

Technical Note: Northern Access Road - Traffic Surveys

PROJECT: A093950/1 – Northern Access Road

DATE: June 2016

1.0 Introduction

1.1.1 The Welsh Government (WG) are proposing to make an application for full planning permission to construct a new highway, which will provide access to the existing Aerospace Business Park (ABP) at St Athan in the Vale of Glamorgan. The road is referred to as the Northern Access Road (NAR) and will provide a direct link from the B4265 to the ABP and also proposed residential development, as allocated in the Local Development Plan.

1.1.2 WYG were appointed by WG to attend a scoping meeting with the Vale of Glamorgan Council (VoGC) and to discuss appropriate traffic surveys. The survey data is to be used to assist with the production of a Transport Assessment (TA) and feed into detailed design of the NAR.

2.0 Scoping Meeting

2.1.1 A scoping meeting was held at the Alps Depot with the Vale of Glamorgan Council on the 5th May 2016. The purpose of the meeting was to discuss the requirements of the TA and specifically to agree the extent and location of traffic surveys.

2.1.2 A summary of the key issues have been summarised below. A copy of the full minutes is provided in **Appendix A**.

- Previous applications (in 2009) for a Defence Training College (DTC), which included provision of the NAR, have now expired;
- The new application will be for the NAR alone, to serve the existing Aerospace Business Park and proposed residential developments to the west of the new road;
- The Transport Assessment will not require a strategic model (e.g. SATURN);
- Assessment years will include, opening year (scheduled for 2019) and 10 years in advance;
- Traffic survey locations were agreed (discussed further in Section 3 of this note);

- Agreement was not reached on the number of junctions to be modelled as part of the Transport Assessment and this will be subject to further discussion between Welsh Government and the Council;
- The road will be designed in accordance with the Design Manual for Roads and Bridges (DMRB). However, daily traffic flow is expected to be less than forecast for the previous DTC development and therefore the design and standard of road will be adjusted accordingly.

3.0 Traffic Surveys

3.1.1 The VoGC have requested traffic surveys at a number of junctions along the local highway network in the vicinity of the proposed NAR. The location and type of survey has been listed below and indicated on **Figure TS01**.

Junction Turning Counts (JTCs)

- 1) B4265 / B4270 (Floodgate roundabout)
- 2) B4265 / Heol Pentre'r Cwrt (roundabout)
- 3) B4265 / Llanmaes Road (signals)
- 4) B4265 / Eglwys Brewis Road (signals)
- 5) B4265 / Llantwit Road (priority - Main Gate MoD St Athan)
- 6) B4265 / Gileston Road (priority – Gileston Cross)
- 7) St Athan Road / Cowbridge Road / Eglwys Brewis Road (priority)
- 8) B4265 / A4226 (British Airways roundabout)
- 9) A4226 / Port Road (Cardiff Airport roundabout)
- 10) A4226 / B4266 (Waycock Cross roundabout)

Queue Length Surveys

- B4265 / B4270 (Floodgate roundabout)
- B4265 / Eglwys Brewis Road (signals)
- B4265 / Gileston Road (priority – Gileston Cross)
- A4226 / B4266 (Waycock Cross roundabout)

Automatic Traffic Counts (ATCs)

- B4265 – (proposed NAR junction location)
- Eglwys Brewis Road (north of Church Meadow)
- St Athan Road (north of St Athan)
- B4265 (east of Gileston Cross)
- B4265 (west of Gileston Cross)

3.1.2 Junction turning counts and queue length surveys took place on the Tuesday 7th June 2016. Turning movements and vehicle classification has been captured over a three hour period in the AM and PM peak, 07:00-10:00 and 16:00-19:00 respectively.

3.1.3 Queue information is provided in five minute intervals, with the maximum number of vehicles queuing in each five minute period recorded. It should be noted that there are instances where recordings include the "+" symbol (for example 15+). Such entries represent the longest queue that could be accurately seen. The actual maximum queue length in these instances will need to be estimated.

3.1.4 The automatic traffic counts provide seven continuous days of data (Monday 6th June to Sunday 12th June 2016) recording directional flow, speed and vehicle class.

3.1.5 All of the surveys were undertaken by Tracsis, who reported no errors or incidents that may invalidate the data. Traffic conditions were considered to be 'typical' with no adverse weather, or significant events reported during the survey period.

3.1.6 A series of network diagrams included in **Appendix B** summarises the survey data for the network peak, which has been identified as 08:00-09:00 in the AM and 16:00-17:00 in the PM.

3.1.7 Full survey data is available in Excel format. In addition, video footage extracted from the cameras used to undertake the turning count surveys is also available.

4.0 Summary

4.1.1 Initial scoping discussions have been held with the Vale of Glamorgan Council, at which traffic survey locations were identified and agreed.

4.1.2 A total 19 surveys have been undertaken, including;

- 10 Turning Count Surveys (AM and PM peak periods Tuesday 7th June 2016);
- 4 Queue Length Surveys (AM and PM peak periods Tuesday 7th June 2016); and
- 5 Automatic Traffic Counts (24hr, 7 days, Monday 6th June – Tuesday 7th June 2016).

4.1.3 The data is to be used to assist with the production of a Transport Assessment (TA) and feed into the detailed design of the NAR.

Figures

Figure TS01: Traffic Survey Locations







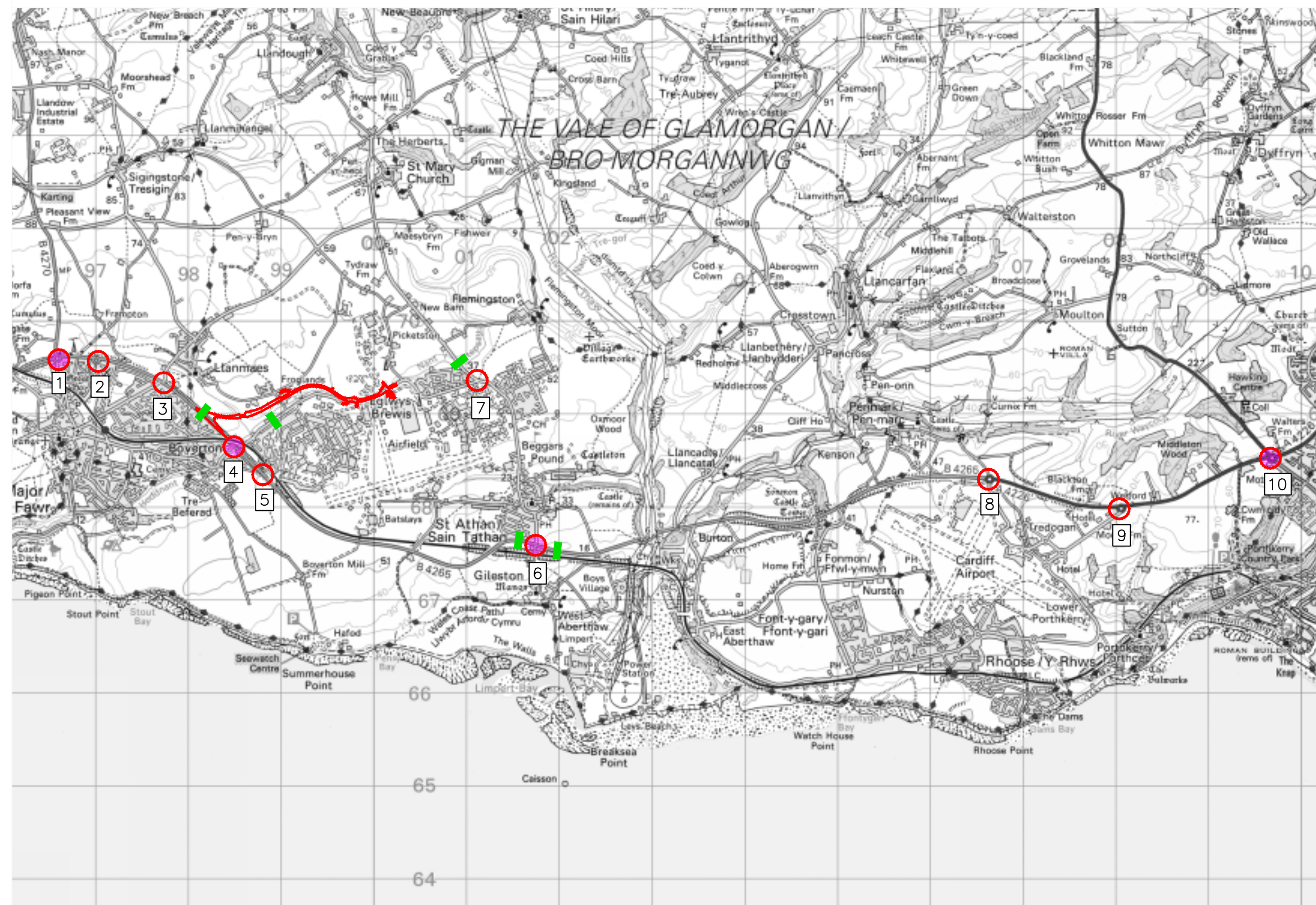
Llywodraeth Cymru
Welsh Government

St Athan
Northern Access Road
Traffic Survey Locations

TS01

Key

-  Junction Turning Counts (JTC)
-  Queue Survey
-  Automatic Traffic Counts (ATC)
-  Proposed Northern Access Road



North

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A093950-1

Scale: NTS
Date: 07 June 2016

Appendices

Appendix A: Scoping Minutes

Meeting Ref: VOG/NAR/H&E/TM/TS 01.

Project: Northern Access Road St Athan Vale of Glamorgan

Purpose: Pre-application Transport Scoping Meeting

Location: Alps Depot Vale of Glamorgan Council

Date and Time: Thursday 5th May 3:30-5:10pm

Apologies; Marcus Goldsworthy Head of Regeneration & Planning (VOG)
Ian Robinson Principal Planner (VOG)

Attendees: Mike Clogg Operational Manager Highways (VOG)
Mark Simpson Principal Engineer Traffic management (VOG)
Paul Harrison Highway Development (VOG)
Tahir Saleem Principal Engineer Project Coordination (minutes) (VOG)
Paul Vining Director (WYG)
Steve Arthur Associate (WYG)

STATUS FINAL AGREED

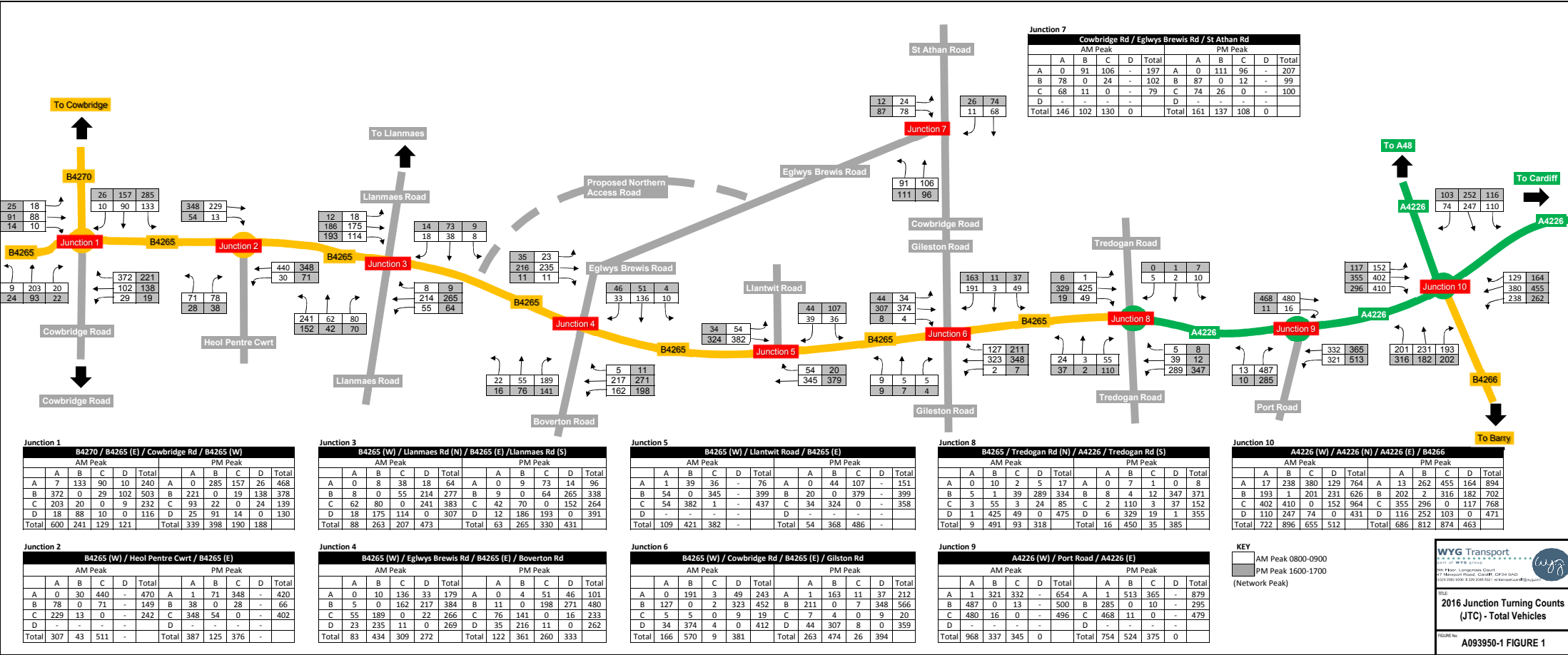
Item	Discussion	Action
1.0	<p>Introductions Mike Clogg welcomed Paul Vining and Steve Arthur followed by general introductions by all attendees.</p>	
2.0	<p>History: Paul Vining gave a brief history of the road scheme which is called the Northern Access Road (NAR). In 2009 the Vale of Glamorgan Council granted outline planning permissions for the Defence Training College (DTC) (application 2009/00500/OUT) and the Aerospace Business Park (ABP) (application 2009/00501/OUT)-at St Athan. In each case access was not a reserved matter and the planning permissions included detailed permission for the construction of the NAR from the west from a new junction on the B4265 and connecting in the east with Eglwys Brewis Road. The DTC scheme did not proceed and neither permission was implemented.</p> <p>WYG's Client is the Welsh Government which is progressing development of the ABP as part of the larger St Athan and Cardiff Airport Enterprise Zone. The ABP includes the existing Super Hangar which is to be used by Aston Marin Lagonda for the manufacturing of cars. The Council's deposit Vale of Glamorgan Local Development Plan (LDP) includes the ABP, the NAR and two proposed housing sites located between the NAR and Eglwys Road.</p>	

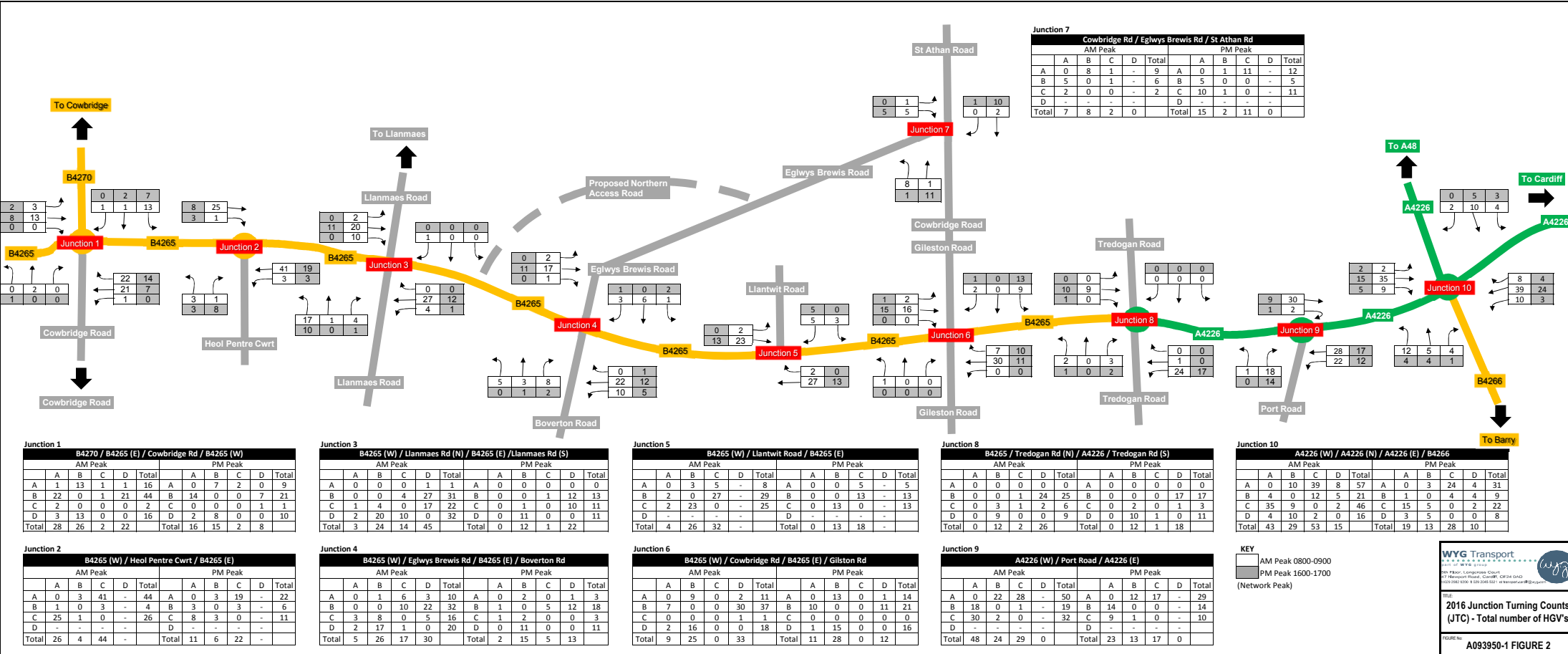
2.1	<p>Planning Application:</p> <p>As the 2009 planning permissions have expired a new planning permission is needed for the NAR. Welsh Government is currently in a tendering process for the appointment of a consultant to design and supervise the scheme and to seek full planning permission and all technical approvals. It is envisaged that the road will be designed and built to adoptable standards and offered for adoption. To meet the programme, planning permission will be required by June 2017. The planning application will be for the NAR alone and will not include any built development. Future development on the ABP and of the proposed housing sites will be subject to separate planning applications at a later date. Aston Martin Lagonda's use of the Super Hangar is a permitted Class B2 use for which planning permission is not required.</p>	
2.2	<p>Design Standards:</p> <p>Steve Arthur explained that the requirements for the new road had changed and were less than envisaged in the 2009 permissions. With the change of intensity of use from the original DTC scheme to the current scheme there would be a different design approach.</p> <p>Peak flows of vehicles would be much lower but needed to be established through data collection and modelling.</p> <p>The scheme would be designed to Design Manual for Roads and Bridges (DMRB) with the necessary junction arrangements and road widths. The issue of cycleway and footways was discussed and these would still need to be included. The road speed would be between 85-100 KPS. The original carriageway running lanes would reduce from 5m+1m to 3.65m+1m in each direction. The design parameters would ultimately be set by the traffic studies and modelling and this was the main purpose of the meeting.</p>	
3.0	<p>Transport Statement:</p> <p>Paul Vining stated that the Council had issued an EIA screening opinion confirming that the proposed development of the NAR was not an EIA development' and that therefore the planning application did not need to be accompanied by an environmental statement. Notwithstanding this, WG intended that the application would be accompanied by a suite of supporting documents including assessment of noise and air quality.</p> <p>At a meeting on 23 March 2016 with VOG Planning Department, it had been stated that a full Transport Assessment would not be required as the application related solely to the construction of the road and not to any built development. However sufficient modelling would be undertaken to inform the design of the road and its junctions and as input to the noise and air quality assessments.</p> <p>Paul Harrison stated that the two proposed residential sites would require a full Transport Assessment. Notwithstanding the future submission of any transport assessment, these two sites and the associated traffic generation will need to be included in the NAR junction modelling.</p>	

3.1	<p>Trip Generation/Traffic Flows</p> <p>Steve Arthur outlined the previous information on trip generation and traffic flows but agreed that this information needed to be checked and verified. It was important to begin collecting traffic data now in advance of the summer school holidays to inform the design criteria.</p> <p>Although the scope of any transport modelling had not been agreed, it was agreed that to avoid any possible future data deficiencies traffic surveys/counts would be undertaken at the following locations;</p> <ul style="list-style-type: none"> • Waycock Cross • Airport Roundabout • British Airways Maintenance Cardiff (BAMC) Roundabout • Gileston Cross St Athan • Boverton Signals • Llanmaes Signals • Heol Pentre Cwrt • Floodgate Roundabout (Junction of B4265/B4270) • Main Gate St Athan • Junction between St Athan Road and Cowbridge Road <p>VOG confirmed that minor junctions at Llancadle and Aberthaw Power Station would not require traffic surveys.</p>	
3.2	<p>Junction Modelling:</p> <p>It was agreed that a strategic model (i.e. SATURN) as used in the DTC application would not be required.</p> <p>Mark Simpson asked which junctions WYG considered needed modelling. Mr Vining responded that the junction with the B4265 and all the new junctions on the NAR would be modelled but he did not see the necessity for wider modelling.</p> <p>Mark Simpson asked why the junctions at Waycock Cross to the east and the junction between the B4265 and B4270 also known as the Floodgate Roundabout Junction were not proposed to be modelled.</p> <p>Mr Vining replied that as the existing use of the ABP and the proposed use of the Super Hangar were permitted development and as the two proposed residential sites did not form part of the forthcoming planning application, there was no need to model any junctions outside the immediate locality of the NAR.</p> <p>Mike Clogg stated that the Highway Authority needs to consider the wider implications of the new road and the traffic it would carry to and from the ABP and the two residential sites.</p> <p>A good discussion took place with Mark Simpson requesting the following junctions for modelling:</p> <ul style="list-style-type: none"> • Waycock Cross • Boverton Signals 	

	<ul style="list-style-type: none"> • Llanmaes Signals • Floodgate Roundabout (Junction of B4265/B4270) • Main Gate St Athan • New Junction with the B4265 • All the new junctions on the NAR • Eglwys Brewis Junction, • junction between St Athan Road and Cowbridge Road <p>Mr Vining stated that he was not in a position to agree to wider modelling (especially of Waycock Cross Junction and the B4265/B4270 junction) and would seek instructions from Welsh Government on the matter.</p>	
3.3	<p>Assessment Years</p> <p>Mark Simpson stated that the assessment criteria would be on day of opening, currently scheduled for 2019 and then 10 years later. Normal growth and new developments would be factored into the assessment.</p>	
3.4	<p>Public Transport, Walking and Cycling</p> <p>Mark Simpson stated that public transport requirements in terms of a bus stop facility should be considered. Active Travel requirements should also be considered especially with respect to connectivity to Llantwit Major urban area.</p>	
4.0	<p>Transport Scoping Note</p> <p>Although the minutes of the meeting are agreed, the scoping of the modelling has not been agreed and requires further discussion. WYG will seek Welsh Government's instruction to proceed with the traffic surveys outlined in paragraph 3.1 above.</p> <p>Steve Arthur and Mark Simpson are to liaise on technical/software matters.</p>	MS/SA
5.0	<p>Other matters discussed;</p> <ul style="list-style-type: none"> • Stage 1 and 2 Road Safety Audits would be required. • Road design drawings would need to be scale 1:200 • Landscape design will be within the remit of the appointed consultant. • There is an aspiration to reduce the bridge structure across Llanmaes Brook from 47m to a smaller span. This will need to meet NRW criteria for flood Plain consent. • At this stage the envisaged speed limit of the road is likely to be 40mph, but this may vary depending on design speed and road characteristics and is subject to confirmation. • Tahir Saleem will provide WYG with any internal VOG contacts. <p>Date of Next Meeting to be agreed</p>	TS

Appendix B: Traffic Survey Summary





Junction 7
Cowbridge Rd / Eglwys Brewis Rd / St Athan Rd

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	8	1	-	9	0	1	11	-	12
5	0	1	-	6	5	0	0	-	5
2	0	0	-	2	10	1	0	-	11
-	-	-	-	-	-	-	-	-	-
Total	7	8	2	0	Total	15	2	11	0

Junction 1
B4270 / B4265 (E) / Cowbridge Rd / B4265 (W)

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
1	13	1	1	16	0	7	2	0	9
22	0	1	21	44	14	0	0	7	21
2	0	0	2	4	0	0	0	1	1
3	13	0	0	16	2	8	0	0	10
Total	28	26	2	22	Total	16	15	2	8

Junction 3
B4265 (W) / Llanmaes Rd (N) / B4265 (E) / Llanmaes Rd (S)

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	0	0	1	1	0	0	0	0	0
0	0	4	27	31	0	0	1	12	13
1	4	0	17	22	0	1	0	10	11
2	20	10	0	32	0	11	0	0	11
Total	3	24	14	45	Total	0	12	1	22

Junction 5
B4265 (W) / Llantwit Road / B4265 (E)

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	3	5	-	8	0	0	5	-	5
2	0	27	-	29	0	0	13	-	13
2	23	0	-	25	0	0	13	-	13
-	-	-	-	-	-	-	-	-	-
Total	4	26	32	-	Total	0	13	18	-

Junction 8
B4265 / Tredogan Rd (N) / A4226 / Tredogan Rd (S)

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	0	0	0	0	0	0	0	0	0
0	0	1	24	25	0	0	0	17	17
0	3	1	2	6	0	2	0	1	3
0	9	0	0	9	0	10	1	0	11
Total	0	12	2	26	Total	0	12	1	18

Junction 10
A4226 (W) / A4226 (N) / A4226 (E) / B4266

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	10	39	8	57	0	3	24	4	31
4	0	12	5	21	1	0	4	4	9
35	9	0	2	46	15	5	0	2	22
4	10	2	0	16	3	5	0	0	8
Total	43	29	53	15	Total	19	13	28	10

Junction 2
B4265 (W) / Heol Pentre Cwrt / B4265 (E)

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	3	41	-	44	0	3	19	-	22
1	0	3	-	4	3	0	3	-	6
25	1	0	-	26	8	3	0	-	11
-	-	-	-	-	-	-	-	-	-
Total	26	4	44	-	Total	11	6	22	-

Junction 4
B4265 (W) / Eglwys Brewis Rd / B4265 (E) / Boverton Rd

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	1	6	3	10	0	2	0	1	3
0	0	10	22	32	1	0	5	12	18
3	8	0	5	16	1	2	0	0	3
2	17	1	0	20	0	11	0	0	11
Total	5	26	17	30	Total	2	15	5	13

Junction 6
B4265 (W) / Cowbridge Rd / B4265 (E) / Gilston Rd

AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	9	0	2	11	0	13	0	1	14
7	0	0	30	37	10	0	0	11	21
0	0	0	1	1	0	0	0	0	0
2	16	0	0	18	1	15	0	0	16
Total	9	25	0	33	Total	11	28	0	12

Junction 9
A4226 (W) / Port Road / A4226 (E)

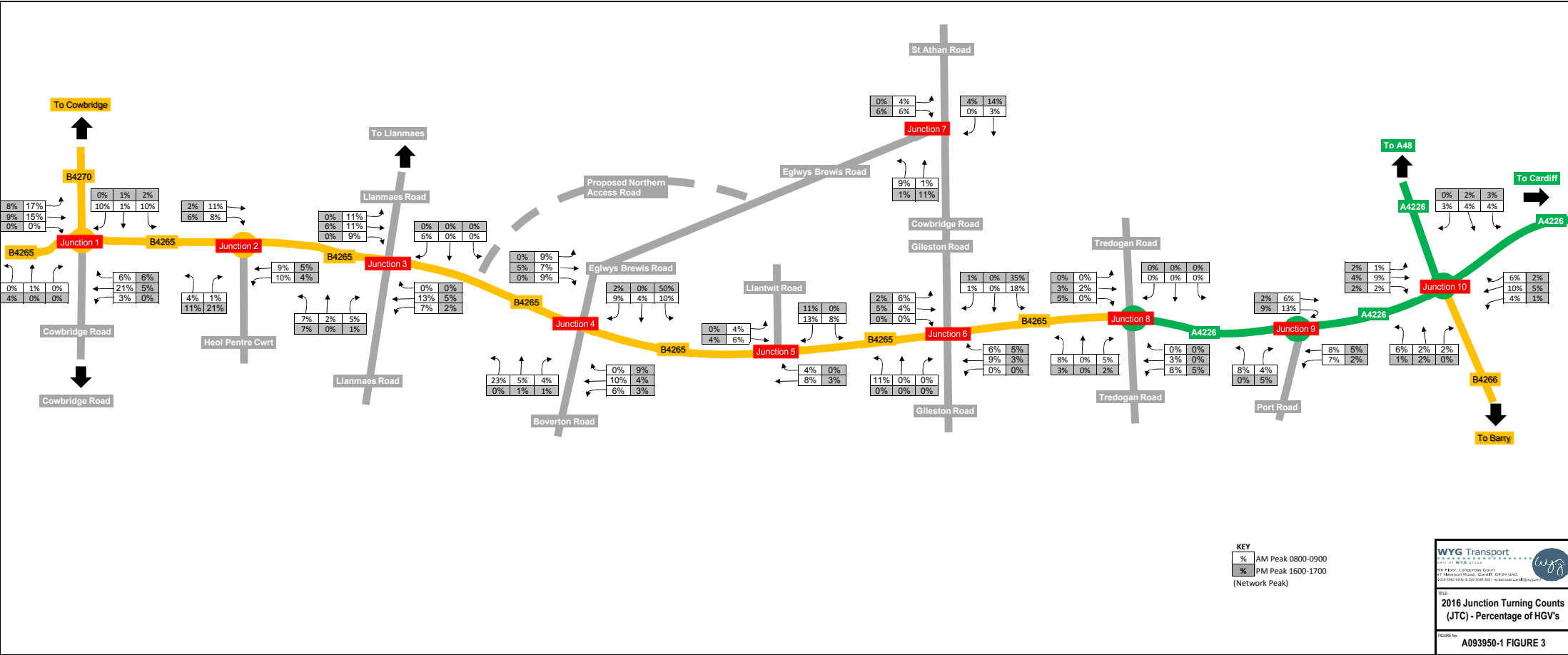
AM Peak					PM Peak				
A	B	C	D	Total	A	B	C	D	Total
0	22	28	-	50	0	12	17	-	29
18	0	1	-	19	14	0	0	-	14
30	2	0	-	32	9	1	0	-	10
-	-	-	-	-	-	-	-	-	-
Total	48	24	29	0	Total	23	13	17	0

KEY
 AM Peak 0800-0900
 PM Peak 1600-1700
 (Network Peak)

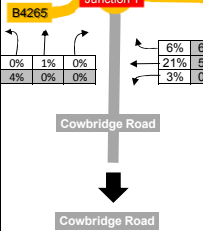
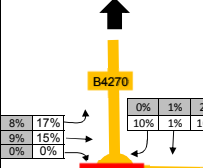
WYG Transport
 200 Moor Lane, Longwood Court
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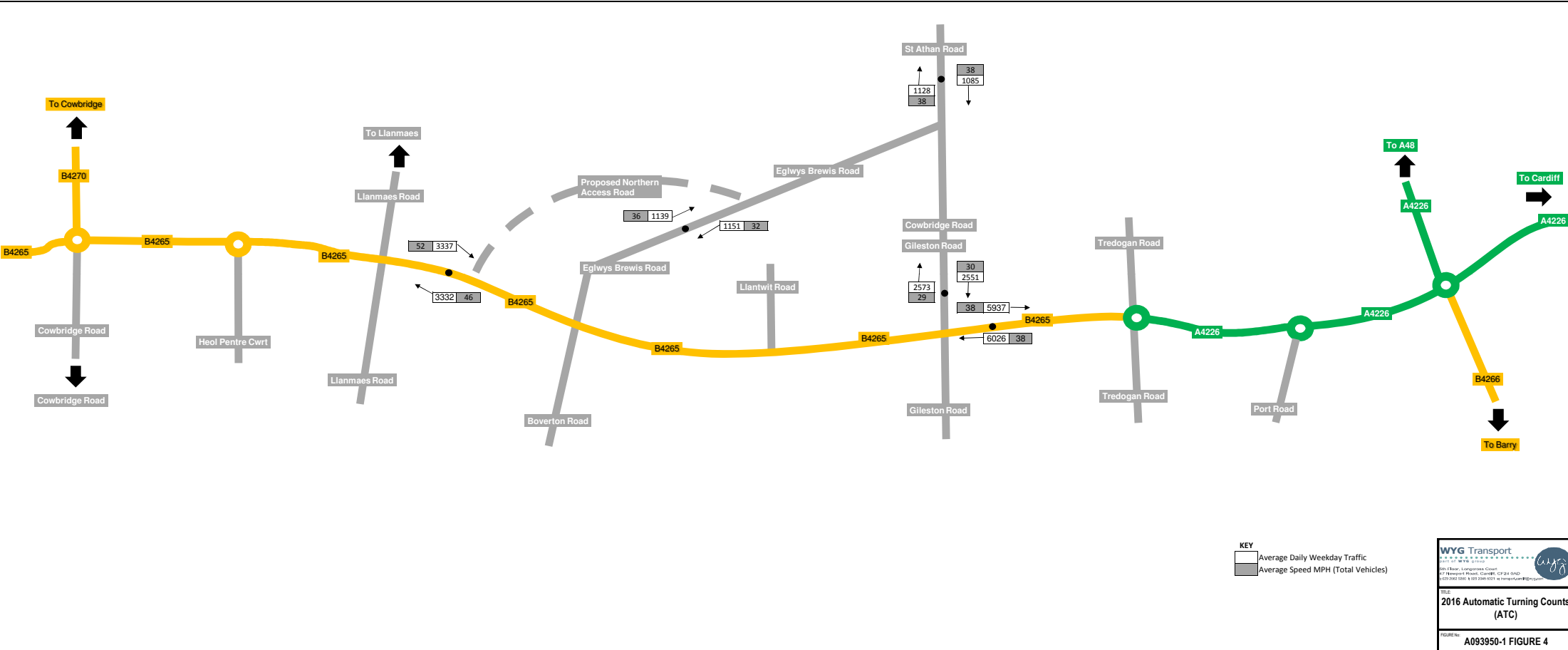
2016 Junction Turning Counts (JTC) - Total number of HGV's

FIGURE 2
A093950-1



To Cowbridge





WYGM Transport
 2016 Automatic Turning Counts (ATC)

2016
2016 Automatic Turning Counts (ATC)

FIGURE No: **A093950-1 FIGURE 4**