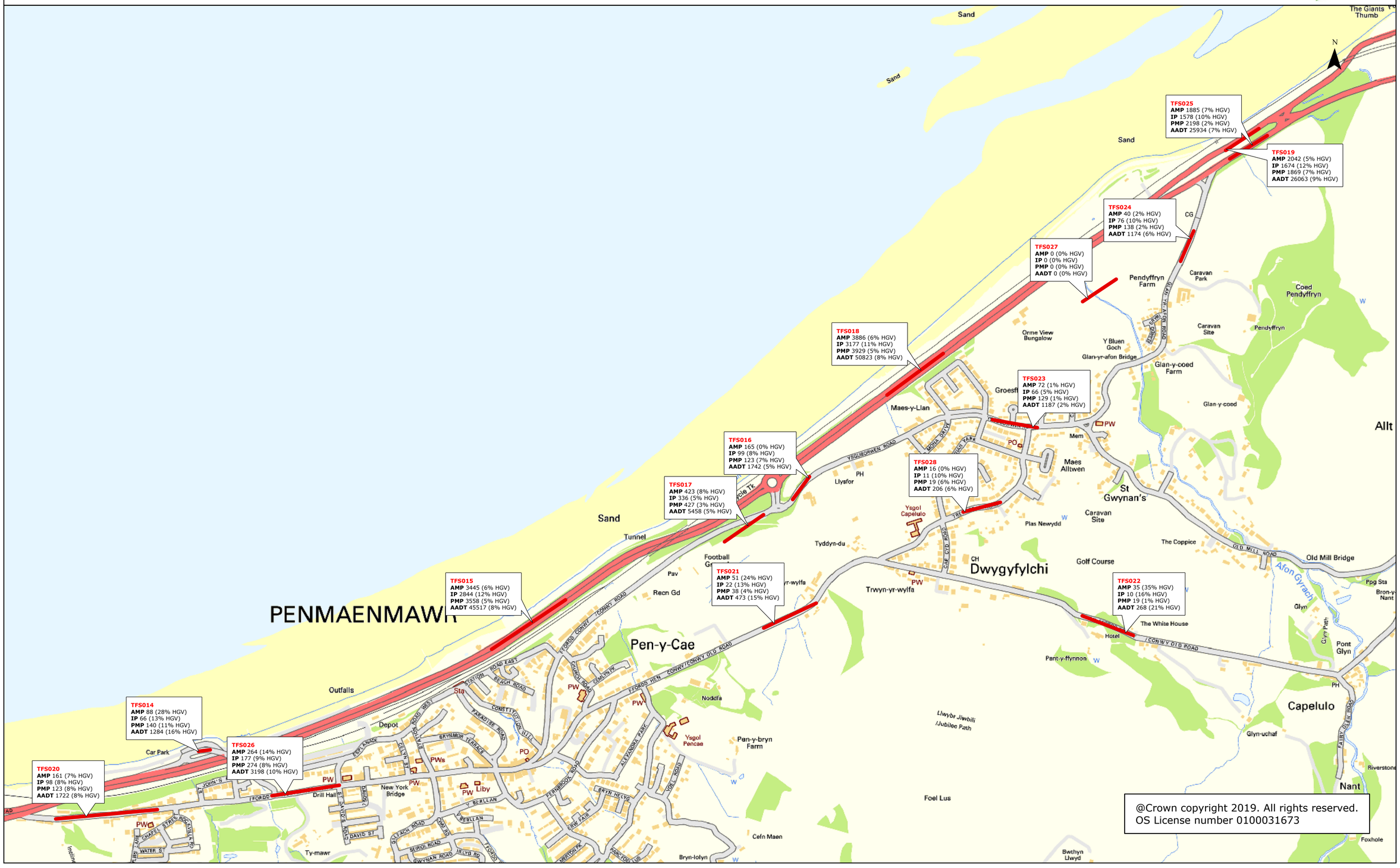
TFS012
AMP 3695 (6% HGV)
IP 3007 (12% HGV)
PMP 3821 (5% HGV)
AADT 48522 (8% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Nant-y-felin
Nant-y-pandy
Penmaen Park
Penmaenmawr Quarries (Granite)
Penmaen Mawr
Pen-dinas Quarry (Granite)
Pen-dinas Qua (Granite)
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Bont Newydd
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Pont-y-Pentre
Gwern y Plas
Preswylfa
Tyddyn drain
Brym Perthi Cottages
Tan-y-graig
Plas Heulog
The Lodge
Windy Pines
Blaen-llwyn
Gerlan
Glan-yr-afon
Valve Compound
Waen
Blaenau
Tan-y-geulan
Tan-y-geulan Farm
Erw-gron
Bryn-hyfryd
Tyddyn Rhonwy
Tyddyn Bedol
Felin-hen
Tyddyn Angharad Uchaf
Pandy Farm
Ty'n-y-llwyfan Farm
Pont Nantypandy
Pont Nant-Dwyst
Nant-Dwyst
Ty-pitch
Cae-carw
Taro
Tan-rallt-isaf
Tan'rallt Ucha
Tan-y-ffordd
T'yn Llwyn
Bryn-y-goleu
Llwyn-ysgolaig
Golf Course
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Ty'n-rhedyn
Fire Station
Industrial Estate
Recn Gd
Llanerch
Penlan
CH
Hafod Fadog
The Grove
Wern Newydd
Llys Meddyg
Underpass
Sand
Glan-y-mor Elias
Mean High Water
Nursery
Pont Cambwll
Llenybyd
Madryn
Garden Cottage
Gorddinog Isa
Jubilee Terrace
Llys-y-gwynt
Tai-hirion
Gwyllt Cottages
Reservoir
Water Tower
Hospital
Recreation Ground
Sta
Quarries (Dis)
Tip
Incline (dis)
Nant-y-Felin-Fach
Afon Llanfairfechan
A55
LC
PW
PO
Sch
Liby
TH
PWs
FB
W
N

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2051 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



TFS025
AMP 1885 (7% HGV)
IP 1578 (10% HGV)
PMP 2198 (2% HGV)
AADT 25934 (7% HGV)

TFS019
AMP 2042 (5% HGV)
IP 1674 (12% HGV)
PMP 1869 (7% HGV)
AADT 26063 (9% HGV)

TFS024
AMP 40 (2% HGV)
IP 76 (10% HGV)
PMP 138 (2% HGV)
AADT 1174 (6% HGV)

TFS027
AMP 0 (0% HGV)
IP 0 (0% HGV)
PMP 0 (0% HGV)
AADT 0 (0% HGV)

TFS018
AMP 3886 (6% HGV)
IP 3177 (11% HGV)
PMP 3929 (5% HGV)
AADT 50823 (8% HGV)

TFS023
AMP 72 (1% HGV)
IP 66 (5% HGV)
PMP 129 (1% HGV)
AADT 1187 (2% HGV)

TFS016
AMP 165 (0% HGV)
IP 99 (8% HGV)
PMP 123 (7% HGV)
AADT 1742 (5% HGV)

TFS028
AMP 16 (0% HGV)
IP 11 (10% HGV)
PMP 19 (6% HGV)
AADT 206 (6% HGV)

TFS017
AMP 423 (8% HGV)
IP 336 (5% HGV)
PMP 427 (3% HGV)
AADT 5458 (5% HGV)

TFS021
AMP 51 (24% HGV)
IP 22 (13% HGV)
PMP 38 (4% HGV)
AADT 473 (15% HGV)

TFS015
AMP 3445 (6% HGV)
IP 2844 (12% HGV)
PMP 3558 (5% HGV)
AADT 45517 (8% HGV)

TFS022
AMP 35 (35% HGV)
IP 10 (16% HGV)
PMP 19 (1% HGV)
AADT 268 (21% HGV)

TFS014
AMP 88 (28% HGV)
IP 66 (13% HGV)
PMP 140 (11% HGV)
AADT 1284 (16% HGV)

TFS026
AMP 264 (14% HGV)
IP 177 (9% HGV)
PMP 274 (8% HGV)
AADT 3198 (10% HGV)

TFS020
AMP 161 (7% HGV)
IP 98 (8% HGV)
PMP 123 (8% HGV)
AADT 1722 (8% HGV)

APPENDIX 3
''DO SOMETHING'' FORECAST TRAFFIC FLOWS – CORE SCENARIO

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2022 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 2863 (6% HGV)
IP 2242 (30% HGV)
PMP 2991 (5% HGV)
AADT 37066 (9% HGV)

TFS002
AMP 127 (4% HGV)
IP 93 (16% HGV)
PMP 112 (5% HGV)
AADT 1527 (5% HGV)

TFS003
AMP 214 (1% HGV)
IP 110 (16% HGV)
PMP 130 (3% HGV)
AADT 2029 (4% HGV)

TFS004
AMP 2522 (7% HGV)
IP 2039 (31% HGV)
PMP 2750 (5% HGV)
AADT 33511 (9% HGV)

TFS005
AMP 66 (3% HGV)
IP 99 (13% HGV)
PMP 83 (0% HGV)
AADT 1248 (4% HGV)

TFS006
AMP 66 (3% HGV)
IP 99 (13% HGV)
PMP 83 (0% HGV)
AADT 1248 (4% HGV)

TFS007
AMP 341 (2% HGV)
IP 203 (16% HGV)
PMP 241 (4% HGV)
AADT 3556 (5% HGV)

TFS008
AMP 293 (4% HGV)
IP 256 (14% HGV)
PMP 323 (2% HGV)
AADT 4049 (4% HGV)

TFS009
AMP 317 (4% HGV)
IP 284 (13% HGV)
PMP 367 (1% HGV)
AADT 4487 (4% HGV)

TFS010
AMP 453 (4% HGV)
IP 396 (15% HGV)
PMP 469 (3% HGV)
AADT 6151 (5% HGV)

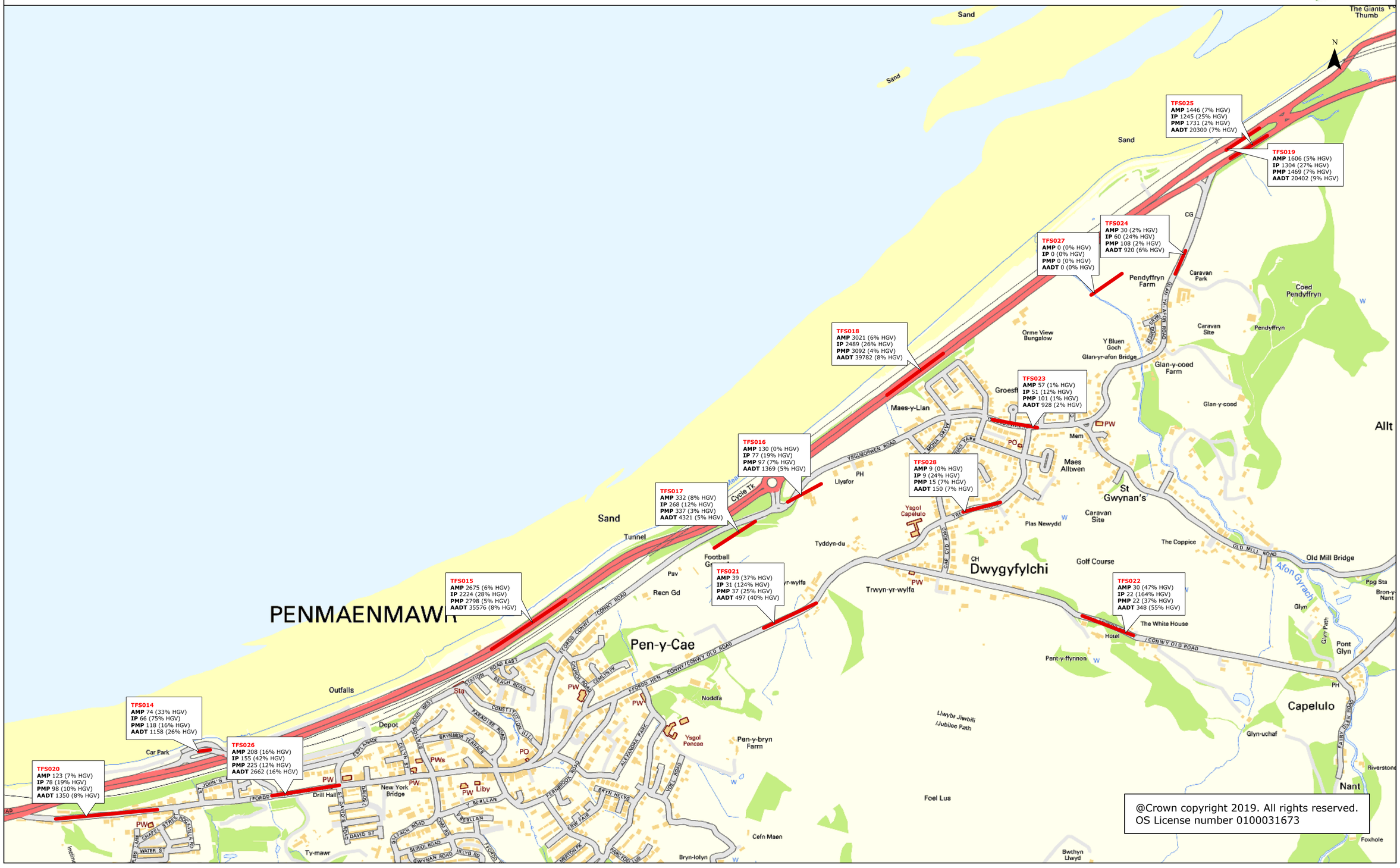
TFS011
AMP 2871 (7% HGV)
IP 2368 (29% HGV)
PMP 3014 (5% HGV)
AADT 38084 (9% HGV)

TFS012
AMP 2871 (7% HGV)
IP 2368 (29% HGV)
PMP 3014 (5% HGV)
AADT 38084 (9% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2022 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2037 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 3327 (6% HGV)
IP 2597 (12% HGV)
PMP 3453 (5% HGV)
AADT 42933 (8% HGV)

TFS002
AMP 138 (4% HGV)
IP 99 (7% HGV)
PMP 120 (6% HGV)
AADT 1639 (6% HGV)

TFS003
AMP 247 (1% HGV)
IP 127 (7% HGV)
PMP 149 (3% HGV)
AADT 2339 (4% HGV)

TFS004
AMP 2941 (7% HGV)
IP 2371 (12% HGV)
PMP 3183 (5% HGV)
AADT 38954 (9% HGV)

TFS005
AMP 77 (3% HGV)
IP 115 (5% HGV)
PMP 95 (0% HGV)
AADT 1445 (4% HGV)

TFS006
AMP 77 (3% HGV)
IP 115 (5% HGV)
PMP 95 (0% HGV)
AADT 1445 (4% HGV)

TFS007
AMP 385 (2% HGV)
IP 226 (7% HGV)
PMP 269 (4% HGV)
AADT 3979 (5% HGV)

TFS008
AMP 347 (4% HGV)
IP 304 (5% HGV)
PMP 381 (1% HGV)
AADT 4792 (4% HGV)

TFS009
AMP 374 (4% HGV)
IP 336 (5% HGV)
PMP 432 (1% HGV)
AADT 5300 (4% HGV)

TFS010
AMP 531 (4% HGV)
IP 467 (6% HGV)
PMP 550 (3% HGV)
AADT 7230 (5% HGV)

TFS011
AMP 3334 (6% HGV)
IP 2743 (12% HGV)
PMP 3479 (5% HGV)
AADT 44107 (8% HGV)

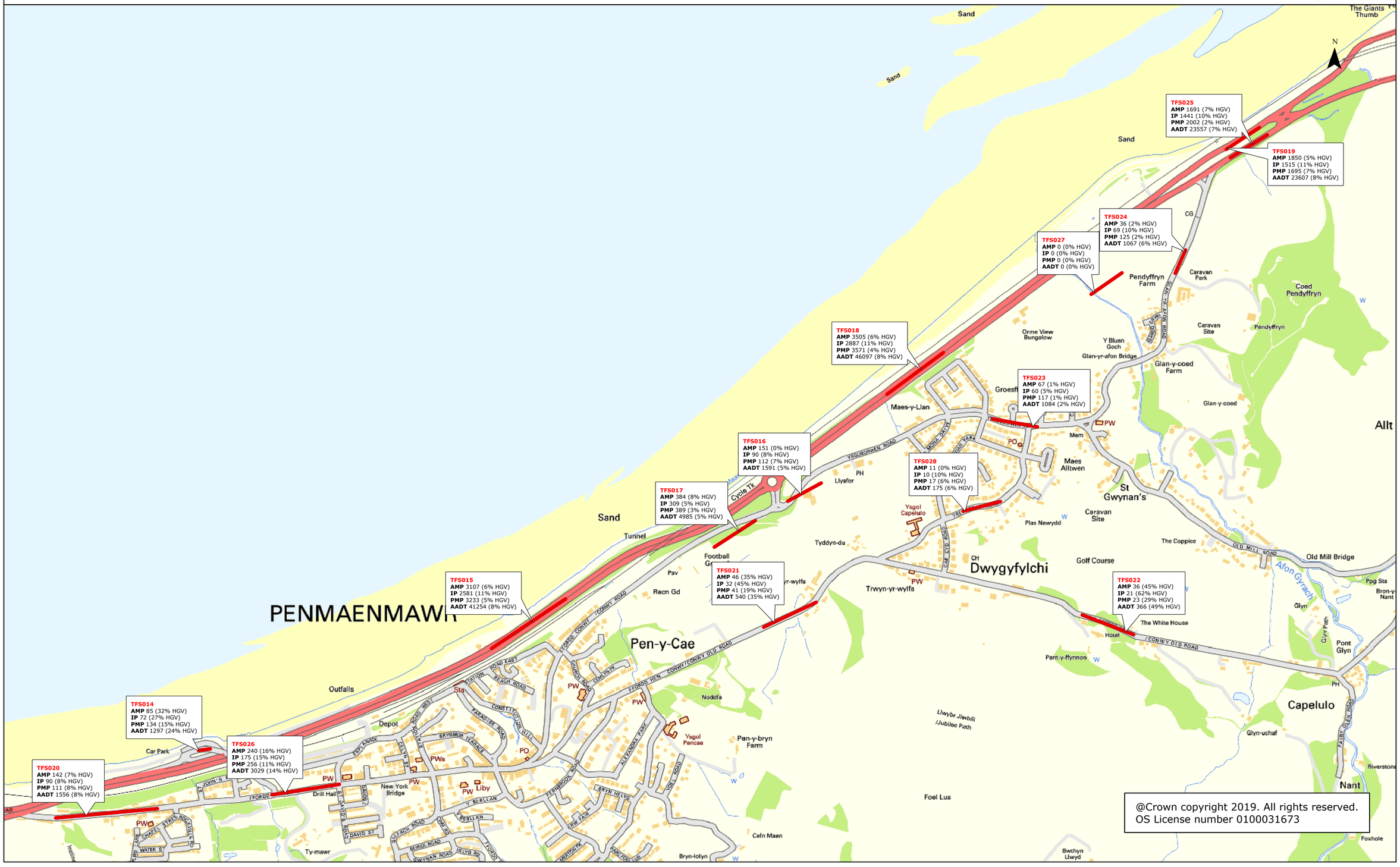
TFS012
AMP 3334 (6% HGV)
IP 2743 (12% HGV)
PMP 3479 (5% HGV)
AADT 44107 (8% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Penmaen Park
Nant-y-felin
Nant-y-pandy
Penmaenmawr Quarries (Granite)
Penmaen Mawr
Pen-dinas Quarry (Granite)
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Nyth Clyd Cottages
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Bont Newydd
Pont-y-Pentre
Gwern y Plas
Preswylfa
Tyddyn drain
Bryn Perthi Cottages
Tan-y-graig
Plas Heulog
Hafod-y-bryn
Tyddyn-drain Uchaf
Tan-y-geulan
Tan-y-geulan Farm
Tyddyn Rhonwy
Bryn-hyfryd
Erw-gron
Tyddyn Bedol
Felin-hen
Gerlan
Glan-yr-afon
Blaen-llwyn
Waen
Blaenau
Valve Compound
Tyddyn Angharad Uchaf
Pandy Farm
Ty'n-y-llwyfan Farm
Pont Nantypandy
Pont Nant-Dwyst
Nant-Dwyst
Ty-pitch
Cae-carw
Taro
Tan-rallt-isaf
Tan'rallt Ucha
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Golf Course
Industrial Estate
Fire Station
Underpass
Hospital
Water Tower
Recreation Ground
Sta
Nursery
Pont Cambwll
Llwyn-ysgolaig
Tan-y-ffordd
Bryn-y-goleu
T'yn Llwyn
Llenybyd
Garden Cottage
Gorddinog Isa
Jubilee Terrace
Llys-y-gwynt
Tai-hirion
Gwyllt Cottages
Reservoir
Madryn
Glan-y-mor Elias
Sand
Mean High Water
Nant-y-Felin-Fach
Llys Meddyg
Hafod Fadog
The Grove
Wern Newydd
Llanerch
Recn Gd
CH
Penlan
Tip
Quarries (Dis)
(cov)
Incline (dis)
N

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2037 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2051 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

AMP 3695 (6% HGV)
IP 3007 (12% HGV)
PMP 3821 (5% HGV)
AADT 48522 (8% HGV)

AMP 3695 (6% HGV)
IP 3007 (12% HGV)
PMP 3821 (5% HGV)
AADT 48522 (8% HGV)

AMP 85 (3% HGV)
IP 126 (5% HGV)
PMP 104 (0% HGV)
AADT 1587 (4% HGV)

AMP 85 (3% HGV)
IP 126 (5% HGV)
PMP 104 (0% HGV)
AADT 1587 (4% HGV)

AMP 594 (4% HGV)
IP 515 (6% HGV)
PMP 611 (3% HGV)
AADT 8015 (5% HGV)

AMP 420 (4% HGV)
IP 371 (5% HGV)
PMP 480 (1% HGV)
AADT 5887 (4% HGV)

AMP 95 (3% HGV)
IP 114 (4% HGV)
PMP 122 (0% HGV)
AADT 1598 (3% HGV)

AMP 389 (4% HGV)
IP 337 (5% HGV)
PMP 422 (1% HGV)
AADT 5325 (4% HGV)

AMP 3271 (7% HGV)
IP 2607 (13% HGV)
PMP 3502 (5% HGV)
AADT 42974 (9% HGV)

AMP 416 (2% HGV)
IP 241 (7% HGV)
PMP 289 (4% HGV)
AADT 4267 (5% HGV)

AMP 145 (4% HGV)
IP 103 (8% HGV)
PMP 126 (6% HGV)
AADT 1711 (6% HGV)

AMP 271 (1% HGV)
IP 138 (7% HGV)
PMP 163 (3% HGV)
AADT 2556 (4% HGV)

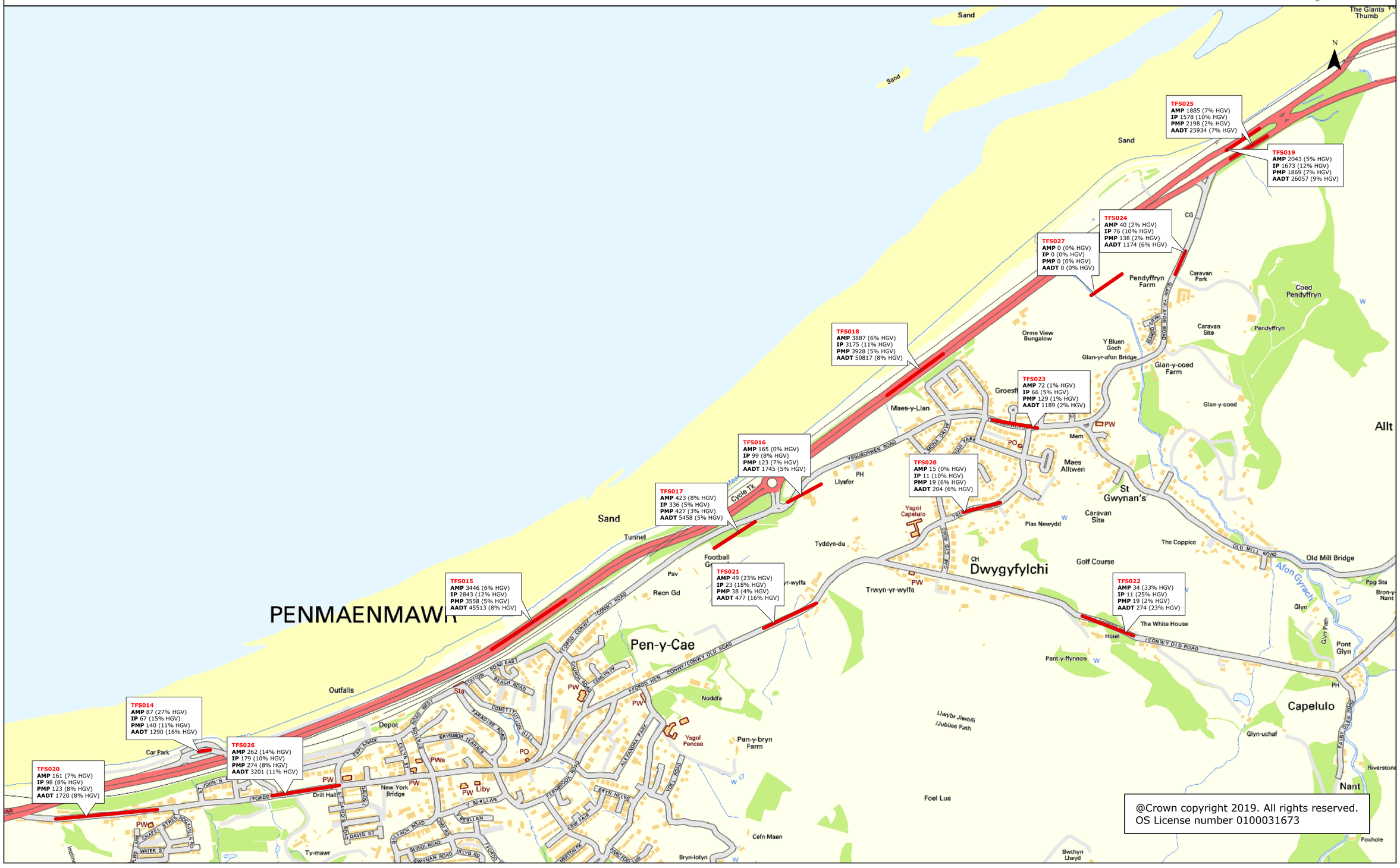
AMP 3688 (6% HGV)
IP 2848 (12% HGV)
PMP 3792 (5% HGV)
AADT 47241 (9% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Nant-y-felin
Nant-y-pandy
Penmaen Park
Penmaenmawr Quarries (Granite)
Penmaen Mawr
Pen-dinas Quarry (Granite)
Bryn-y-neuadd Hospital
Pont-y-Pentre
Pont Cambwll
Madryn
Sand
Mean High Water
Reservoir
Tip
Golf Course
Industrial Estate
Fire Station
Hospital
Water Tower
Recreation Ground
Nursery
Underpass
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Nyth Clyd Cottages
Quarries (Dis)
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Gwern y Plas
Preswylfa
Bont Newydd
Tyddyn drain
Tan-y-graig
Plas Heulog
Hafod-y-bryn
Tyddyn-drain Uchaf
Tan-y-geulan
Tan-y-geulan Farm
Tyddyn Rhonwy
Bryn-hyfryd
Erw-gron
Gerlan
The Lodge
Windy Pines
Blaen-llwyn
Glan-yr-afon
Valve Compound
Waen
Blaenau
Tyddyn Bedol
Felin-hen
Pandy Farm
Tyddyn Angharad Uchaf
Ty'n-y-llwyfan Farm
Pont Nantypandy
Pont Nant-Dwyst
Nant-Dwyst
Taro
Cae-carw
Ty-pitch
Tan-rallt-isaf
Tan'rallt Ucha
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Brynperthi Cottages
Penlan
Llanerch
Recn Gd
Ty'n Llwyn
Tan-y-ffordd
Bryn-y-goleu
Llwyn-ysgolaig
Tai-hirion
Gwyllt Cottages
Llys-y-gwynt
Jubilee Terrace
Garden Cottage
Gorddinog Isa
Llenybyd
Llys Meddyg
Hafod Fadog
The Grove
Wern Newydd
Glan-y-mor Elias
Nant-y-Felin-Fach
Afon Llanfairfechan
Afon Llam-feri
Schyd
Liby
Tip
Reservoir
Incline (dis)
Incline (dis)
Sand
Sand
Water
LC
LC
CH
PW
PO
TH
PWs
FB
N

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2051 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

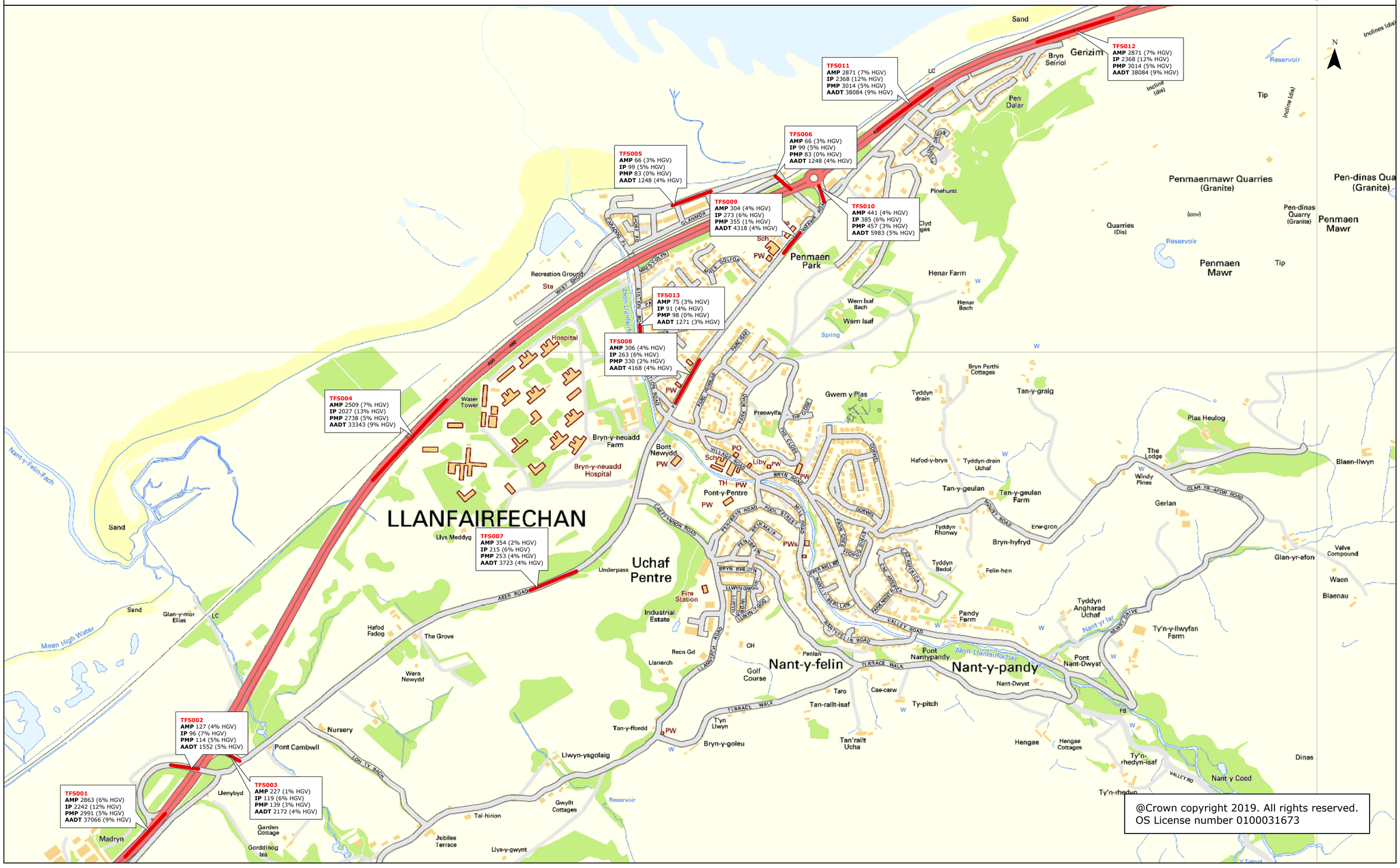
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2022 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

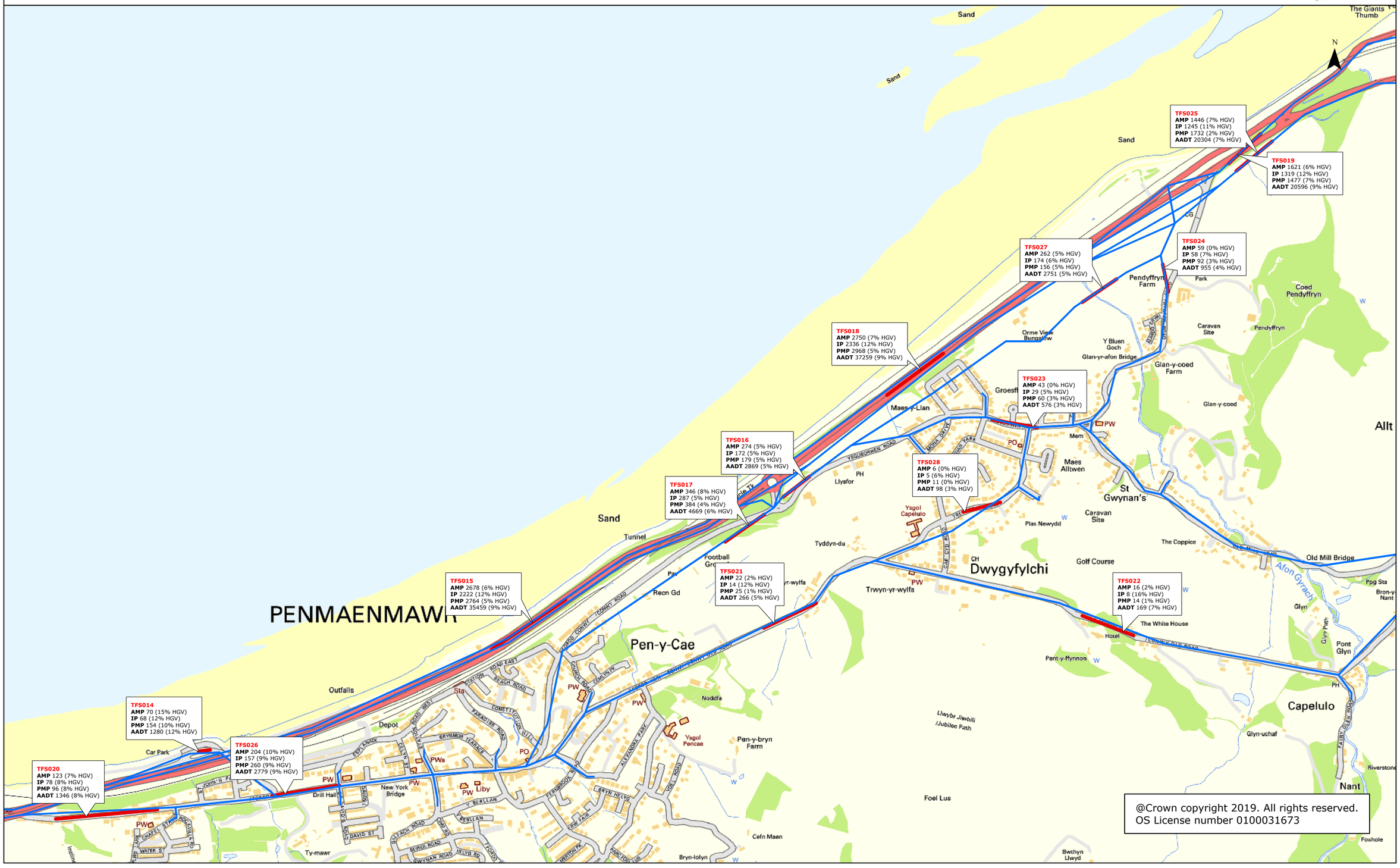
Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2022 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

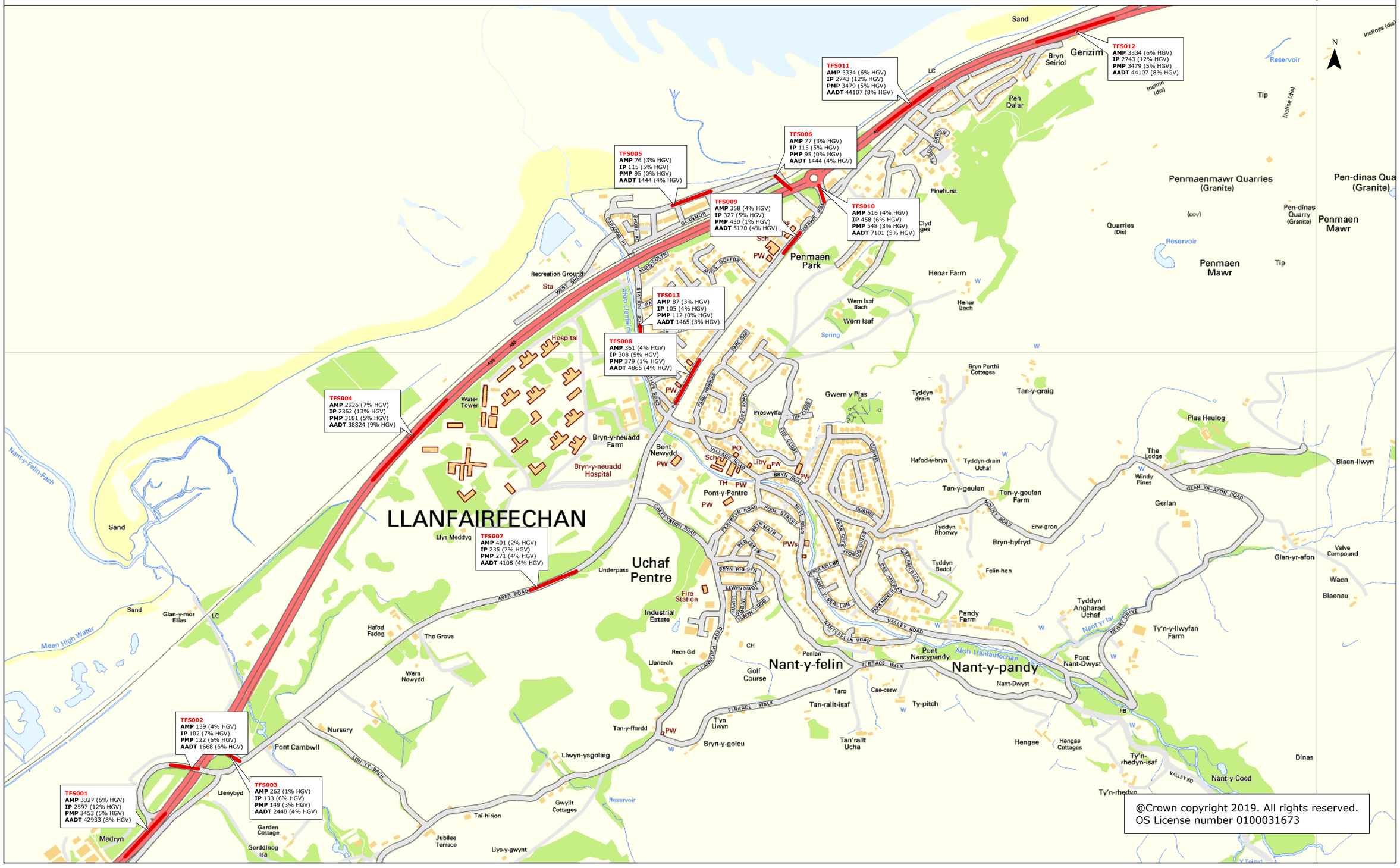
Traffic Forecast Site Reference (TFS)
AMP 2-Way Flow (%HGV)
IP 2-Way Flow (%HGV)
PMP 2-Way Flow (%HGV)
AADT 2-Way Flow (%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2037 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



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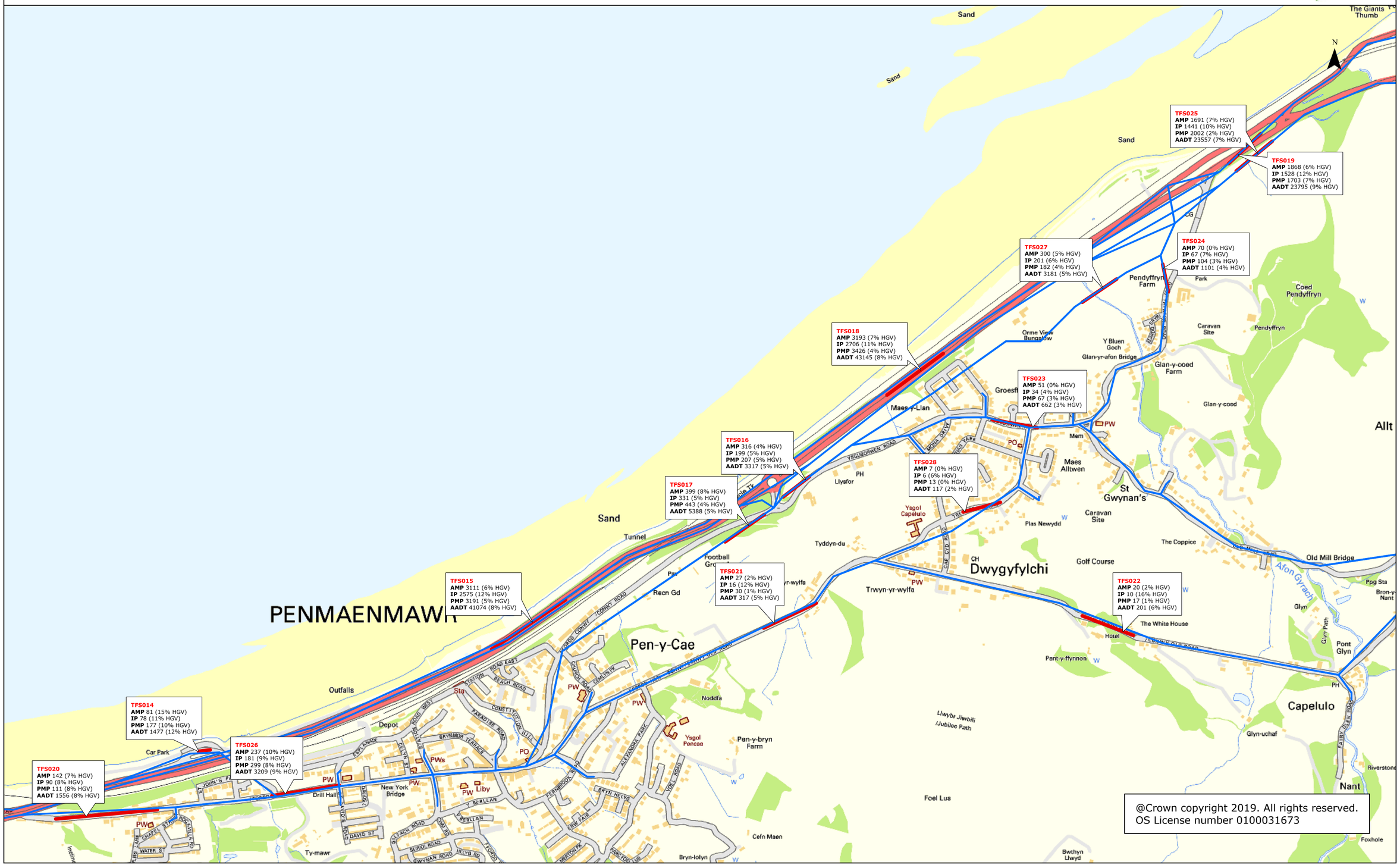
A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2037 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

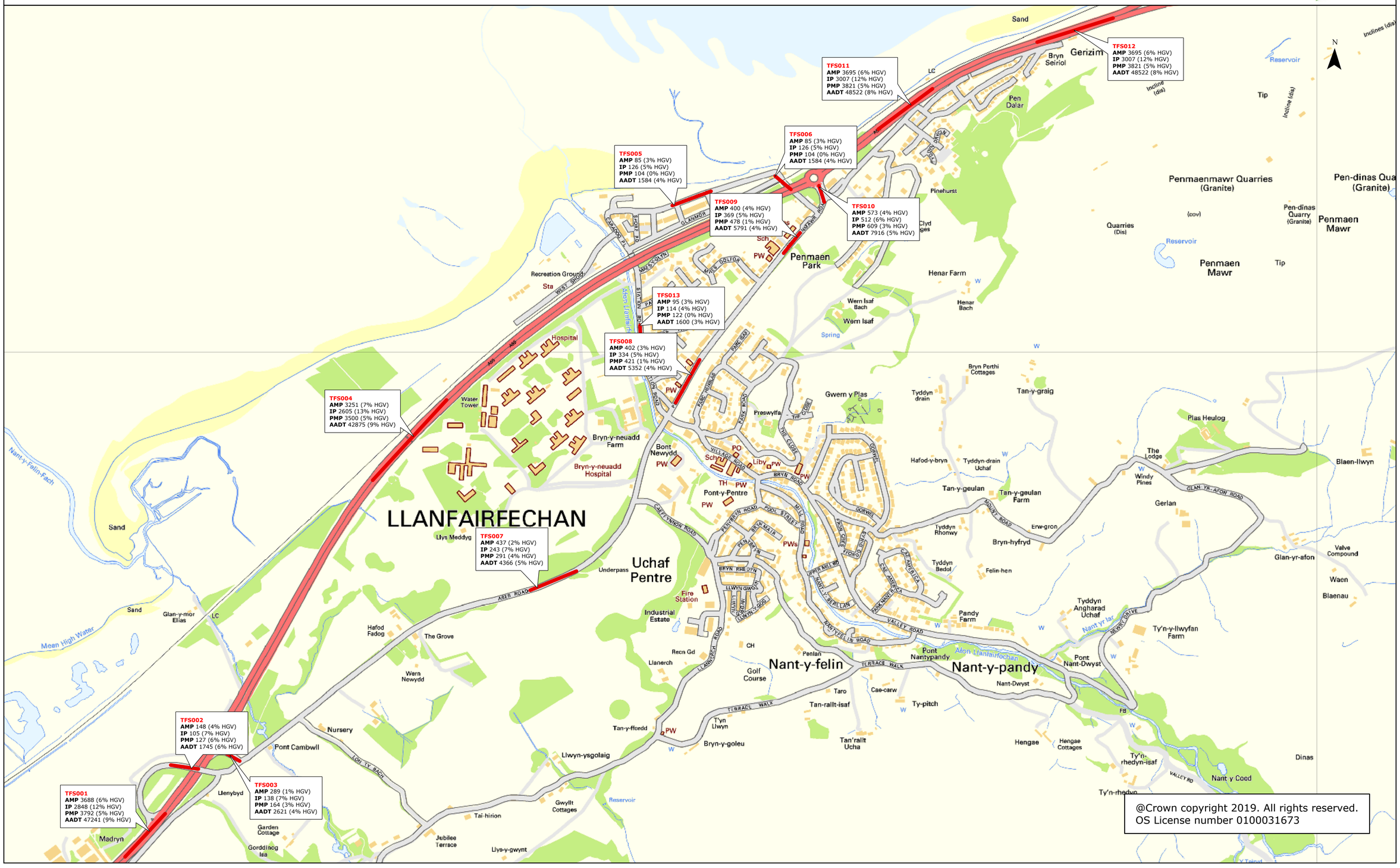
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2051 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

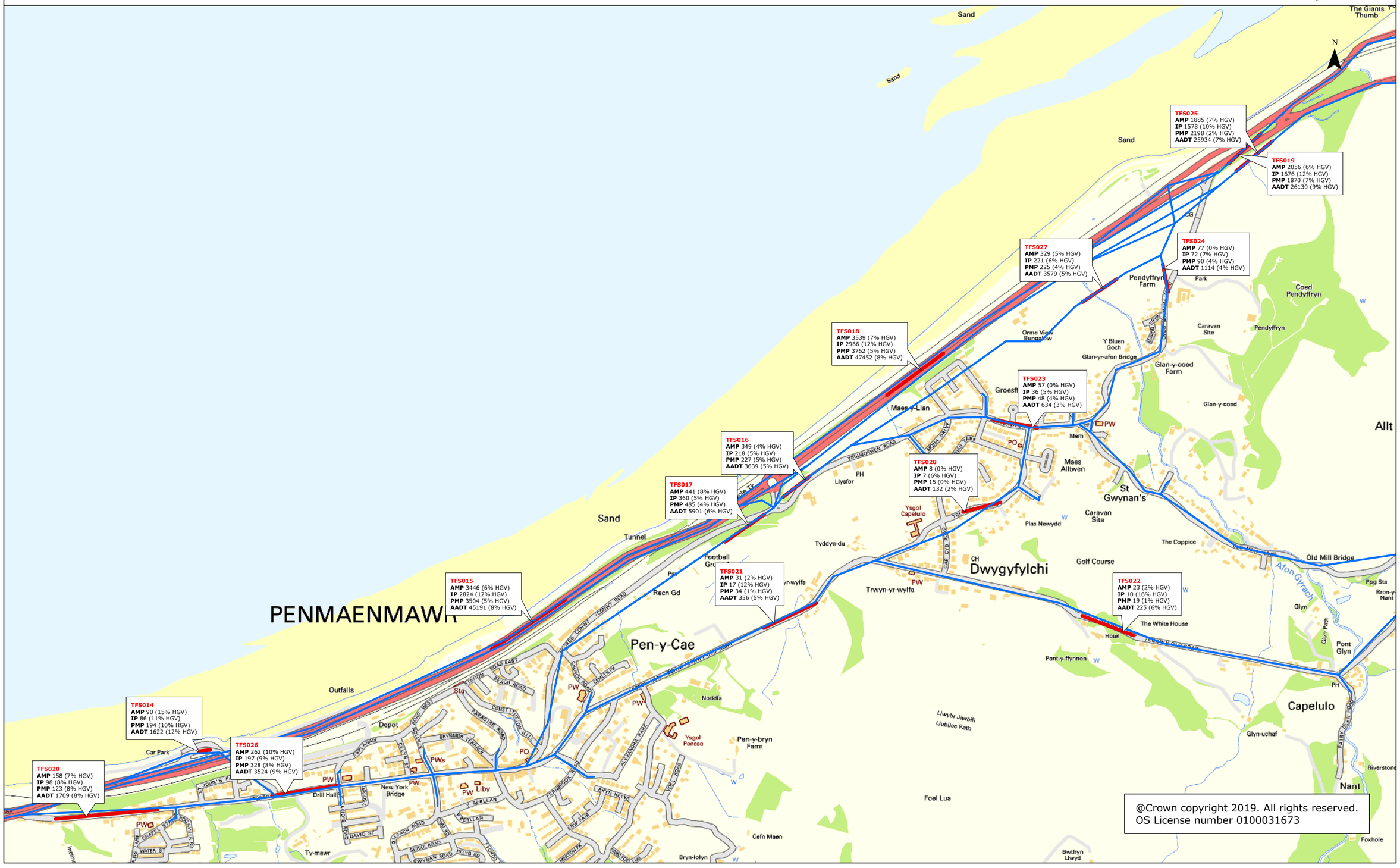
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
CORE SCENARIO - 2051 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



APPENDIX 4
''DO MINIMUM'' & ''DO SOMETHING'' FORECAST TRAFFIC FLOWS – HIGH & LOW GROWTH SCENARIOS

HIGH GROWTH SCENARIO

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2022 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 3038 (6% HGV)
IP 2379 (12% HGV)
PMP 3175 (5% HGV)
AADT 39335 (9% HGV)

TFS002
AMP 134 (4% HGV)
IP 98 (7% HGV)
PMP 117 (6% HGV)
AADT 1606 (6% HGV)

TFS003
AMP 241 (1% HGV)
IP 126 (6% HGV)
PMP 145 (3% HGV)
AADT 2296 (4% HGV)

TFS004
AMP 2663 (7% HGV)
IP 2155 (13% HGV)
PMP 2912 (5% HGV)
AADT 35433 (9% HGV)

TFS005
AMP 70 (3% HGV)
IP 105 (5% HGV)
PMP 88 (0% HGV)
AADT 1324 (4% HGV)

TFS006
AMP 70 (3% HGV)
IP 105 (5% HGV)
PMP 88 (0% HGV)
AADT 1324 (4% HGV)

TFS007
AMP 375 (2% HGV)
IP 224 (7% HGV)
PMP 262 (4% HGV)
AADT 3902 (4% HGV)

TFS008
AMP 325 (4% HGV)
IP 283 (5% HGV)
PMP 352 (2% HGV)
AADT 4454 (4% HGV)

TFS009
AMP 323 (4% HGV)
IP 293 (6% HGV)
PMP 383 (1% HGV)
AADT 4632 (4% HGV)

TFS010
AMP 468 (4% HGV)
IP 412 (6% HGV)
PMP 491 (3% HGV)
AADT 6398 (5% HGV)

TFS011
AMP 3047 (7% HGV)
IP 2512 (12% HGV)
PMP 3198 (5% HGV)
AADT 40415 (9% HGV)

TFS012
AMP 3047 (7% HGV)
IP 2512 (12% HGV)
PMP 3198 (5% HGV)
AADT 40415 (9% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Penmaen Park
Nant-y-felin
Nant-y-pandy
Penmaenmawr Quarries (Granite)
Pen-dinas Quarry (Granite)
Penmaen Mawr
Pen-dinas Qua (Granite)
Quarries (Dis)
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Bont Newydd
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Water Tower
Hospital
Recreation Ground
Sta
Sch
PW
PO
Liby
TH
PWs
Fire Station
Industrial Estate
Underpass
Llys Meddyg
Hafod Fadog
The Grove
Wern Newydd
Golf Course
Recn Gd
Llanerch
CH
Penlan
Pont Nantypandy
Nant-Dwyst
Pont Nant-Dwyst
Afon Llanfairfechan
Pandy Farm
Tyddyn Angharad Uchaf
Ty'n-y-llwyfan Farm
Gwern y Plas
Preswylfa
Tyddyn drain
Brym Perthi Cottages
Tan-y-graig
Plas Heulog
The Lodge
Windy Pines
Gerlan
Blaen-llwyn
Glan-yr-afon
Valve Compound
Waen
Blaenau
Tan-y-geulan
Tan-y-geulan Farm
Hafod-y-bryn
Tyddyn-drain Uchaf
Tyddyn Rhonwy
Bryn-hyfryd
Erw-gron
Tyddyn Bedol
Felin-hen
Taro
Cae-carw
Ty-pitch
Tan-rallt-isaf
Tan'rallt Ucha
Tan-y-ffordd
T'yn Llwyn
Bryn-y-goleu
Llwyn-ysgolaig
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Ty'n-rhedyn
Nant y Coed
Dinas
Nursery
Pont Cambwll
Llenybyd
Garden Cottage
Gorddinog Isa
Madryn
Tai-hirion
Jubilee Terrace
Llys-y-gwynt
Gwyllt Cottages
Reservoir
Sand
Glan-y-mor Elias
Mean High Water
Nant-y-Felin-Fach
Incline (dis)
Tip
Spring
N

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2022 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS025
AMP 1534 (7% HGV)
IP 1321 (11% HGV)
PMP 1836 (2% HGV)
AADT 21541 (7% HGV)

TFS019
AMP 1704 (5% HGV)
IP 1384 (11% HGV)
PMP 1559 (7% HGV)
AADT 21651 (9% HGV)

TFS024
AMP 32 (2% HGV)
IP 63 (10% HGV)
PMP 115 (2% HGV)
AADT 976 (6% HGV)

TFS027
AMP 0 (0% HGV)
IP 0 (0% HGV)
PMP 0 (0% HGV)
AADT 0 (0% HGV)

TFS018
AMP 3206 (6% HGV)
IP 2641 (11% HGV)
PMP 3281 (4% HGV)
AADT 42216 (8% HGV)

TFS023
AMP 60 (1% HGV)
IP 54 (5% HGV)
PMP 107 (1% HGV)
AADT 985 (2% HGV)

TFS016
AMP 138 (0% HGV)
IP 82 (8% HGV)
PMP 103 (7% HGV)
AADT 1452 (5% HGV)

TFS028
AMP 9 (0% HGV)
IP 10 (10% HGV)
PMP 16 (7% HGV)
AADT 159 (7% HGV)

TFS017
AMP 353 (8% HGV)
IP 284 (5% HGV)
PMP 358 (3% HGV)
AADT 4585 (5% HGV)

TFS015
AMP 2838 (6% HGV)
IP 2360 (12% HGV)
PMP 2969 (5% HGV)
AADT 37752 (8% HGV)

TFS021
AMP 41 (37% HGV)
IP 33 (51% HGV)
PMP 40 (25% HGV)
AADT 528 (41% HGV)

TFS022
AMP 32 (47% HGV)
IP 24 (68% HGV)
PMP 24 (38% HGV)
AADT 370 (55% HGV)

TFS014
AMP 78 (33% HGV)
IP 70 (31% HGV)
PMP 125 (16% HGV)
AADT 1229 (26% HGV)

TFS026
AMP 220 (16% HGV)
IP 165 (18% HGV)
PMP 239 (12% HGV)
AADT 2825 (16% HGV)

TFS020
AMP 130 (7% HGV)
IP 83 (8% HGV)
PMP 104 (10% HGV)
AADT 1434 (8% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2037 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 3708 (6% HGV)
IP 2895 (12% HGV)
PMP 3848 (5% HGV)
AADT 47853 (8% HGV)

TFS002
AMP 150 (4% HGV)
IP 108 (7% HGV)
PMP 130 (6% HGV)
AADT 1779 (6% HGV)

TFS003
AMP 292 (1% HGV)
IP 149 (6% HGV)
PMP 166 (3% HGV)
AADT 2720 (4% HGV)

TFS004
AMP 3266 (7% HGV)
IP 2639 (13% HGV)
PMP 3552 (5% HGV)
AADT 43354 (9% HGV)

TFS005
AMP 85 (3% HGV)
IP 128 (5% HGV)
PMP 106 (0% HGV)
AADT 1609 (4% HGV)

TFS006
AMP 85 (3% HGV)
IP 128 (5% HGV)
PMP 106 (0% HGV)
AADT 1610 (4% HGV)

TFS007
AMP 442 (2% HGV)
IP 256 (7% HGV)
PMP 296 (4% HGV)
AADT 4499 (5% HGV)

TFS008
AMP 407 (3% HGV)
IP 350 (5% HGV)
PMP 429 (1% HGV)
AADT 5503 (4% HGV)

TFS009
AMP 404 (4% HGV)
IP 370 (5% HGV)
PMP 486 (1% HGV)
AADT 5843 (4% HGV)

TFS010
AMP 579 (4% HGV)
IP 516 (6% HGV)
PMP 618 (3% HGV)
AADT 7995 (5% HGV)

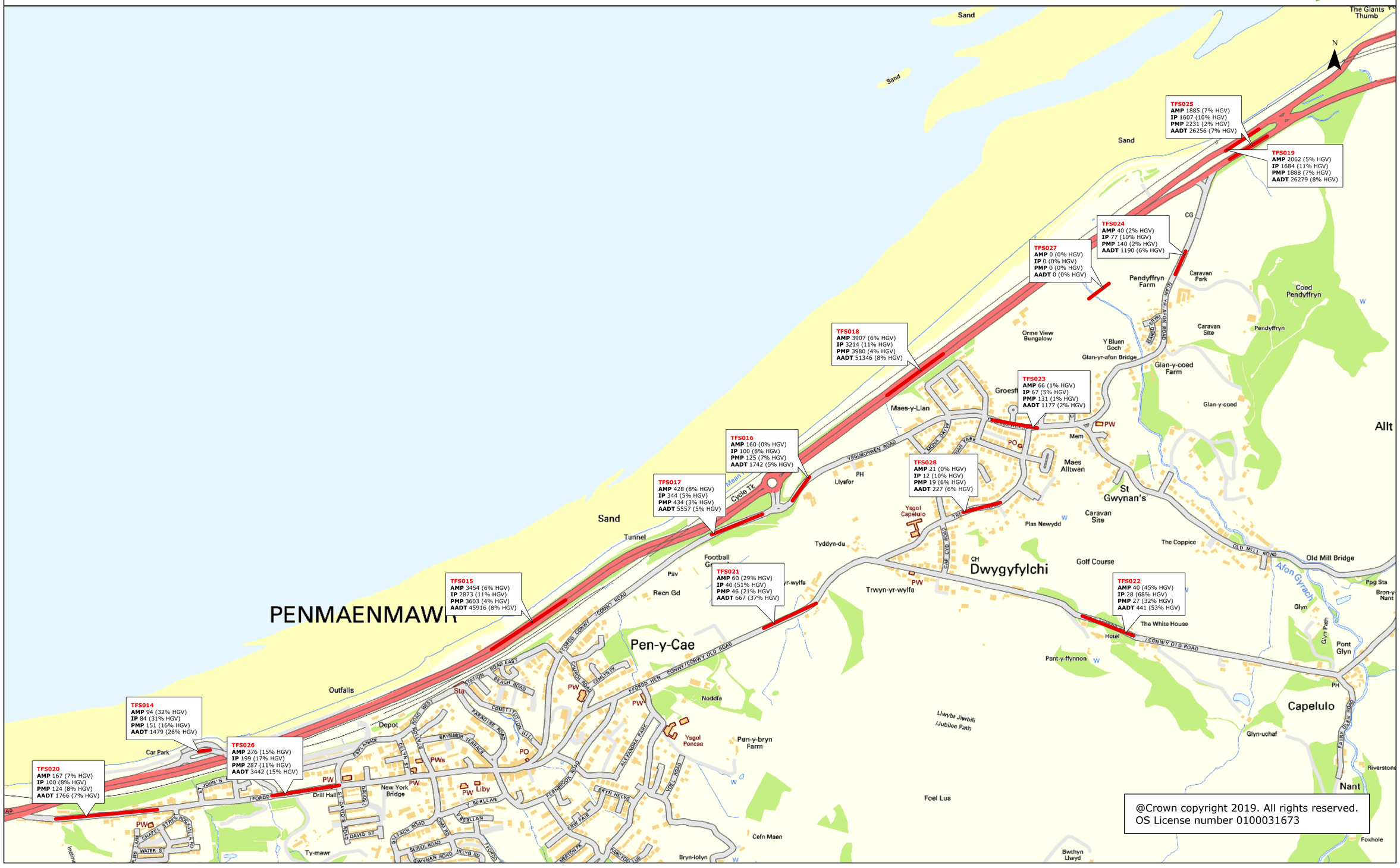
TFS011
AMP 3716 (6% HGV)
IP 3057 (12% HGV)
PMP 3878 (5% HGV)
AADT 49162 (8% HGV)

TFS012
AMP 3716 (6% HGV)
IP 3057 (12% HGV)
PMP 3878 (5% HGV)
AADT 49162 (8% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2037 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2051 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 4241 (6% HGV)
IP 3275 (12% HGV)
PMP 4360 (5% HGV)
AADT 54328 (9% HGV)

TFS002
AMP 165 (4% HGV)
IP 114 (8% HGV)
PMP 139 (6% HGV)
AADT 1911 (6% HGV)

TFS003
AMP 332 (1% HGV)
IP 166 (6% HGV)
PMP 188 (3% HGV)
AADT 3064 (4% HGV)

TFS004
AMP 3744 (7% HGV)
IP 2996 (13% HGV)
PMP 4032 (5% HGV)
AADT 49352 (9% HGV)

TFS005
AMP 97 (3% HGV)
IP 145 (5% HGV)
PMP 120 (0% HGV)
AADT 1823 (4% HGV)

TFS006
AMP 97 (3% HGV)
IP 145 (5% HGV)
PMP 120 (0% HGV)
AADT 1823 (4% HGV)

TFS007
AMP 497 (2% HGV)
IP 280 (7% HGV)
PMP 328 (5% HGV)
AADT 4976 (5% HGV)

TFS008
AMP 468 (3% HGV)
IP 399 (5% HGV)
PMP 492 (1% HGV)
AADT 6302 (4% HGV)

TFS009
AMP 465 (4% HGV)
IP 425 (5% HGV)
PMP 557 (1% HGV)
AADT 6707 (4% HGV)

TFS010
AMP 664 (4% HGV)
IP 590 (6% HGV)
PMP 707 (3% HGV)
AADT 9152 (5% HGV)

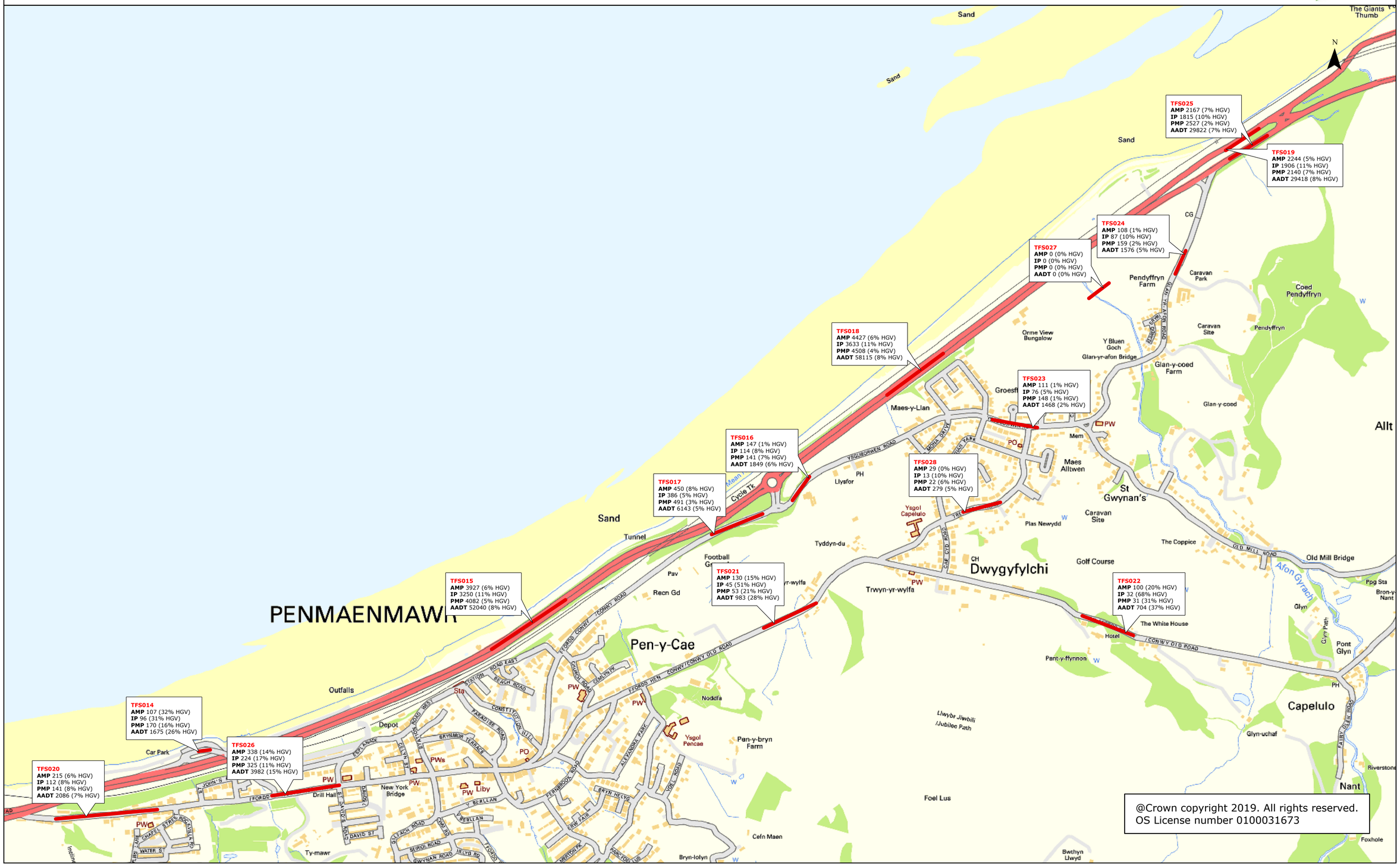
TFS011
AMP 4249 (6% HGV)
IP 3458 (12% HGV)
PMP 4394 (5% HGV)
AADT 55801 (8% HGV)

TFS012
AMP 4249 (6% HGV)
IP 3458 (12% HGV)
PMP 4394 (5% HGV)
AADT 55801 (8% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2051 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2022 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 3038 (6% HGV)
IP 2379 (12% HGV)
PMP 3175 (5% HGV)
AADT 39335 (9% HGV)

TFS002
AMP 131 (4% HGV)
IP 96 (7% HGV)
PMP 115 (6% HGV)
AADT 1576 (6% HGV)

TFS003
AMP 228 (1% HGV)
IP 117 (7% HGV)
PMP 137 (3% HGV)
AADT 2153 (4% HGV)

TFS004
AMP 2679 (7% HGV)
IP 2166 (13% HGV)
PMP 2922 (5% HGV)
AADT 35606 (9% HGV)

TFS005
AMP 70 (3% HGV)
IP 105 (5% HGV)
PMP 88 (0% HGV)
AADT 1325 (4% HGV)

TFS006
AMP 70 (3% HGV)
IP 105 (5% HGV)
PMP 88 (0% HGV)
AADT 1325 (4% HGV)

TFS007
AMP 359 (2% HGV)
IP 213 (7% HGV)
PMP 253 (4% HGV)
AADT 3729 (5% HGV)

TFS008
AMP 314 (4% HGV)
IP 275 (6% HGV)
PMP 346 (2% HGV)
AADT 4341 (4% HGV)

TFS009
AMP 339 (4% HGV)
IP 305 (5% HGV)
PMP 393 (1% HGV)
AADT 4806 (4% HGV)

TFS010
AMP 484 (4% HGV)
IP 423 (6% HGV)
PMP 501 (3% HGV)
AADT 6571 (5% HGV)

TFS011
AMP 3047 (7% HGV)
IP 2512 (12% HGV)
PMP 3198 (5% HGV)
AADT 40415 (9% HGV)

TFS012
AMP 3047 (7% HGV)
IP 2512 (12% HGV)
PMP 3198 (5% HGV)
AADT 40415 (9% HGV)

LLANFAIRFECHAN
Uchaf
Pentre
Penmaen
Park
Nant-y-felin
Nant-y-pandy
Penmaenmawr Quarries (Granite)
Penmaen Mawr
Pen-dinas Quarry (Granite)
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Nyth Clyd Cottages
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Gwern y Plas
Preswylfa
Bont Newydd
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Pont-y-Pentre
Tyddyn drain
Tan-y-graig
Plas Heulog
Hafod-y-bryn
Tyddyn-drain Uchaf
Tan-y-geulan
Tan-y-geulan Farm
Tyddyn Rhonwy
Bryn-hyfryd
Erw-gron
Gerlan
Blaen-llwyn
Glan-yr-afon
Valve Compound
Waen
Blaenau
Tyddyn Bedol
Felin-hen
Pandy Farm
Tyddyn Angharad Uchaf
Ty'n-y-llwyfan Farm
Pont Nantypandy
Pont Nant-Dwyst
Nant-Dwyst
Cae-carw
Ty-pitch
Taro
Tan-rallt-isaf
Tan'rallt Ucha
Tan-y-ffordd
T'yn Llwyn
Bryn-y-goleu
Llwyn-ysgolaig
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Ty'n-rhedyn
Bryn Perthi Cottages
Water Tower
Hospital
Recreation Ground
Sta
Nursery
Pont Cambwll
Llenybyd
Madryn
Garden Cottage
Gorddinog Isa
Jubilee Terrace
Llys-y-gwynt
Tai-hirion
Gwyllt Cottages
Reservoir
Underpass
Fire Station
Industrial Estate
Golf Course
Recn Gd
Llanerch
Hafod Fadog
The Grove
Wern Newydd
Llys Meddyg
Sand
Glan-y-mor Elias
Mean High Water
Nant-y-Felin-Fach
Afon Llanfairfechan
Penlan
CH
PW
PWs
TH
PO
Schy
Liby
Tip
Quarries (Dis)
(cov)
Incline (dis)
Sand
LC
N
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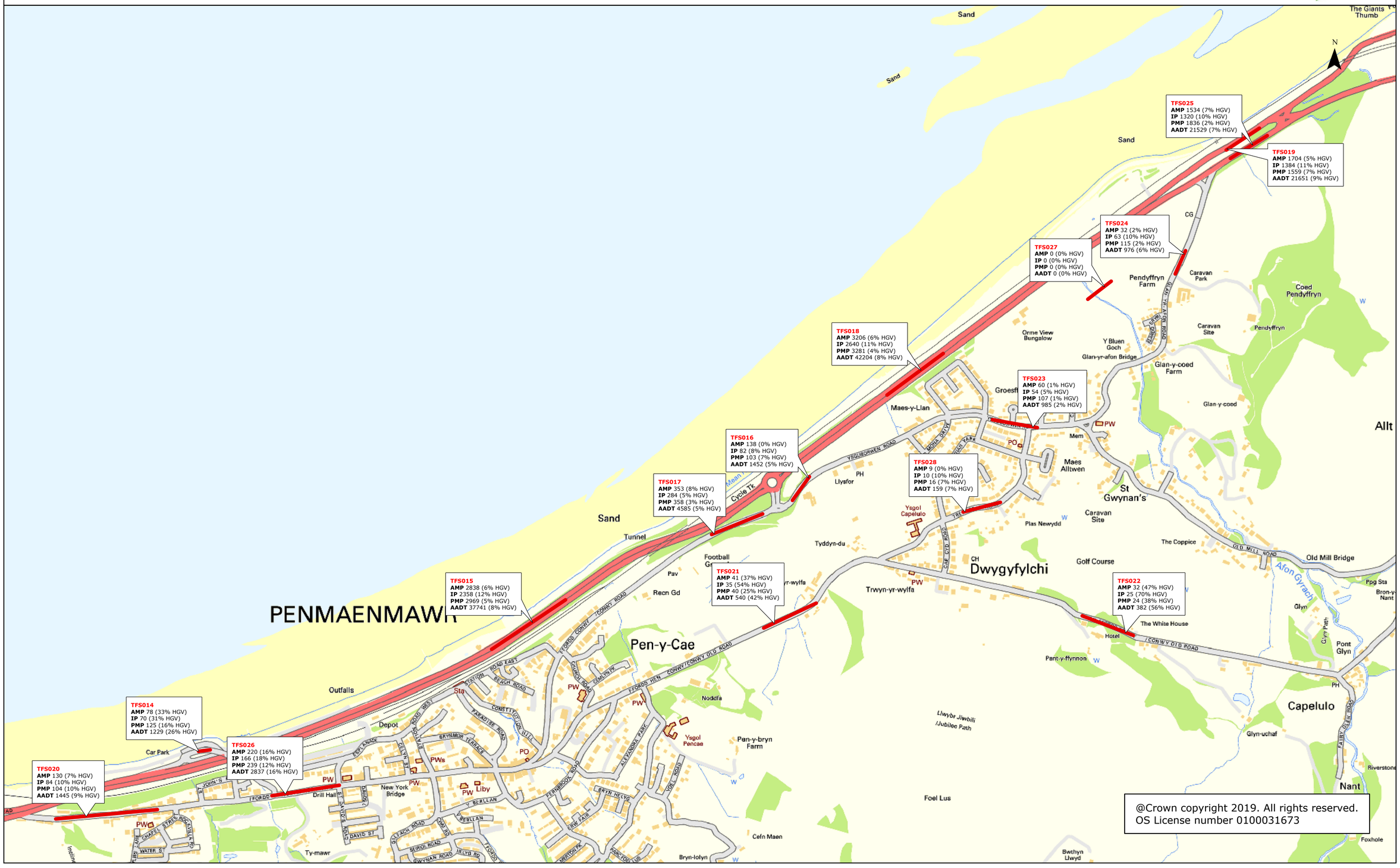
A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2022 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2037 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS012
AMP 3716 (6% HGV)
IP 3057 (12% HGV)
PMP 3878 (5% HGV)
AADT 49162 (8% HGV)

TFS011
AMP 3716 (6% HGV)
IP 3057 (12% HGV)
PMP 3878 (5% HGV)
AADT 49162 (8% HGV)

TFS006
AMP 85 (3% HGV)
IP 128 (5% HGV)
PMP 106 (0% HGV)
AADT 1611 (4% HGV)

TFS005
AMP 85 (3% HGV)
IP 128 (5% HGV)
PMP 106 (0% HGV)
AADT 1611 (4% HGV)

TFS009
AMP 423 (3% HGV)
IP 380 (5% HGV)
PMP 487 (1% HGV)
AADT 5988 (4% HGV)

TFS010
AMP 599 (4% HGV)
IP 526 (6% HGV)
PMP 619 (3% HGV)
AADT 8139 (5% HGV)

TFS013
AMP 96 (3% HGV)
IP 117 (4% HGV)
PMP 125 (0% HGV)
AADT 1633 (3% HGV)

TFS008
AMP 393 (4% HGV)
IP 345 (5% HGV)
PMP 430 (1% HGV)
AADT 5421 (4% HGV)

TFS004
AMP 3285 (7% HGV)
IP 2648 (12% HGV)
PMP 3553 (5% HGV)
AADT 43498 (9% HGV)

TFS007
AMP 423 (2% HGV)
IP 247 (7% HGV)
PMP 295 (4% HGV)
AADT 4355 (5% HGV)

TFS002
AMP 147 (4% HGV)
IP 105 (7% HGV)
PMP 129 (6% HGV)
AADT 1747 (6% HGV)

TFS001
AMP 3708 (6% HGV)
IP 2895 (12% HGV)
PMP 3848 (5% HGV)
AADT 47853 (8% HGV)

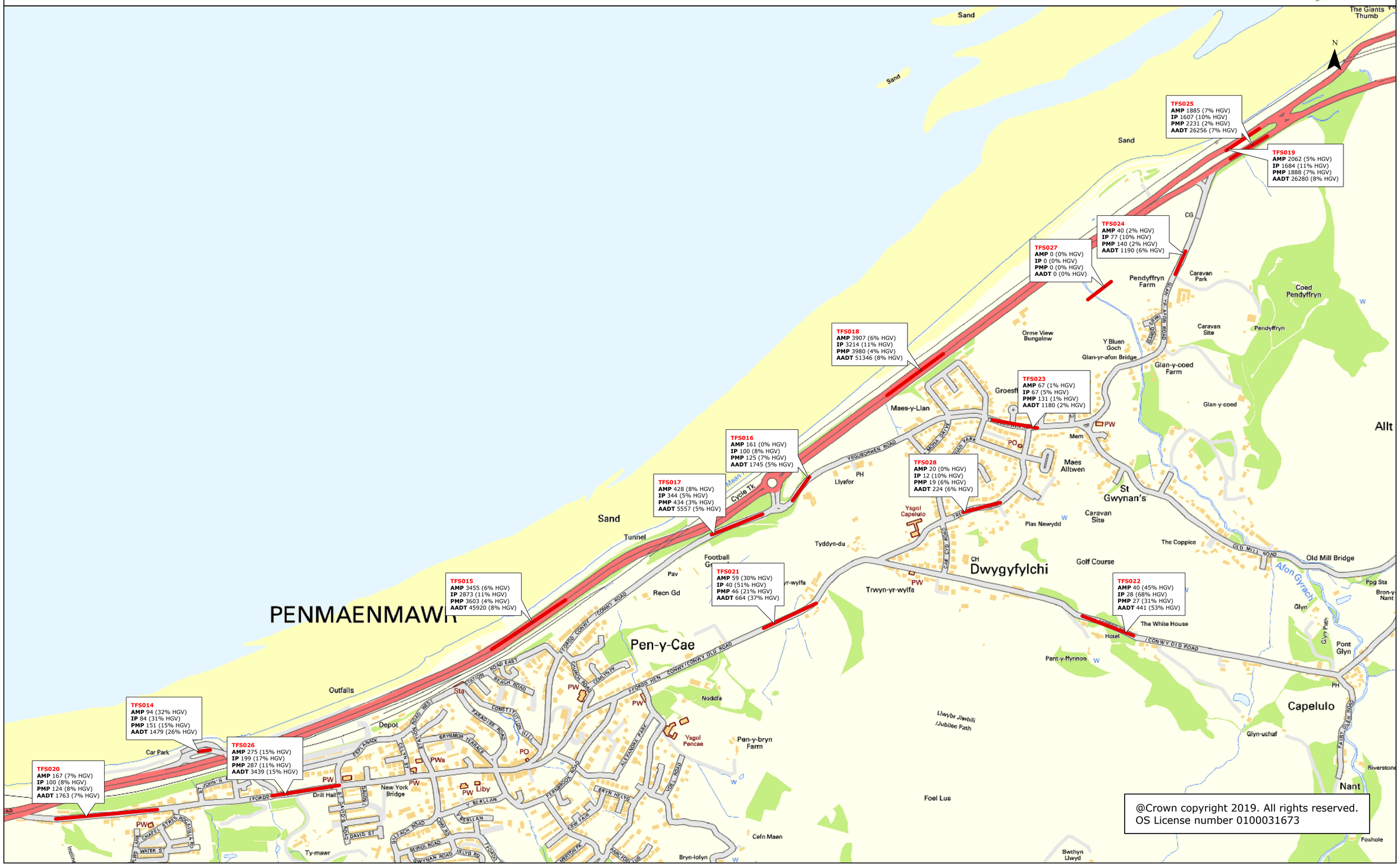
TFS003
AMP 276 (1% HGV)
IP 141 (7% HGV)
PMP 166 (3% HGV)
AADT 2608 (4% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Nant-y-felin
Nant-y-pandy
Penmaen Park
Penmaenmawr Quarries (Granite)
Penmaen Mawr
Pen-dinas Quarry (Granite)
Pen-dinas Qua (Granite)
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Nyth Clyd Cottages
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Bryn Perthi Cottages
Tyddyn drain
Tan-y-graig
Gwern y Plas
Preswylfa
Plas Heulog
Bont Newydd
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Pont-y-Pentre
Tyddyn-drain Uchaf
Hafod-y-bryn
Tan-y-geulan
Tan-y-geulan Farm
The Lodge
Windy Pines
Gerlan
Blaen-llwyn
Glan-yr-afon
Valve Compound
Waen
Blaenau
Erw-gron
Bryn-hyfryd
Tyddyn Rhonwy
Tyddyn Bedol
Felin-hen
Pandy Farm
Tyddyn Angharad Uchaf
Ty'n-y-llwyfan Farm
Pont Nantypandy
Pont Nant-Dwyst
Nant-Dwyst
Nant yr Iar
Afon Llanfairfechan
Golf Course
Taro
Cae-carw
Ty-pitch
Tan-rallt-isaf
Tan'rallt Ucha
Tan-y-ffordd
T'yn Llwyn
Bryn-y-goleu
Llwyn-ysgolaig
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Ty'n-rhedyn
Hafod Fadog
The Grove
Wern Newydd
Nursery
Pont Cambwll
Llenybyd
Garden Cottage
Gorddinog Isa
Madryn
Tai-hirion
Gwyllt Cottages
Jubilee Terrace
Llys-y-gwynt
Llys Meddyg
Underpass
Industrial Estate
Fire Station
Recn Gd
Llanerch
Penlan
Ch
Sand
Glan-y-mor Elias
Mean High Water
Nant-y-Felin-Fach
Recreation Ground
Sta
Hospital
Water Tower
Reservoir
Tip
Quarries (Dis)
Incline (dis)
Inclines (dis)
(cov)
PW
PO
Schy
Liby
TH
PWs
N

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2037 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2051 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 4241 (6% HGV)
IP 3275 (12% HGV)
PMP 4360 (5% HGV)
AADT 54328 (9% HGV)

TFS002
AMP 163 (4% HGV)
IP 112 (8% HGV)
PMP 137 (6% HGV)
AADT 1882 (6% HGV)

TFS003
AMP 313 (1% HGV)
IP 159 (7% HGV)
PMP 187 (3% HGV)
AADT 2942 (4% HGV)

TFS004
AMP 3765 (7% HGV)
IP 3535 (26% HGV)
PMP 4035 (5% HGV)
AADT 49503 (9% HGV)

TFS005
AMP 97 (3% HGV)
IP 145 (5% HGV)
PMP 120 (0% HGV)
AADT 1824 (4% HGV)

TFS006
AMP 97 (3% HGV)
IP 145 (5% HGV)
PMP 120 (0% HGV)
AADT 1824 (4% HGV)

TFS007
AMP 476 (2% HGV)
IP 271 (7% HGV)
PMP 325 (4% HGV)
AADT 4824 (5% HGV)

TFS008
AMP 452 (4% HGV)
IP 394 (5% HGV)
PMP 493 (1% HGV)
AADT 6211 (4% HGV)

TFS009
AMP 486 (4% HGV)
IP 434 (5% HGV)
PMP 560 (1% HGV)
AADT 6859 (4% HGV)

TFS010
AMP 685 (4% HGV)
IP 598 (6% HGV)
PMP 710 (3% HGV)
AADT 9300 (5% HGV)

TFS011
AMP 4249 (6% HGV)
IP 3458 (12% HGV)
PMP 4394 (5% HGV)
AADT 55801 (8% HGV)

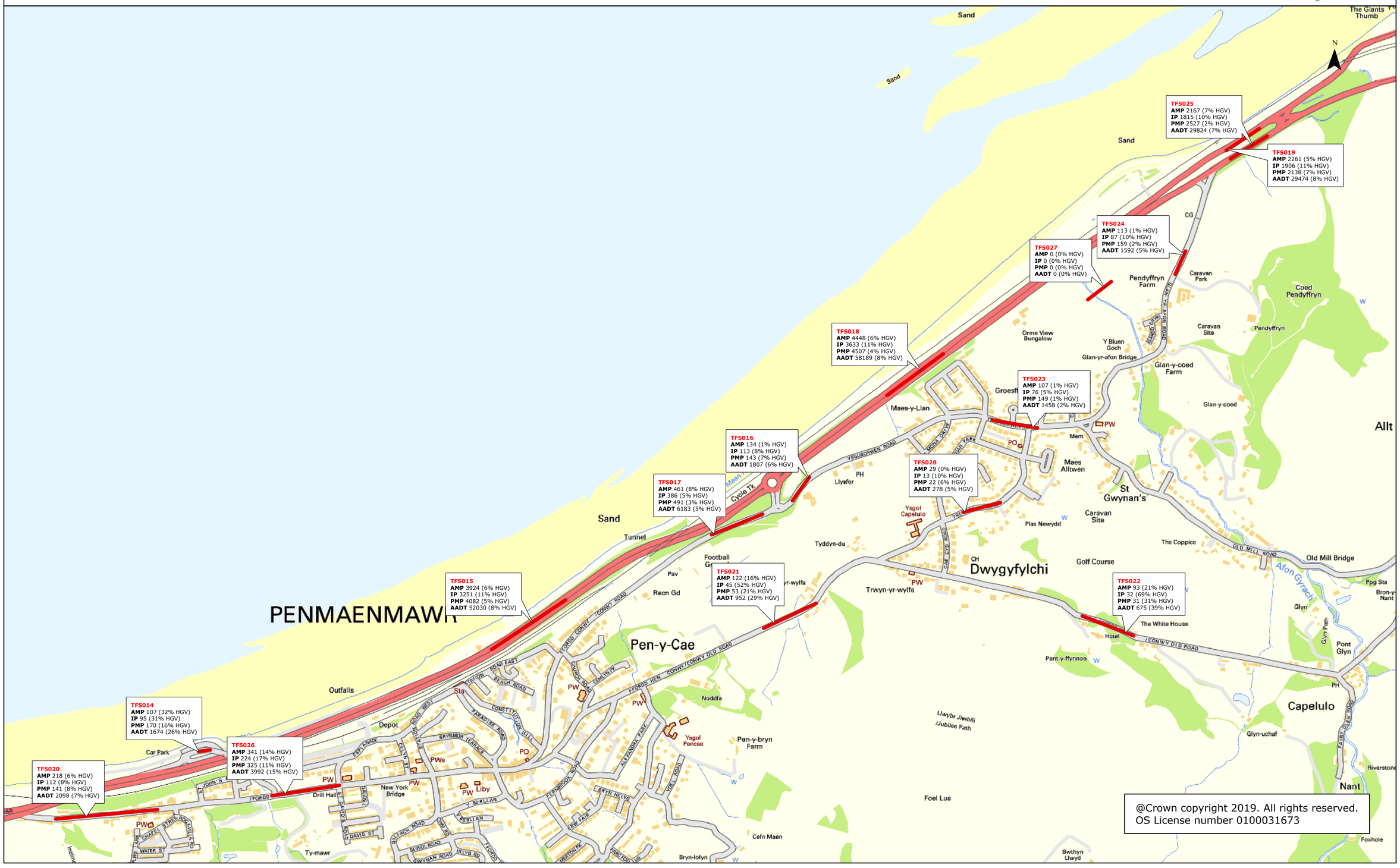
TFS012
AMP 4249 (6% HGV)
IP 3458 (12% HGV)
PMP 4394 (5% HGV)
AADT 55801 (8% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Penmaen Park
Nant-y-felin
Nant-y-pandy
Penmaenmawr Quarries (Granite)
Penmaen Mawr
Pen-dinas Quarry (Granite)
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Nyth Clyd Cottages
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Bont Newydd
Pont-y-Pentre
Gwern y Plas
Preswylfa
Tyddyn drain
Bryn Perthi Cottages
Tan-y-graig
Plas Heulog
Hafod-y-bryn
Tyddyn-drain Uchaf
Tan-y-geulan
Tan-y-geulan Farm
Tyddyn Rhonwy
Bryn-hyfryd
Erw-gron
Tyddyn Bedol
Felin-hen
The Lodge
Windy Pines
Gerlan
Blaen-llwyn
Glan-yr-afon
Valve Compound
Waen
Blaenau
Tyddyn Angharad Uchaf
Pandy Farm
Ty'n-y-llwyfan Farm
Pont Nantypandy
Pont Nant-Dwyst
Nant-Dwyst
Ty-pitch
Cae-carw
Taro
Tan-rallt-isaf
Tan'rallt Ucha
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Ty'n-rhedyn
Fire Station
Industrial Estate
Golf Course
Recn Gd
Llanerch
Penlan
CH
The Grove
Hafod Fadog
Wern Newydd
Llys Meddyg
Underpass
Water Tower
Hospital
Recreation Ground
Sta
Nursery
Pont Cambwll
Llenybyd
Madryn
Garden Cottage
Gorddinog Isa
Jubilee Terrace
Llys-y-gwynt
Tai-hirion
Gwyllt Cottages
Llwyn-ysgolaig
Bryn-y-goleu
Tan-y-ffordd
T'yn Llwyn
Penmaen Quarry (Granite)
Quarries (Dis)
Pen-dinas Quarry (Granite)
Penmaen Mawr
Tip
Reservoir
Incline (dis)
Sand
Mean High Water
Nant-y-Felin-Fach
Afon Llanfairfechan
Afon Llamaich
LC
PW
PO
Schl
Liby
TH
PWs
FB

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2051 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2022 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 3038 (6% HGV)
IP 2379 (12% HGV)
PMP 3175 (5% HGV)
AADT 39335 (9% HGV)

TFS002
AMP 134 (4% HGV)
IP 98 (7% HGV)
PMP 117 (6% HGV)
AADT 1606 (6% HGV)

TFS003
AMP 241 (1% HGV)
IP 126 (6% HGV)
PMP 145 (3% HGV)
AADT 2296 (4% HGV)

TFS004
AMP 2663 (7% HGV)
IP 2155 (13% HGV)
PMP 2912 (5% HGV)
AADT 35433 (9% HGV)

TFS005
AMP 70 (3% HGV)
IP 105 (5% HGV)
PMP 88 (0% HGV)
AADT 1324 (4% HGV)

TFS006
AMP 70 (3% HGV)
IP 105 (5% HGV)
PMP 88 (0% HGV)
AADT 1324 (4% HGV)

TFS007
AMP 375 (2% HGV)
IP 224 (7% HGV)
PMP 262 (4% HGV)
AADT 3902 (4% HGV)

TFS008
AMP 325 (4% HGV)
IP 283 (5% HGV)
PMP 352 (2% HGV)
AADT 4455 (4% HGV)

TFS009
AMP 323 (4% HGV)
IP 293 (6% HGV)
PMP 383 (1% HGV)
AADT 4633 (4% HGV)

TFS010
AMP 468 (4% HGV)
IP 412 (6% HGV)
PMP 491 (3% HGV)
AADT 6399 (5% HGV)

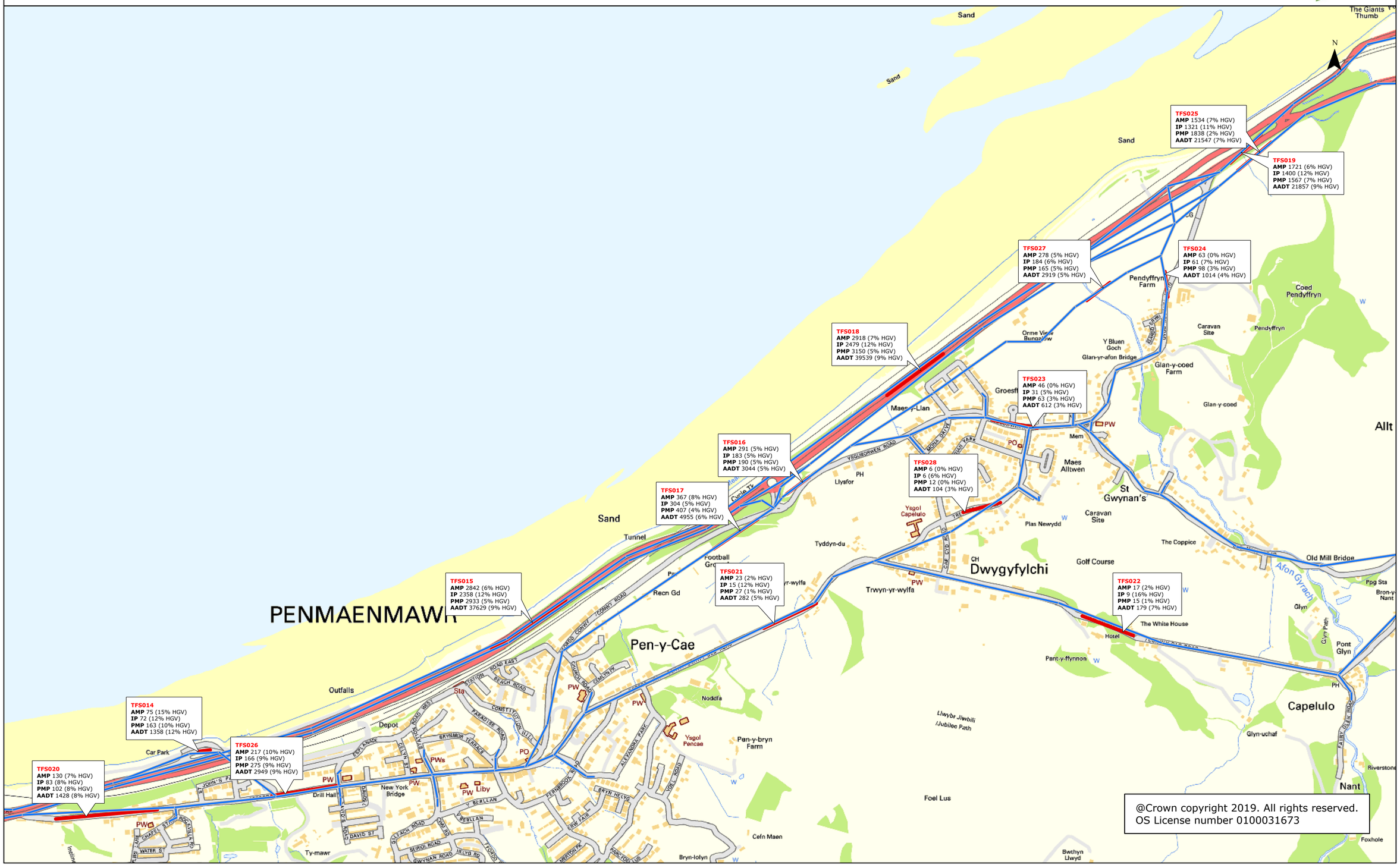
TFS011
AMP 3047 (7% HGV)
IP 2512 (12% HGV)
PMP 3198 (5% HGV)
AADT 40415 (9% HGV)

TFS012
AMP 3047 (7% HGV)
IP 2512 (12% HGV)
PMP 3198 (5% HGV)
AADT 40415 (9% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2022 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2037 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 3708 (6% HGV)
IP 2895 (12% HGV)
PMP 3848 (5% HGV)
AADT 47853 (8% HGV)

TFS002
AMP 151 (4% HGV)
IP 108 (7% HGV)
PMP 130 (6% HGV)
AADT 1781 (6% HGV)

TFS003
AMP 292 (1% HGV)
IP 149 (6% HGV)
PMP 166 (3% HGV)
AADT 2720 (4% HGV)

TFS004
AMP 3265 (7% HGV)
IP 2639 (13% HGV)
PMP 3552 (5% HGV)
AADT 43352 (9% HGV)

TFS005
AMP 85 (3% HGV)
IP 128 (5% HGV)
PMP 106 (0% HGV)
AADT 1609 (4% HGV)

TFS006
AMP 85 (3% HGV)
IP 128 (5% HGV)
PMP 106 (0% HGV)
AADT 1609 (4% HGV)

TFS007
AMP 443 (2% HGV)
IP 256 (7% HGV)
PMP 296 (4% HGV)
AADT 4501 (5% HGV)

TFS008
AMP 406 (3% HGV)
IP 350 (5% HGV)
PMP 429 (1% HGV)
AADT 5501 (4% HGV)

TFS009
AMP 403 (4% HGV)
IP 370 (5% HGV)
PMP 486 (1% HGV)
AADT 5841 (4% HGV)

TFS010
AMP 579 (4% HGV)
IP 516 (5% HGV)
PMP 618 (3% HGV)
AADT 7993 (5% HGV)

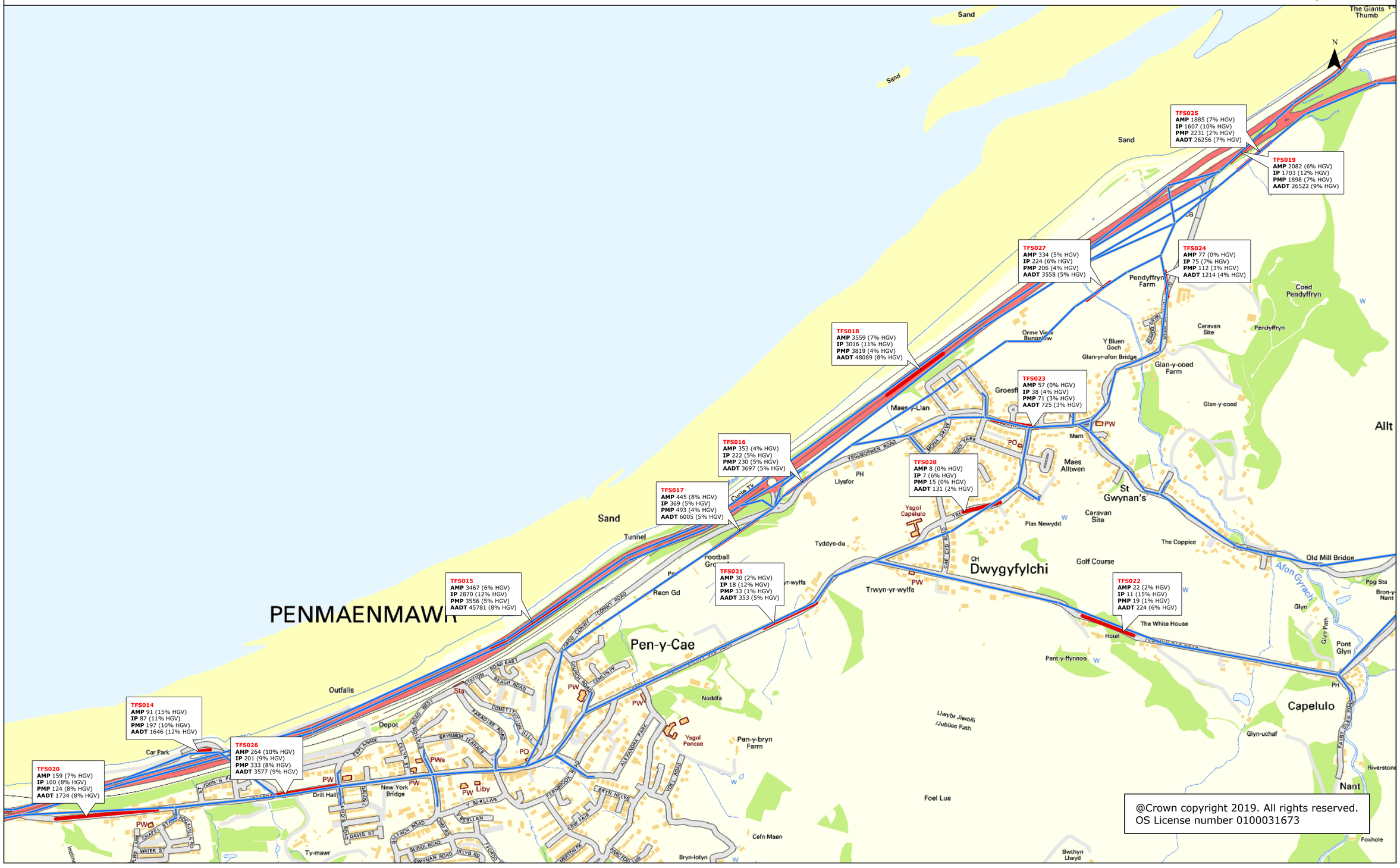
TFS011
AMP 3716 (6% HGV)
IP 3057 (12% HGV)
PMP 3878 (5% HGV)
AADT 49162 (8% HGV)

TFS012
AMP 3716 (6% HGV)
IP 3057 (12% HGV)
PMP 3878 (5% HGV)
AADT 49162 (8% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2037 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2051 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 4241 (6% HGV)
IP 3275 (12% HGV)
PMP 4360 (5% HGV)
AADT 54328 (9% HGV)

TFS002
AMP 162 (4% HGV)
IP 113 (8% HGV)
PMP 136 (6% HGV)
AADT 1885 (6% HGV)

TFS003
AMP 332 (1% HGV)
IP 166 (6% HGV)
PMP 191 (3% HGV)
AADT 3081 (4% HGV)

TFS004
AMP 3746 (7% HGV)
IP 2996 (13% HGV)
PMP 4033 (5% HGV)
AADT 49362 (9% HGV)

TFS005
AMP 97 (3% HGV)
IP 145 (5% HGV)
PMP 125 (0% HGV)
AADT 1841 (4% HGV)

TFS006
AMP 97 (3% HGV)
IP 145 (5% HGV)
PMP 125 (0% HGV)
AADT 1841 (4% HGV)

TFS007
AMP 494 (2% HGV)
IP 280 (7% HGV)
PMP 327 (4% HGV)
AADT 4966 (5% HGV)

TFS008
AMP 471 (3% HGV)
IP 400 (5% HGV)
PMP 494 (2% HGV)
AADT 6329 (4% HGV)

TFS009
AMP 468 (4% HGV)
IP 425 (5% HGV)
PMP 553 (1% HGV)
AADT 6700 (4% HGV)

TFS010
AMP 667 (4% HGV)
IP 589 (6% HGV)
PMP 709 (3% HGV)
AADT 9165 (5% HGV)

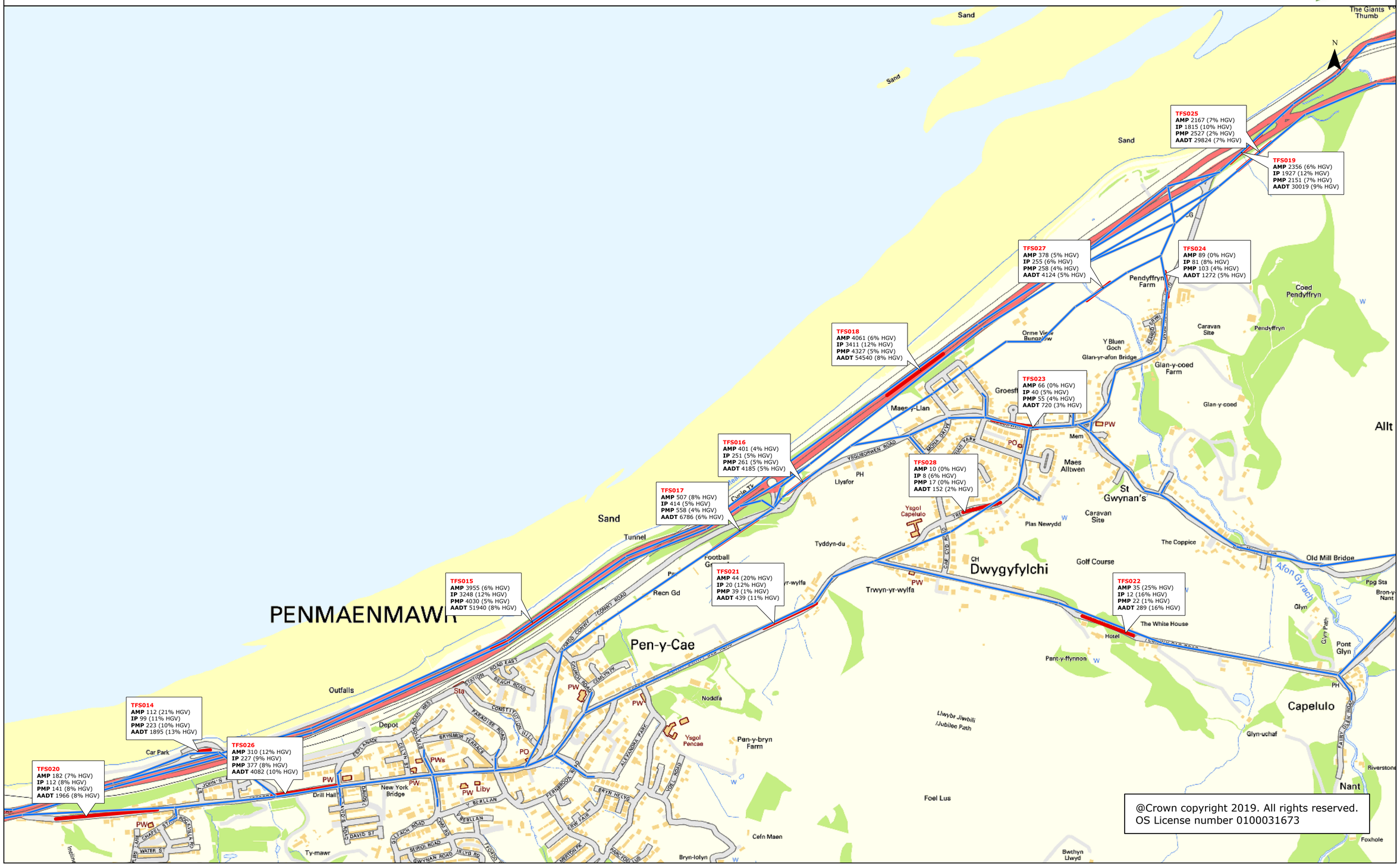
TFS011
AMP 4249 (6% HGV)
IP 3458 (12% HGV)
PMP 4394 (5% HGV)
AADT 55801 (8% HGV)

TFS012
AMP 4249 (6% HGV)
IP 3458 (12% HGV)
PMP 4394 (5% HGV)
AADT 55801 (8% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
HIGH GROWTH SCENARIO - 2051 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



LOW GROWTH SCENARIO

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2022 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 2688 (6% HGV)
IP 2105 (12% HGV)
PMP 2808 (5% HGV)
AADT 34798 (9% HGV)

TFS002
AMP 119 (4% HGV)
IP 94 (6% HGV)
PMP 111 (5% HGV)
AADT 1498 (5% HGV)

TFS003
AMP 213 (1% HGV)
IP 112 (6% HGV)
PMP 132 (3% HGV)
AADT 2044 (4% HGV)

TFS004
AMP 2356 (7% HGV)
IP 1899 (13% HGV)
PMP 2565 (5% HGV)
AADT 31256 (9% HGV)

TFS005
AMP 62 (3% HGV)
IP 93 (5% HGV)
PMP 78 (0% HGV)
AADT 1171 (4% HGV)

TFS006
AMP 62 (3% HGV)
IP 93 (5% HGV)
PMP 78 (0% HGV)
AADT 1171 (4% HGV)

TFS007
AMP 332 (2% HGV)
IP 205 (6% HGV)
PMP 243 (4% HGV)
AADT 3542 (4% HGV)

TFS008
AMP 287 (4% HGV)
IP 243 (6% HGV)
PMP 308 (2% HGV)
AADT 3877 (4% HGV)

TFS009
AMP 285 (4% HGV)
IP 252 (6% HGV)
PMP 328 (1% HGV)
AADT 4008 (4% HGV)

TFS010
AMP 414 (4% HGV)
IP 358 (6% HGV)
PMP 424 (3% HGV)
AADT 5570 (5% HGV)

TFS011
AMP 2695 (7% HGV)
IP 2223 (12% HGV)
PMP 2830 (5% HGV)
AADT 35754 (9% HGV)

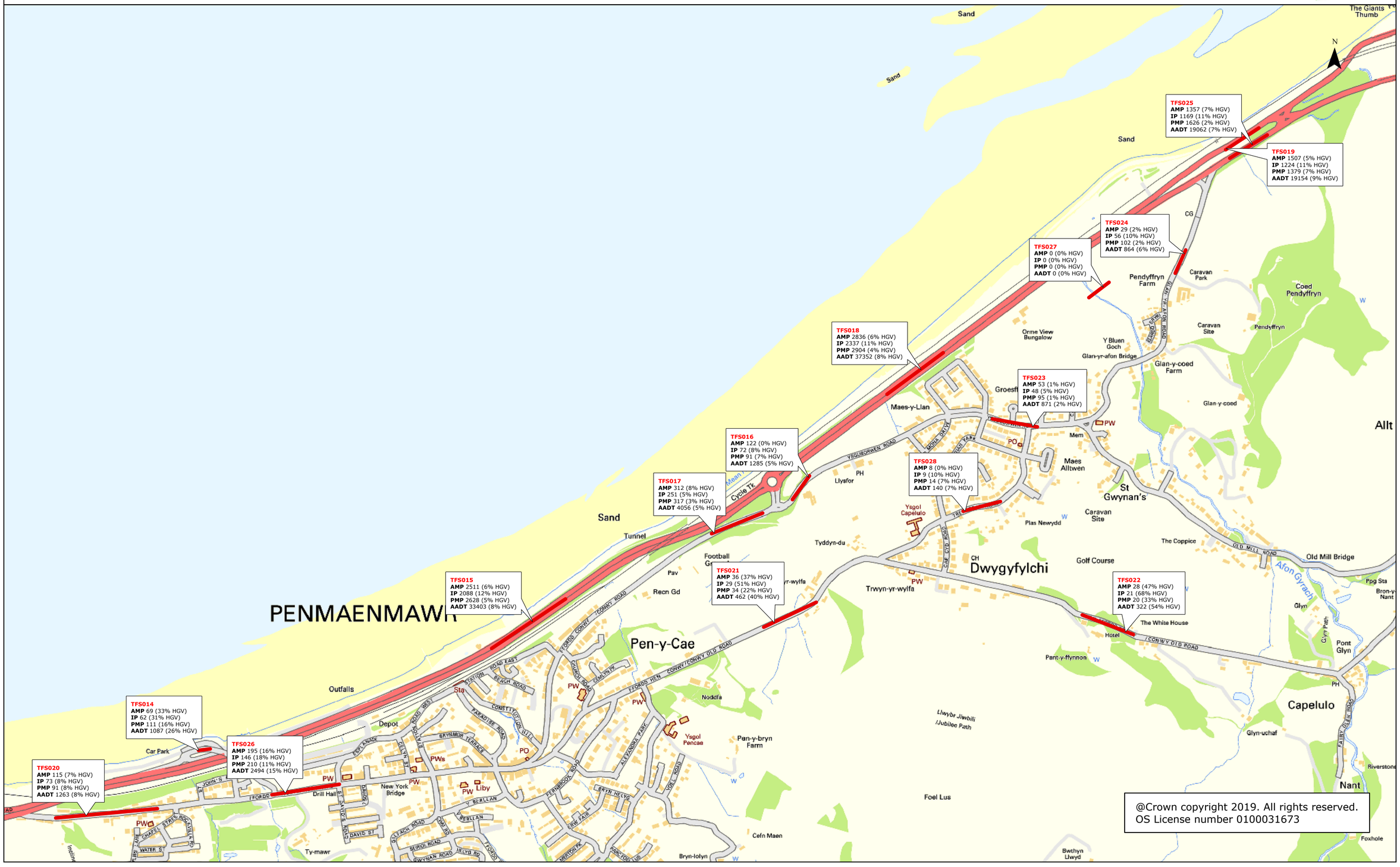
TFS012
AMP 2695 (7% HGV)
IP 2223 (12% HGV)
PMP 2830 (5% HGV)
AADT 35754 (9% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Penmaen Park
Nant-y-felin
Nant-y-pandy
Penmaenmawr Quarries (Granite)
Pen-dinas Quarry (Granite)
Penmaen Mawr
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Henar Farm
Wern Isaf
Wern Isaf Bach
Henar Bach
Bont Newydd
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Pont-y-Pentre
Gwern y Plas
Preswylfa
Tyddyn drain
Brym Perthi Cottages
Tan-y-graig
Plas Heulog
The Lodge
Windy Pines
Gerlan
Blaen-llwyn
Tan-y-geulan
Tan-y-geulan Farm
Tyddyn Rhonwy
Bryn-hyfryd
Erw-gron
Glan-yr-afon
Valve Compound
Waen
Blaenau
Tyddyn Bedol
Felin-hen
Tyddyn Angharad Uchaf
Pandy Farm
Ty'n-y-llwyfan Farm
Pont Nantypandy
Pont Nant-Dwyst
Nant-Dwyst
Taro
Cae-carw
Ty-pitch
Tan-rallt-isaf
Tan'rallt Ucha
Tan-y-ffordd
T'yn Llwyn
Bryn-y-goleu
Llwyn-ysgolaig
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Golf Course
Industrial Estate
Fire Station
Recn Gd
Llanerch
CH
Penlan
Hafod Fadog
The Grove
Wern Newydd
Underpass
Water Tower
Hospital
Recreation Ground
Sta
Sch
PW
PO
Liby
TH
PWs
Nursery
Pont Cambwll
Llenybyd
Madryn
Garden Cottage
Gorddinog Isa
Jubilee Terrace
Tai-hirion
Gwyllt Cottages
Llys-y-gwynt
Llys Meddyg
Glan-y-mor Elias
Sand
Mean High Water
Nant-y-Felin-Fach
Afon Llanfairfechan
Reservoir
Tip
Quarries (Dis)
(cov)
Incline (dis)
Inclines (dis)
A55
LC
N

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2022 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

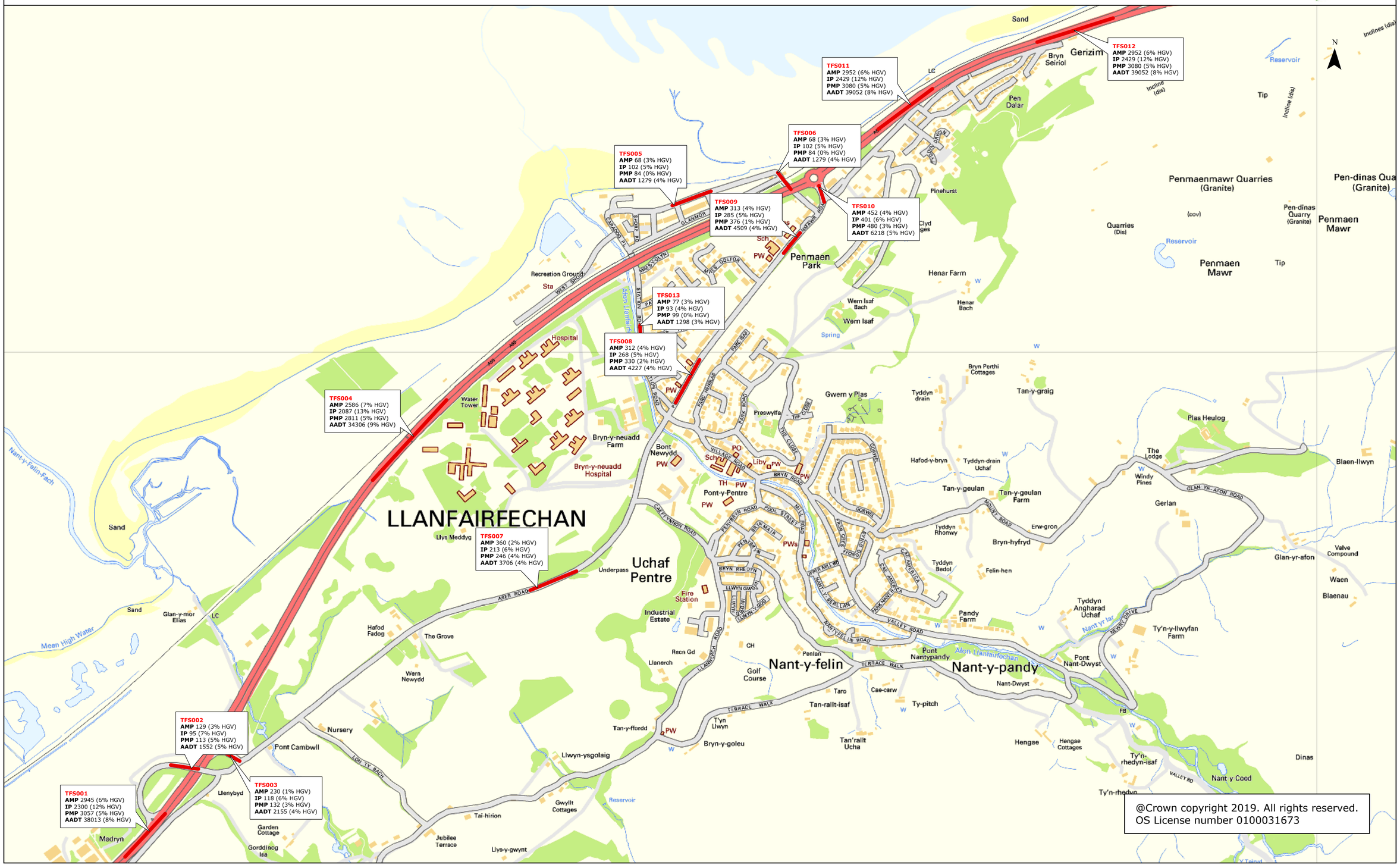
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2037 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

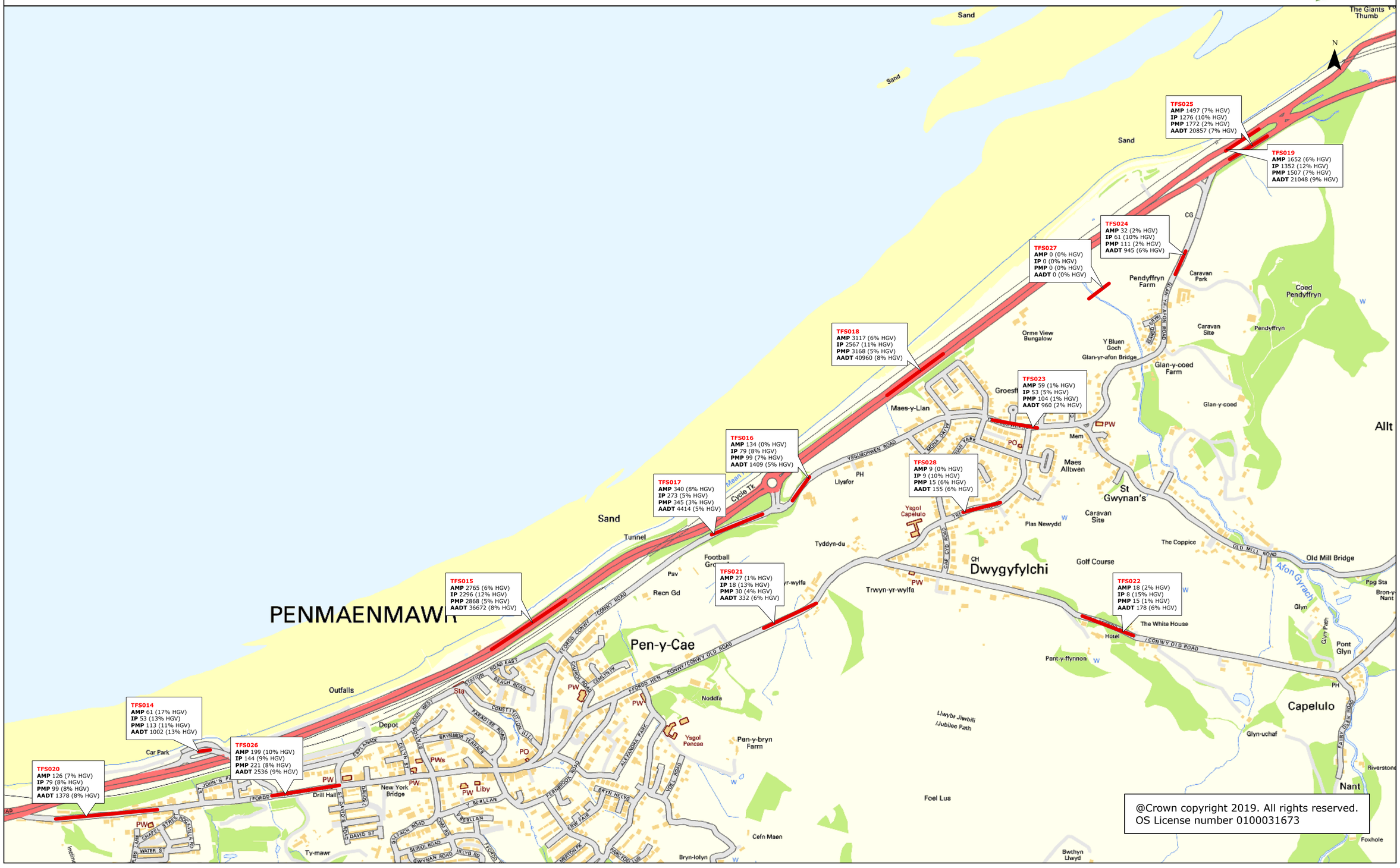
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2037 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

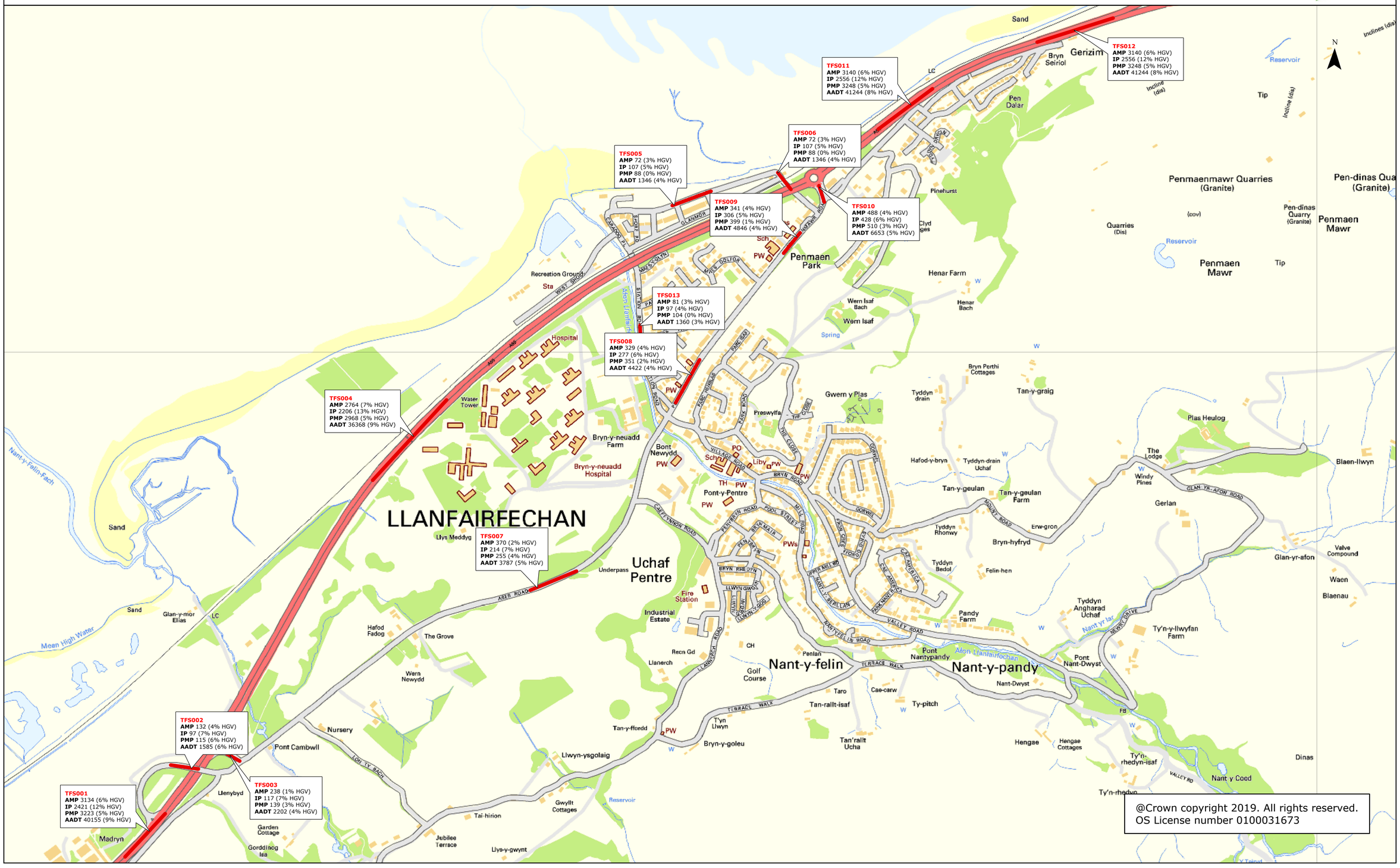
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2051 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

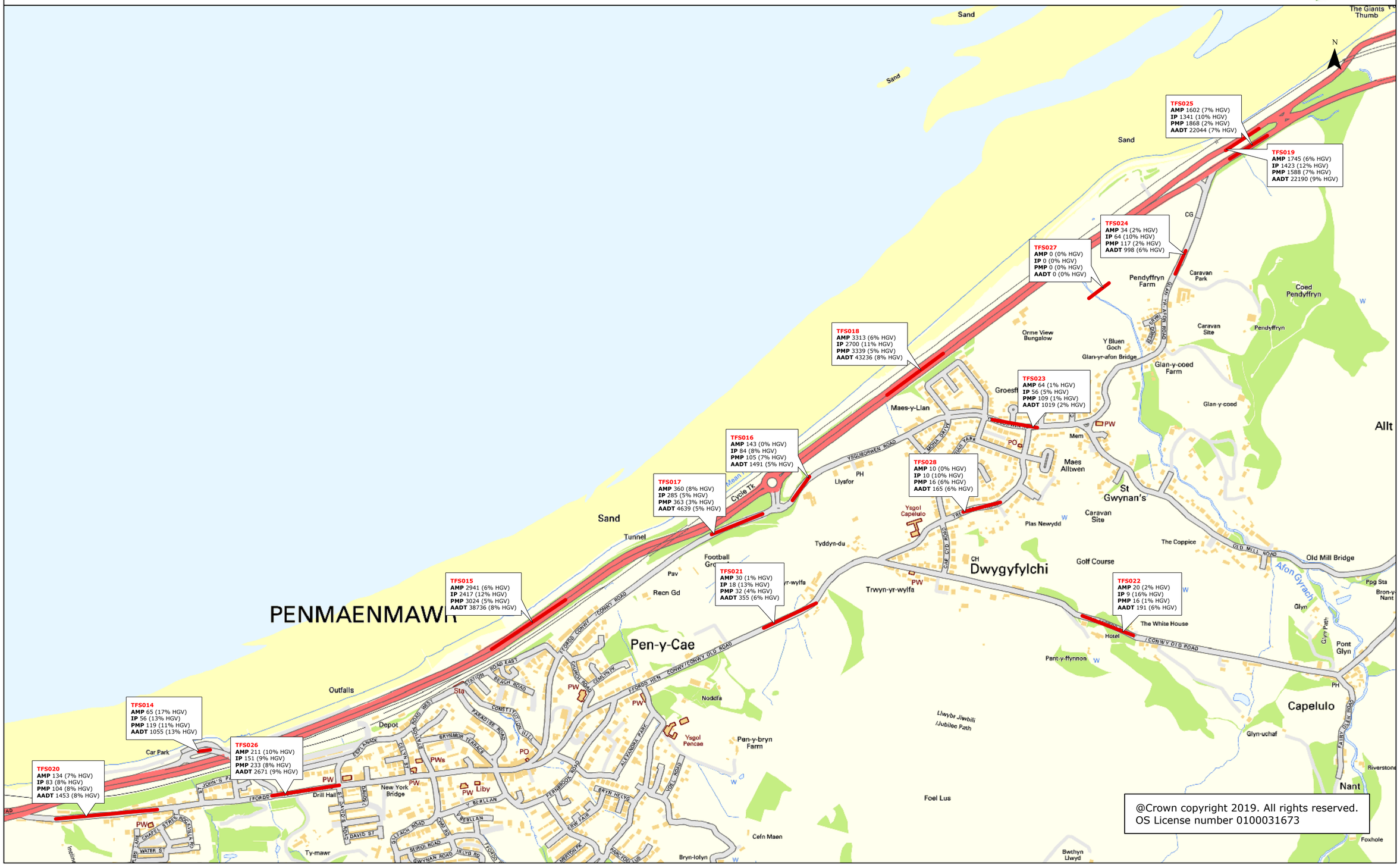
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2051 'DO MINIMUM' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2022 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 2688 (6% HGV)
IP 2105 (12% HGV)
PMP 2808 (5% HGV)
AADT 34798 (9% HGV)

TFS002
AMP 119 (4% HGV)
IP 91 (7% HGV)
PMP 109 (5% HGV)
AADT 1472 (5% HGV)

TFS003
AMP 201 (1% HGV)
IP 103 (7% HGV)
PMP 122 (3% HGV)
AADT 1904 (4% HGV)

TFS004
AMP 2368 (7% HGV)
IP 1910 (13% HGV)
PMP 2578 (5% HGV)
AADT 31422 (9% HGV)

TFS005
AMP 62 (3% HGV)
IP 93 (5% HGV)
PMP 78 (0% HGV)
AADT 1172 (4% HGV)

TFS006
AMP 62 (3% HGV)
IP 93 (5% HGV)
PMP 78 (0% HGV)
AADT 1172 (4% HGV)

TFS007
AMP 320 (2% HGV)
IP 194 (7% HGV)
PMP 230 (4% HGV)
AADT 3376 (5% HGV)

TFS008
AMP 275 (4% HGV)
IP 237 (6% HGV)
PMP 300 (2% HGV)
AADT 3763 (4% HGV)

TFS009
AMP 297 (4% HGV)
IP 263 (5% HGV)
PMP 341 (1% HGV)
AADT 4174 (4% HGV)

TFS010
AMP 425 (4% HGV)
IP 369 (6% HGV)
PMP 436 (3% HGV)
AADT 5736 (5% HGV)

TFS011
AMP 2695 (7% HGV)
IP 2223 (12% HGV)
PMP 2830 (5% HGV)
AADT 35754 (9% HGV)

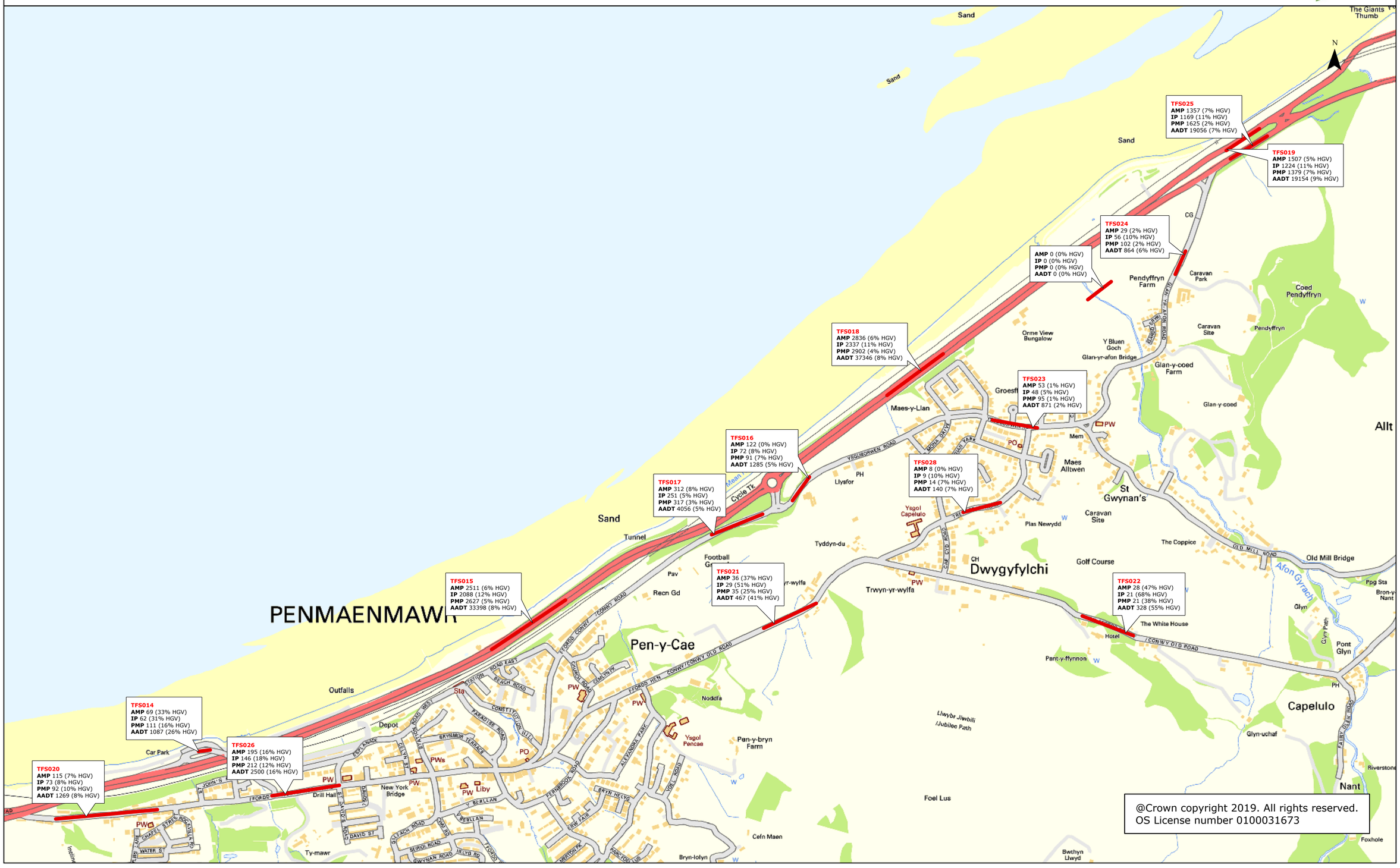
TFS012
AMP 2695 (7% HGV)
IP 2223 (12% HGV)
PMP 2830 (5% HGV)
AADT 35754 (9% HGV)

LLANFAIRFECHAN
Uchaf Pentre
Nant-y-felin
Nant-y-pandy
Penmaen Park
Penmaen Mawr
Penmaenmawr Quarries (Granite)
Pen-dinas Quarry (Granite)
Pen-dinas Qua (Granite)
Quarries (Dis)
Gerizim
Bryn Seiriol
Pen Dalar
Pinehurst
Nyth Clyd Cottages
Henar Farm
Henar Bach
Wern Isaf Bach
Wern Isaf
Spring
Reservoir
Tip
Incline (dis)
Sand
Recreation Ground
Sta
Hospital
Water Tower
Bryn-y-neuadd Farm
Bryn-y-neuadd Hospital
Bont Newydd
Pont-y-Pentre
Llys Meddyg
Underpass
Fire Station
Industrial Estate
Hafod Fadog
The Grove
Wern Newydd
Recn Gd
Llanerch
Golf Course
Penlan
Pont Nantypandy
Afon Llanfairfechan
Nant-Dwyst
Pont Nant-Dwyst
Nursery
Pont Cambwll
Llenybyd
Madryn
Garden Cottage
Gorddinog Isa
Jubilee Terrace
Llys-y-gwynt
Tai-hirion
Gwyllt Cottages
Llwyn-ysgolaig
Bryn-y-goleu
Tan-y-ffordd
T'yn Llwyn
Tan-rallt-isaf
Tan'rallt Ucha
Taro
Cae-carw
Ty-pitch
Hengae
Hengae Cottages
Ty'n-rhedyn-isaf
Nant y Coed
Dinas
Glan-y-mor Elias
Mean High Water
Nant-y-Felin-Fach
Gwern y Plas
Preswylfa
Tyddyn drain
Tan-y-graig
Plas Heulog
The Lodge
Windy Pines
Gerlan
Blaen-llwyn
Glan-yr-afon
Valve Compound
Waen
Blaenau
Hafod-y-bryn
Tyddyn-drain Uchaf
Tan-y-geulan
Tan-y-geulan Farm
Tyddyn Rhonwy
Erw-gron
Bryn-hyfryd
Tyddyn Bedol
Felin-hen
Tyddyn Angharad Uchaf
Ty'n-y-llwyfan Farm
Pandy Farm
Bryn Perthi Cottages
Llyn Cowlyd
Afon Llanfairfechan
Nant yr Iar
Reservoir
Incline (dis)
N

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2022 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2037 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS001
AMP 2945 (6% HGV)
IP 2300 (12% HGV)
PMP 3057 (5% HGV)
AADT 38013 (8% HGV)

TFS002
AMP 127 (4% HGV)
IP 93 (7% HGV)
PMP 111 (5% HGV)
AADT 1522 (5% HGV)

TFS003
AMP 219 (1% HGV)
IP 112 (7% HGV)
PMP 132 (3% HGV)
AADT 2071 (4% HGV)

TFS004
AMP 2600 (7% HGV)
IP 2094 (13% HGV)
PMP 2813 (5% HGV)
AADT 34419 (9% HGV)

TFS005
AMP 68 (3% HGV)
IP 102 (5% HGV)
PMP 84 (0% HGV)
AADT 1279 (4% HGV)

TFS006
AMP 68 (3% HGV)
IP 102 (5% HGV)
PMP 84 (0% HGV)
AADT 1279 (4% HGV)

TFS007
AMP 346 (2% HGV)
IP 205 (7% HGV)
PMP 244 (4% HGV)
AADT 3594 (5% HGV)

TFS008
AMP 303 (4% HGV)
IP 264 (5% HGV)
PMP 332 (2% HGV)
AADT 4172 (4% HGV)

TFS009
AMP 327 (4% HGV)
IP 293 (5% HGV)
PMP 378 (1% HGV)
AADT 4622 (4% HGV)

TFS010
AMP 466 (4% HGV)
IP 408 (6% HGV)
PMP 482 (3% HGV)
AADT 6331 (5% HGV)

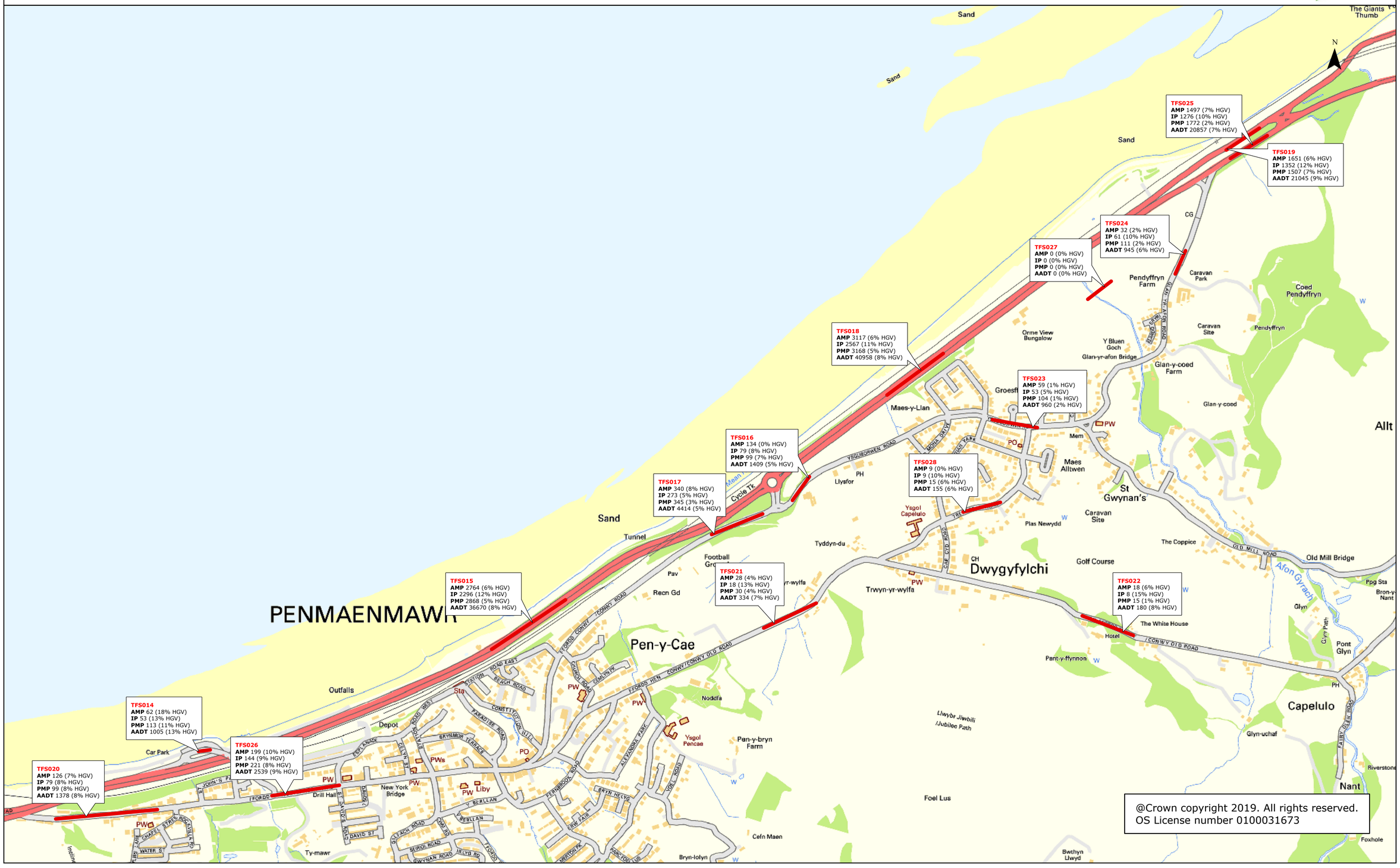
TFS011
AMP 2952 (6% HGV)
IP 2429 (12% HGV)
PMP 3080 (5% HGV)
AADT 39052 (8% HGV)

TFS012
AMP 2952 (6% HGV)
IP 2429 (12% HGV)
PMP 3080 (5% HGV)
AADT 39052 (8% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2037 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

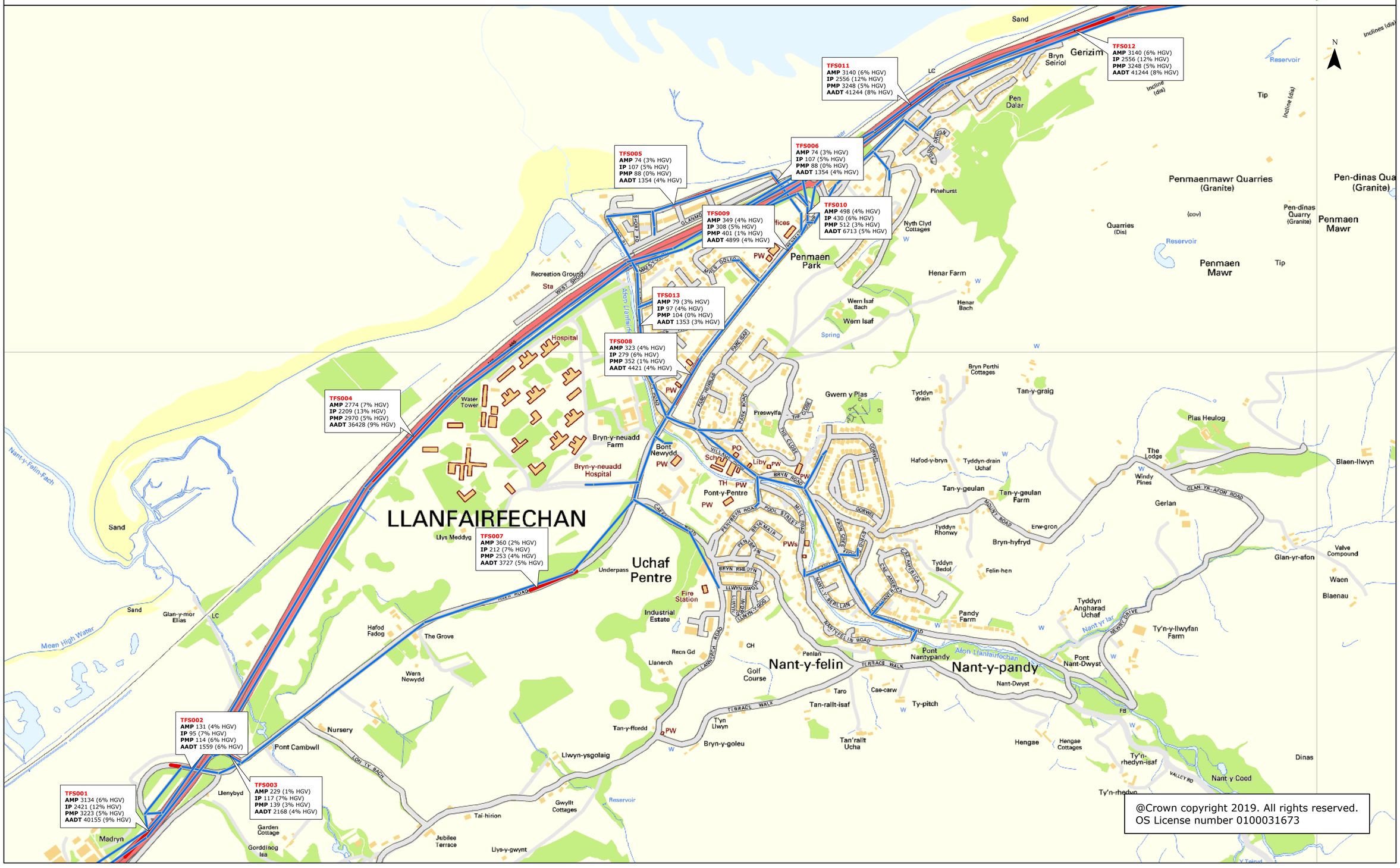
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2051 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

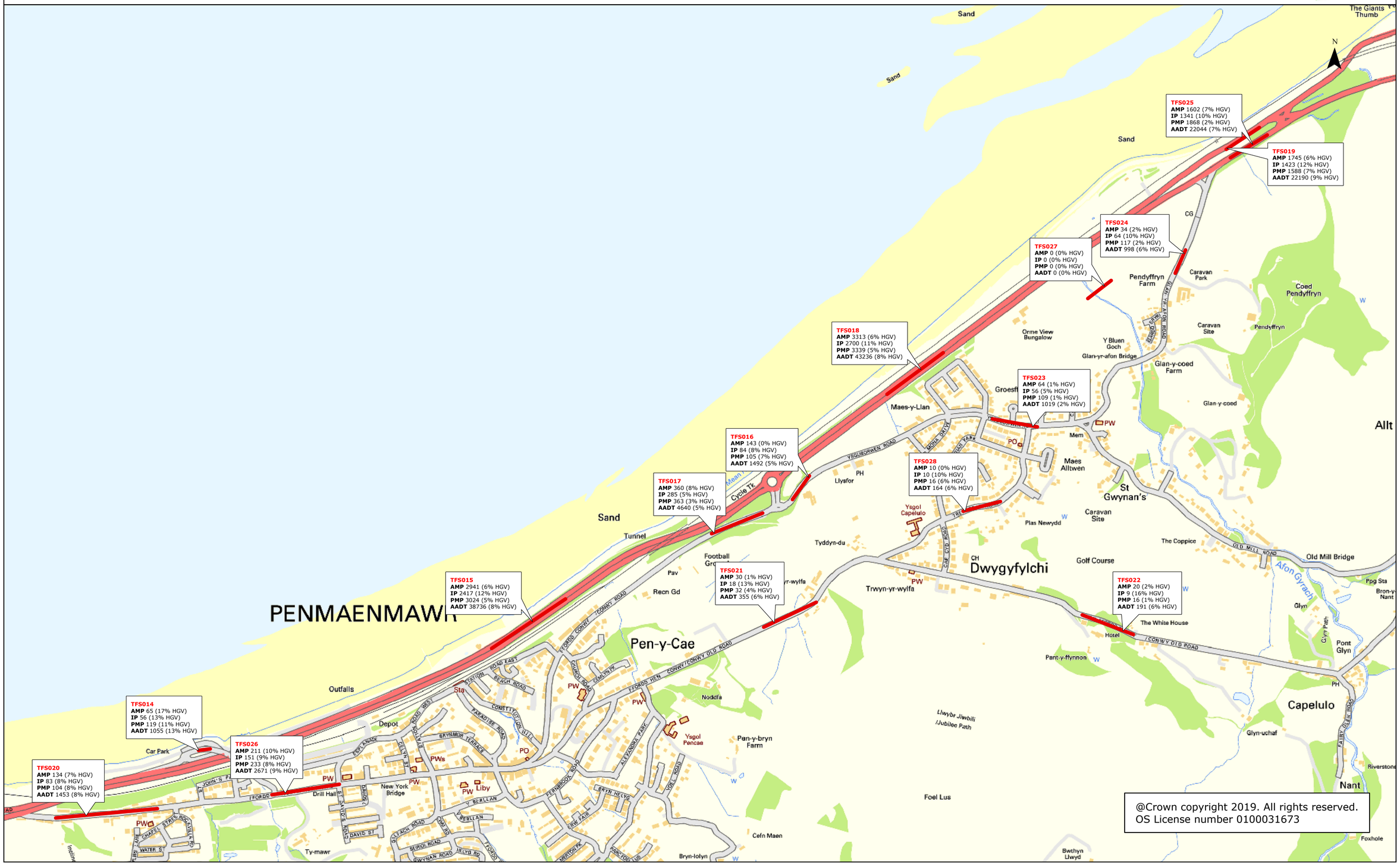
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2051 JUNCTION 15 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2022 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)

TFS012
AMP 2695 (7% HGV)
IP 2223 (12% HGV)
PMP 2830 (5% HGV)
AADT 35754 (9% HGV)

TFS011
AMP 2695 (7% HGV)
IP 2223 (12% HGV)
PMP 2830 (5% HGV)
AADT 35754 (9% HGV)

TFS006
AMP 62 (3% HGV)
IP 93 (5% HGV)
PMP 78 (0% HGV)
AADT 1171 (4% HGV)

TFS005
AMP 62 (3% HGV)
IP 93 (5% HGV)
PMP 78 (0% HGV)
AADT 1171 (4% HGV)

TFS009
AMP 285 (4% HGV)
IP 253 (6% HGV)
PMP 328 (1% HGV)
AADT 4010 (4% HGV)

TFS010
AMP 414 (4% HGV)
IP 358 (6% HGV)
PMP 424 (3% HGV)
AADT 5572 (5% HGV)

TFS013
AMP 70 (3% HGV)
IP 85 (4% HGV)
PMP 92 (0% HGV)
AADT 1193 (3% HGV)

TFS008
AMP 287 (4% HGV)
IP 243 (6% HGV)
PMP 308 (2% HGV)
AADT 3879 (4% HGV)

TFS004
AMP 2356 (7% HGV)
IP 1900 (13% HGV)
PMP 2565 (5% HGV)
AADT 31258 (9% HGV)

TFS007
AMP 332 (2% HGV)
IP 205 (6% HGV)
PMP 243 (4% HGV)
AADT 3540 (4% HGV)

TFS002
AMP 119 (4% HGV)
IP 94 (6% HGV)
PMP 111 (5% HGV)
AADT 1496 (5% HGV)

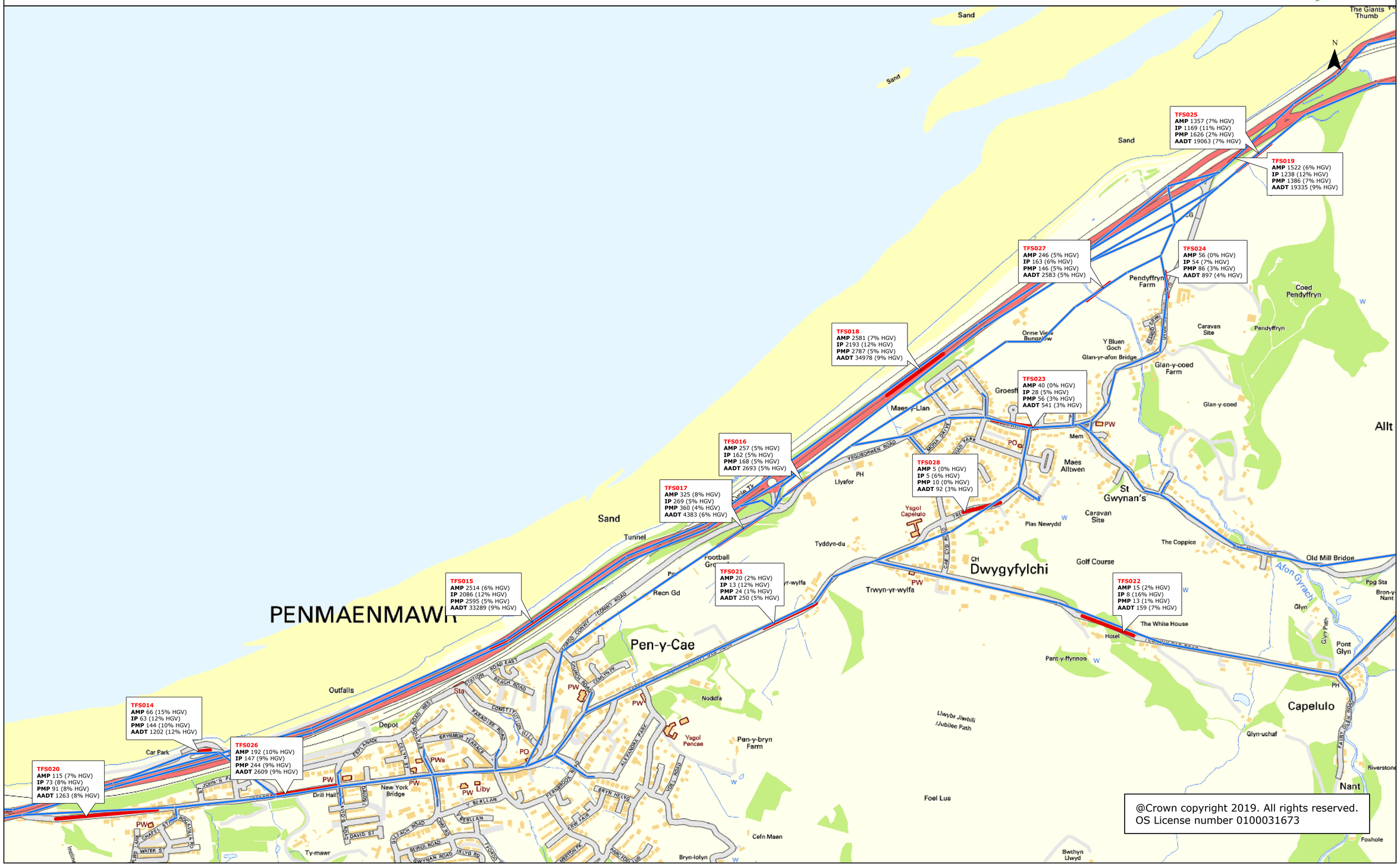
TFS001
AMP 2688 (6% HGV)
IP 2105 (12% HGV)
PMP 2808 (5% HGV)
AADT 34798 (9% HGV)

TFS003
AMP 213 (1% HGV)
IP 112 (6% HGV)
PMP 132 (3% HGV)
AADT 2044 (4% HGV)

A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2022 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

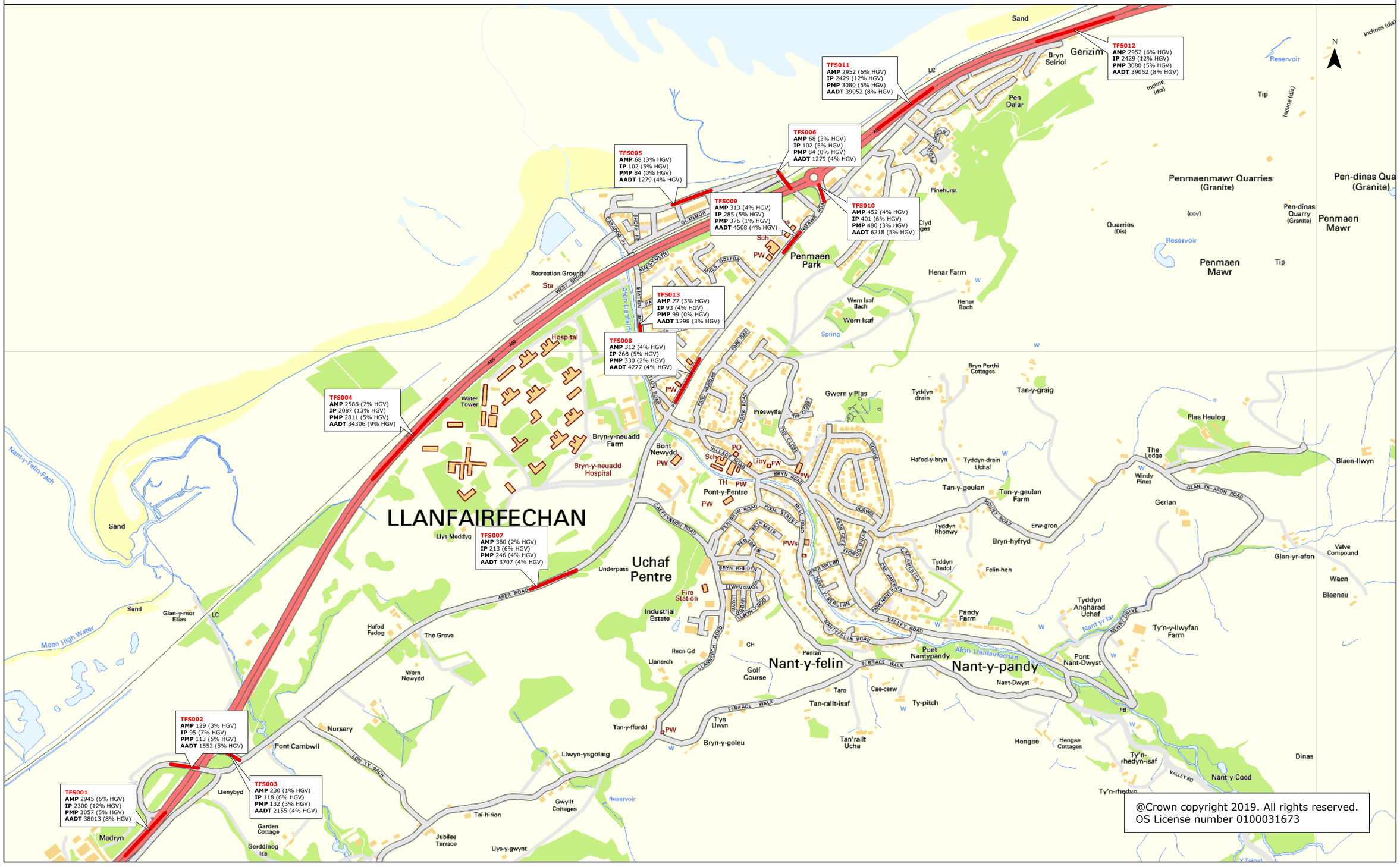
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2037 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

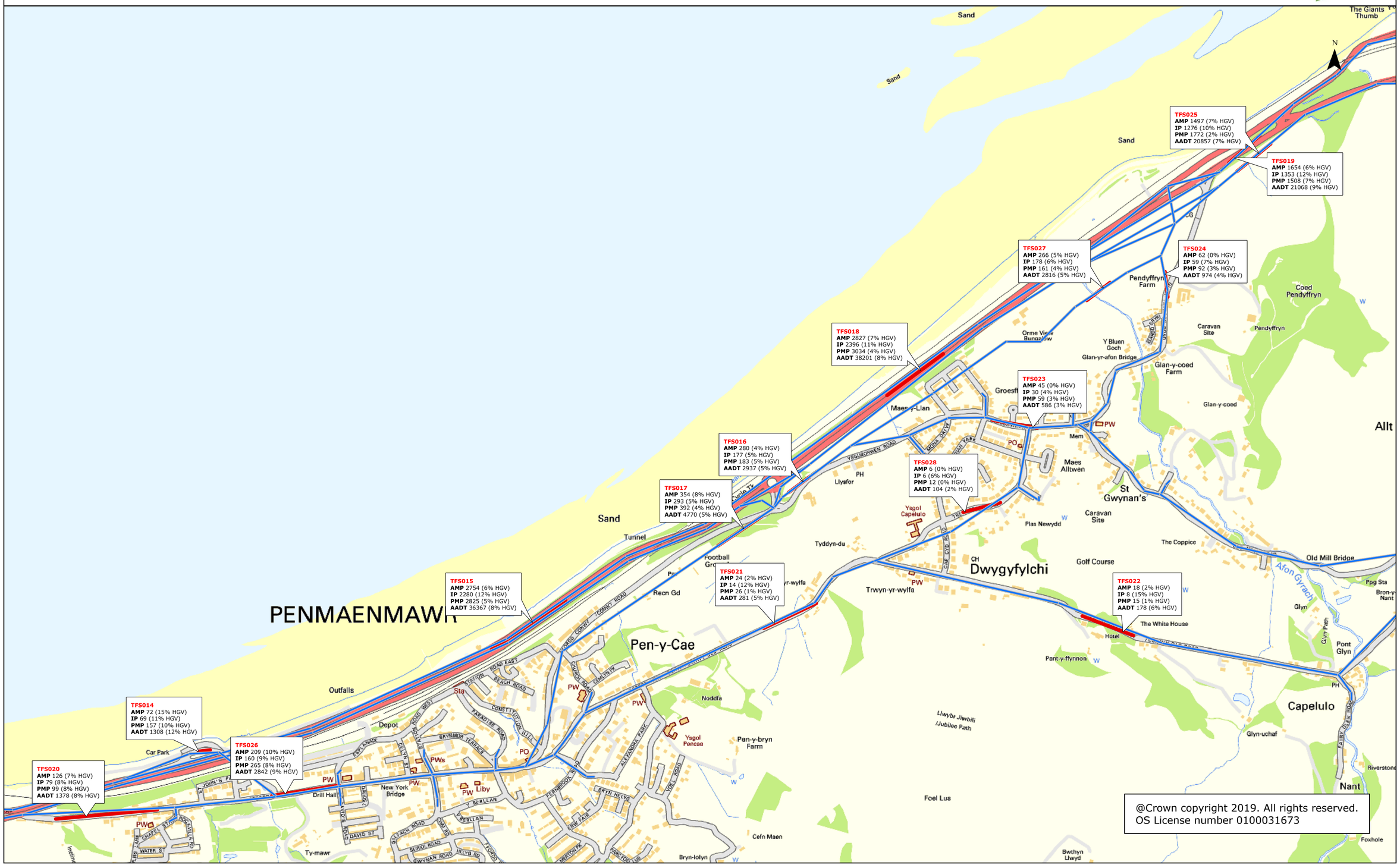
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2037 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

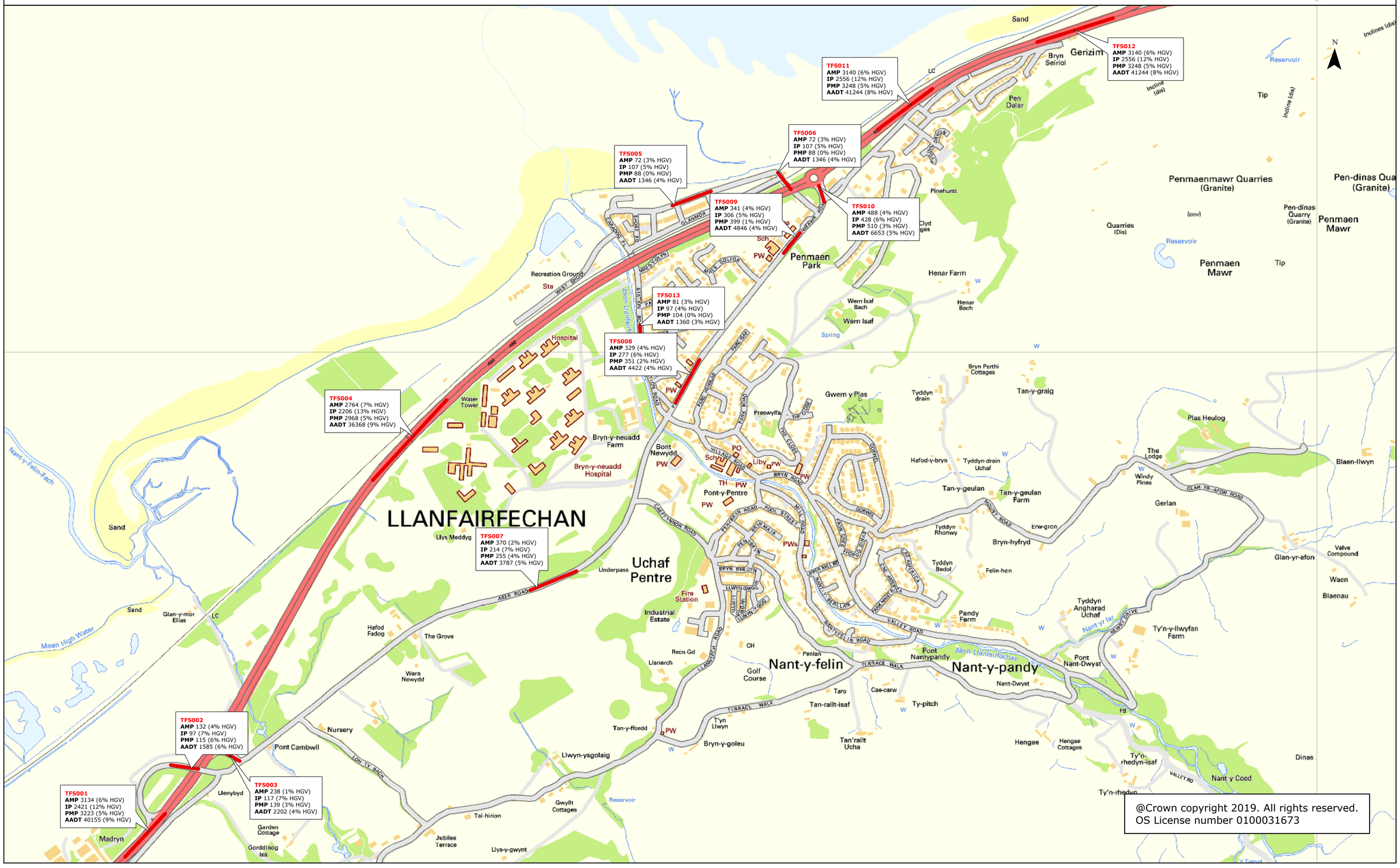
AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2051 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 1 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)



A55 JUNCTIONS 15 & 16 IMPROVEMENTS
LOW GROWTH SCENARIO - 2051 JUNCTION 16 'DO SOMETHING' MODELLED FLOWS
2-WAY TRAFFIC FLOW IN VEHICLES (SHEET 2 OF 2)

Traffic Forecast Site Reference (TFS)

AMP	2-Way Flow	(%HGV)
IP	2-Way Flow	(%HGV)
PMP	2-Way Flow	(%HGV)
AADT	2-Way Flow	(%HGV)