



## **Adroddiad**

Ymchwiliad a gynhaliwyd ar 9, 10 11 & 12/05/06 &  
01/06/2006

## **Report**

Inquiry held on 9, 10, 11 & 12/05/06 &  
01/06/2006

**gan/by Jack Moffett BSc (Hons), FICE, MIHT**

**Arolygydd penodwyd gan Cynulliad  
Cenedlaethol Cymru**

**an Inspector appointed by the National  
Assembly for Wales**

Dyddiad/Date 24/08/06

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### **THE HIGHWAYS ACT 1980**

### **HIGHWAYS, WALES**

**The A48 (Culverhouse Cross to Sycamore Cross), the A4226 (Sycamore  
Cross, Waycock Cross to Airport Roundabout), Port Road (Airport  
Roundabout to Cardiff International Airport Access Roundabout)  
(Trunking) Order 200-**

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## **PRINCIPAL ABBREVIATIONS USED IN THIS REPORT**

AG: Welsh Assembly Government

AADT: Annual Average Traffic Flow

B: billion

CCBC: Caerphilly County Borough Council

CCC: Cardiff City Council

CIA: Cardiff International Airport

COBA: Cost Benefit Analysis of the Department of Transport

DETR: Department for Environment, Transport and the Regions

DfT: Department for Transport

DMRB: Design Manual for Roads and Bridges

HGV: Heavy Goods Vehicle

K: kilometre

K: thousand

kph: kilometres per hour

M: million

mins: minutes

mppa: million passengers per annum

mph: miles per hour

MTCBC: Merthyr Tydfil County Borough Council

NAfW: National Assembly for Wales

SATURN: Simulation and Assignment of Traffic to Urban Road Networks computer model

secs: seconds

The proposed Trunking: The proposed Trunking of roads from Culverhouse Cross to Cardiff International Airport, the subject of the draft Order.

The Vale: The Vale of Glamorgan

TUBA: Transport User benefit Analysis

TW: Transport Wales

VoGC: Vale of Glamorgan Council

VPG: The Vale Protection Group

## CASE DETAILS

- The A48 (Culverhouse Cross to Sycamore Cross), the A4226 (Sycamore Cross, Waycock Cross to Airport Roundabout), Port Road (Airport Roundabout to Cardiff International Airport Access Roundabout) (Trunking) Order 200- was published in draft on 15<sup>th</sup> July 2005. This is an Order under Section 10 of the Highways Act 1980 which, if made, would provide that certain roads between Culverhouse Cross, Cardiff and Cardiff International Airport would become trunk roads from the date when the Order comes into force.

**Recommendation: I recommend that the Order be not made.**

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### 1. PREAMBLE

- 1.1 I have been appointed by the National Assembly for Wales (“NAfW”) pursuant to paragraph 7 of Schedule 1 to the Highways Act 1980 to hold a local public inquiry into the above draft Order.
- 1.2 The purpose of the Order is to trunk the existing highways from and including the Culverhouse Cross roundabout, the A48, the A4226 Five Mile Lane and the A4050 from Waycock Cross to Cardiff International Airport (“CIA”), (“the proposed Trunking”).
- 1.3 A pre-inquiry meeting was held at the Copthorne Hotel, Culverhouse Cross, Cardiff, on 13<sup>th</sup> April 2006. Notes of the pre-inquiry meeting (G2) were issued to all of the parties between 20<sup>th</sup> and 26<sup>th</sup> April 2006.
- 1.4 The inquiry commenced at the Copthorne Hotel, Culverhouse Cross, Cardiff at 10.00 a.m. on Tuesday 9<sup>th</sup> May 2006 and adjourned at 1.00 p.m. on Friday 12<sup>th</sup> May 2006. The inquiry recommenced at 10.00 a.m. on Thursday 1<sup>st</sup> June 2006 and closed at 5.03 p.m. on the same date. The adjournment was necessary due to the submission of evidence not having been completed on 12<sup>th</sup> May and the unavailability of the parties before 1<sup>st</sup> June 2006. No requests for adjournments were made.
- 1.5 The inquiry was conducted under the Highways (Inquiries Procedure) Rules 1994, Statutory Instrument No. 3263. There were no procedural or legal submissions.
- 1.6 I made an unaccompanied inspection of the areas affected by the proposed Trunking on Monday 8<sup>th</sup> May 2006 prior to commencement of the inquiry. An accompanied inspection of the same areas was made between 8.00 a.m. and 9.15 a.m. on Friday 12<sup>th</sup> May 2006.
- 1.7 At the opening of the inquiry The Promoting Authority, the Welsh Assembly Government (AG), confirmed that it had complied with all statutory formalities (ID/AG/17).
- 1.8 At the start of the inquiry there were 71 Objectors, five Interested Parties and three Supporters in respect of the proposed Trunking. Eight Objectors, including Mr A Cairns AM, appeared at the inquiry. A further letter of support for the proposed Trunking was submitted by CIA during the inquiry.
- 1.9 The main grounds for objection were:
  - the traffic model, upon which AG’s case is based, is flawed on a number of counts;

- the medium and long term phases of AG’s proposals have no committed budget;
- the proposed Trunking would do nothing to help the existing traffic problems at Culverhouse Cross and would lead to wider development generally;
- the proposed Trunking would result in no journey time savings;
- the A4050 is better suited for trunking as journeys along it would be more reliable than along the A48 and Five Mile Lane;
- no risk analysis has been done to determine the extent of the existing problems on Five Mile Lane, which historically has a very poor safety record; and
- the proposed Trunking would cause additional severance in St. Nicholas and would have an undesirable environmental impact.

1.10 This report contains a brief description of the areas affected by the proposed Trunking, the gist of the cases presented and my conclusions and recommendation. Lists of inquiry appearances are included as Appendix A and lists of documents are included as Appendix B. Supporting document references which are listed in Appendix B are given in brackets (). In the interest of completeness, I have included in the lists of documents the proofs, closing statements, written representations and other evidence submitted by the parties. This, however, is subject to the proviso that these may have been added to or otherwise amended at the inquiry, either during examination-in-chief or cross-examination.

## 2.0 DESCRIPTION OF THE AREAS AFFECTED BY THE PROPOSED TRUNKING

- 2.1 The roads and lands adjoining the roads affected by the proposed Trunking surround a rectangular shaped area (7km x 7.5km) of open farmland in the Vale of Glamorgan Council (“VoGC”) administrative area on the south-western outskirts of Cardiff (ID/AG/25).
- 2.2 The area is bounded to the north by the A48 that runs in an east/west direction from Culverhouse Cross roundabout, which is within Cardiff City Council (“CCC”) administrative area, to Sycamore Cross. The area is bounded to the south by the A4050 Port Road East, the A4050 Port Road West and the A4226 Port Road West. These roads run from Crow Hill to Waycock Cross roundabout also in an approximately east/west direction, roughly parallel to the A48. The eastern leg of the rectangle is formed by the A4050, which runs in a north/south direction from Culverhouse Cross to Crow Hill. The western leg of the rectangle is formed by Five Mile Lane which runs from Sycamore Cross on the A48 to Waycock Cross roundabout.
- 2.3 From Culverhouse Cross the A48 passes in dual-carriageway through a signal controlled junction (the Tesco junction) before climbing the hill to the Tumble on a two-lane uphill and one-lane downhill carriageway through a 40mph restriction zone. Thereafter the A48, whilst remaining single-carriageway, is variable in width before passing the junction to the Downs to the south, the entrance to Cottrell park to the north and then through the settlements of St. Nicholas and Tre-hill in a 30mph restriction zone. St. Nicholas is a designated conservation area and some of the buildings in it, which are in close proximity to the A48, are listed as being of special historic or architectural interest. In the centre of St. Nicholas there is one west-bound lane and two east-bound lanes on the A48 through a traffic light controlled T-junction to Dyffryn, to the south of the A48. The A48 passes through the Sycamore Cross/Five Mile Lane T-junction in a derestricted zone.
- 2.4 The single-carriageway A4050 Port Roads East and West and the A4226 Port Road West form Barry’s northern boundary of development apart from the Highlight housing estate on the northern side of the A4050, opposite to Barry Comprehensive School. In addition there is

some ribbon housing development, mostly extending to only one property deep, along parts of the northern side of the same roads. There is one roundabout and two traffic light controlled junctions on these sections of road, much of which has a 40mph speed limit. The A4050 north/south bypasses the east of the settlement of Wenvoe. There are five roundabouts on this section of the A4050 between Culverhouse Cross and Crow Hill. A dual-carriageway extends between Culverhouse Cross and the first roundabout to the south, the HTV roundabout; thereafter the road is single-carriageway and a 50mph restriction zone applies.

- 2.5 Five Mile Lane has been improved to a 7.3m carriageway for some 1.76km south of the Sycamore Cross T-junction with the A48. Thereafter it is narrow and twisty and is typically 5.6m-6.6m wide, bounded on each side by high hedges and farmland and is subject to a 40mph speed limit. The Welsh Hawking Centre is located on the eastern side of Five Mile Lane close to Waycock Cross. North of the Hawking Centre there is also a short length of improved carriageway.
- 2.6 The proposed Trunking would also affect roads beyond the rectangular area described above, although as a result of the proposed Trunking there would be no changes to the traffic flows on them. These roads are the single-carriageway A4226 Port Road which runs in a westerly direction from the Waycock Cross roundabout to a roundabout at Welford. Thereafter the single-carriageway A4226 Port Road runs in a south-westerly direction to the CIA access roundabout. Another leg of the Welford roundabout, which is not proposed to be trunked, is a road also designated as the A4226 which runs west where, at a point adjacent to CIA, it changes to the A4265 and goes on to St. Athan.

### 3.0 THE CASE OF THE PROMOTING AUTHORITY

**The material points of the Promoting Authority were:**

- 3.1 AG's Proofs and Summary Proofs of Evidence (ID/WA/1A-4A) supersede its Statement of Case (SD/4) but all the documents submitted by AG are complementary.

***AG's Strategic Aims***

- 3.2 NafW published its strategic agenda for AG: "Wales: A Better Country" in September 2003 (D10).
- 3.3 The vision set out in this publication is for a sustainable future for Wales, where action for social, economic and environmental improvement work together to create positive change, promoting:
- a diverse, competitive, high-added value economy, with high quality skills and education, that minimises demands on the environment;
  - action on social justice that tackles poverty and poor health, and provides people and their communities with the means to help themselves and break out of the poverty trap;
  - action in the built and natural environment that enhances pride in the community, supports bio-diversity, promotes local employment and helps to minimise waste generation, energy and transport demands;
  - strengthening Wales's cultural identity and helping to create a bilingual country;
  - ensuring all children and future generations enjoy better prospects in life, and are not landed with a legacy of bequeathed problems;

- supporting people to live healthy and independent lives; and
  - promoting openness, partnership and participation.
- 3.4 A specific commitment given in Wales: A Better Country (D10, page 19) relating to transport is to invest in transport infrastructure and hence to improve transport links to support a stronger economy and improve road safety and community environments.

***AG's Transport Aims***

- 3.5 The broad aims and principles of AG with regard to transport are set out in the November 2001 Transport Framework for Wales (D9). This policy document sets out how NAFW aims to lead and support the delivery of transport infrastructure and services that are needed in Wales, both internally and externally to connect Wales with the rest of the world.
- 3.6 The Environment Planning and Transport Committee of NAFW endorsed the Framework. The Transport Framework reiterates the overall transport targets set to “Develop a better co-ordinated and sustainable transport system to support local communities and the creation of a prosperous economy” (D9, paragraph 3.1.3). The Framework also states that a transport system is needed (D9, paragraphs 6.1.2 & 3) that is:
- more accessible to all people, including people with disabilities, young people and those at a social disadvantage;
  - able to provide access and mobility to support commercial activity and facilitate implementation of the economic vision for Wales;
  - better integrated between different modes, and with land-use planning with care for the environment as a basic principle;
  - safer and health promoting; and
  - more efficient in its use of resources.

***AG Planning Policy Context***

- 3.7 The Wales Spatial Plan (D11), published in 2004, sets out AG's vision for the future development of Wales and on integrated transport strategy states: “Increase the transport capacity of the corridors and gateways to Europe and beyond. This would include capacity enhancements on the M4 and A465 corridors through the Trunk Road Forward Programme as well as development of routes to and from CIA” (D11, page 52).



### ***Air Travel Policy Context and CIA***

- 3.8 The current policy framework for air travel is set out in the UK Government's Department for Transport ("DfT") White Paper: The Future of Air Transport, 2003. This establishes the framework for airport capacity in the United Kingdom for the next 30 years (D12).
- 3.9 On the subject of airports, the 2001 Transport Framework states that it is necessary: "to help create the right conditions to enable the strategic potential of CIA to reflect Wales's business and leisure needs; and to improve access to other UK airports important to Wales" (D9, paragraph 6.2.3 vii). In considering the proposed Trunking, AG has relied on DfT growth figures and accordingly does not accept, nor has it applied, the recommended values developed by CIA's management for future planning purposes (ID/O2/4, page 3).
- 3.10 CIA has not been asked to contribute towards the cost of improvement of surface access to the airport. AG was a member of the CIA Study Group (D28, appendix c) and it understands that no quantitative assessment has been undertaken to confirm the CIA Study Group's conclusions that:
- there is widespread public perception that CIA is a holiday airport, rather than an integrated part of the economic development profile of the region (D28, paragraph 8.3); and
  - there is an anecdotal perception that CIA is remote from the UK motorway network (D28, paragraph 8.4).

### ***Local Policy Context***

#### *Vale of Glamorgan Council*

- 3.11 The VoGC Unitary Development Plan (D22) recognises the importance of serving CIA and associated development and the importance of providing access both by road using private and public transport and by rail. The VoGC Local Transport Plan 2001-2006 (D23) refers to the Council's aspiration that an Airport Transport Forum should be formed, as recommended by the then Department of Environment, Transport and the Regions ("DETR").
- 3.12 The Forum recognised that the growth of CIA is vital to the sustained economic growth of South Wales and recommended that: "The surface access to the surrounding region and the airport needs to be improved in order to change the perception of the market and to improve the competitiveness of both. This would ensure that the greatest potential is achieved in the shortest possible timescale" (D28, paragraph 9.7).

#### *Cardiff County Council*

- 3.13 The South Glamorgan Replacement Structure Plan (1999–2011) is the current development plan for Cardiff. This includes the theme that "Improved Access to Cardiff – Wales Airport" would be given priority when assessing highway and public transport improvements (D27).
- 3.14 CCC's Local Transport Plan (2001–2006) identifies as key problems, the wish of airport users for improved public transport links to the CIA and the concerns of CIA relating to surface access by private transport (D25, paragraph 2.1.11).

### ***The 2002 Trunk Road Review***

- 3.15 The Trunk Road Act 1936, which created the Trunk Road Network, defined the then Minister of Transport as the Highway Authority for roads in Great Britain which constitute the national

system of roads for through traffic (D5, paragraph 2.1).

3.16 In 1998 trunk roads were defined in *Driving Wales Forward* as a national system of strategic routes providing (D5, paragraph 2.2):

- links to centres of population;
- key routes to major communication interchanges;
- links from peripheral areas to the centre;
- key cross border links to the English network; and
- links to the rest of Europe.

3.17 Decisions on trunk road maintenance and improvement programmes are made by AG, acting on behalf of NAFW. Delivery of these programmes is overseen by Transport Wales (“TW”) with all funding coming from NAFW budgets.

3.18 In August 2002, the Trunk Road Network in Wales was reviewed and a consultation document was issued (D5). The review examined the existing arrangements and presented 26 trunking proposals for consultation. One group of proposed trunkings included an option to provide access to ports, airports and tourist centres (D5, section 6.4). Proposal 25 was to extend a trunk road from Culverhouse Cross to CIA. The Review identified the fact that a study had been commissioned to report on route choices to CIA from the A4232. This Study, the Culverhouse Cross Study (D2), reported in July 2002.

#### ***The Way Forward***

3.19 The A48/A4232 Culverhouse Cross and Airport Access Study - *The Way Forward* (D3) reported in August 2003. It summarised the objectives of the Culverhouse Cross Study as being to (D3, table 4.1):

- provide traffic relief at Culverhouse Cross;
- improve access to CIA; and
- improve access to Barry.

3.20 It recommended an incremental strategy for transport improvements (D3, paragraph 4.1):

- short term (0-5 years);
- medium term (5-10 years); and
- long term (> 10 years).

3.21 These comprised the following elements with regard to improving access to CIA (D3, section 4.5):

- short term: safety improvements to Five Mile Lane, improvement to Sycamore Cross junction and improvement to Waycock roundabout;
- medium term: link between Sutton Farm and Welford junction and upgrading of Five Mile Lane; and
- long term: new trunk road between M4 (J34) and Sycamore Cross.

3.22 AG decided that medium term improvements to Five Mile Lane should be the subject of

further, more detailed, study. AG did not accept the long term recommendations for a new highway link between M4 (J34) and Sycamore Cross. Instead, AG concluded that there should also be further examination of this link and alternative solutions in consultation with local authorities (D3, Section 4.6.3).

- 3.23 AG has begun the process of appointing consultants to undertake this further examination. The resulting proposal, developed by the appointed consultant, if it is acceptable to AG, would be subject to full consultation and statutory planning procedures. The appraisal would include an assessment of changes to traffic flows on the existing road network and the subsequent consequences for local communities within the Vale of Glamorgan (“the Vale”) and elsewhere (ID/AG/12).

***The Proposed Trunking***

- 3.24 Both VoGC and CCC were included in the statutory consultation process (ID/AG/17). AG issued its Statement of Case (SD/4) to all parties on 31<sup>st</sup> January 2006. AG published the draft Order for the proposed Trunking (D1) on the 15<sup>th</sup> July 2005. It was sent to some 25 statutory consultees and 61 non-statutory consultees (ID/AG/11).

- 3.25 The effect of making the Order would be to transfer responsibility for management, maintenance, improvement and funding of the stated sections of Culverhouse Cross, the A48 and Five Mile Lane from VoGC and CCC to AG. The A4232 slip roads on the south side of Culverhouse Cross roundabout would remain in the control of CCC. The transfer would ensure direct responsibility and a fair distribution of cost, i.e. without AG control the responsibility for a national objective would be left to a local authority (ID/WA/1A, paragraph 1.5). The proposed Trunking embraces no hidden agenda for the creation of wider development opportunities or for extending the CCC boundary out to Five Mile Lane.

- 3.26 AG favours the proposed Trunking on the grounds that it would:

- take traffic away from the existing route where it can only travel at relatively low speeds, because of numerous traffic signals and roundabouts (SD4, paragraph 5.2);
- have greater capacity to absorb increased traffic volumes compared with the existing route (SD4, paragraph 5.4);
- have greater potential for upgrading and incorporation into a long term solution (ID/WA/3A, paragraph 5.7); and
- provide more reliable journey times to CIA than does the existing route (ID/WA/1A, paragraph 4.7).

- 3.27 The objective of the proposed Trunking is to facilitate improvement of access to CIA and is not to alleviate the current congestion problems at Culverhouse Cross interchange (D3, table 4.1 & ID/AG/10, issue 6). However, the short term proposed Trunking budget includes a sum of £0.14M for installation of a MOVA traffic light improvement system at Culverhouse Cross roundabout (ID/AG/23).

- 3.28 There is no requirement that trunk roads should be dual-carriageways, although the standard of trunk roads is generally higher than the standard of local authority maintained roads (ID/AG/10, issue 3, paragraph 5). AG would seek to improve traffic flows and road safety by making changes within existing highway boundaries. Such changes would not require the procurement of additional land or statutory procedures. However, it may be possible to acquire land by agreement without having to resort to statutory procedures. In order that the assessment of forecast traffic flows is robust, account has been taken of the proposed changes to the highways network within existing highway boundaries should the draft Order be made.

- 3.29 AG requests that if the draft Order is made that textural corrections are made to the Order document (ID/AG/18).

***Costs and Programme***

- 3.30 With regard to costs and programme the improvement of access to CIA can be considered to comprise four distinct phases:

- short term phase 1;
- short term phase 2;
- medium term phase; and
- long term phase.

Only the first two phases actually relate to the proposed Trunking but full implementation of the proposed Trunking is dependant on the medium and long term phases.

- 3.31 The short term phase 1 has an approved budget of £0.835M in FY 2006/07. The short term phase 2 has a budget of £2.19M (£3.025M, less the phase 1 budget of £0.835M). This is included in AG's rolling forward budget for FY 2007/08, although final budgets for FY 2007/08 expenditure would not be confirmed until December 2006. The £3.025M budget includes £0.5M for capacity improvements at Waycock Cross. This would assist south-bound traffic on Five Mile Lane turning right to CIA across the main west to east traffic flow. A sum of £0.125M has been allowed for all the necessary signing modifications as a result of the proposed Trunking (ID/AG/23).

- 3.32 The estimated cost for more comprehensive medium term measures to upgrade Five Mile Lane, which would involve land acquisition and possibly statutory procedures, is in the region of £10M. However, these medium term works would not be planned until the outcome of the further study into long term measures for CIA access and Culverhouse Cross improvements has been identified, (paragraph 3.23 above). This would follow on from completion of the Option Appraisal stage of the study which is scheduled to be completed by September 2007 (ID/AG/12).

- 3.33 The estimated cost of the long term solution is not yet available. The cost of one possible new route from M4 (J34) to Sycamore Cross was estimated in the 2002 Culverhouse Cross and Airport Access Study as £20M at 2001 prices (£22.63M current prices). Allowing for design, land acquisition, statutory procedures, supervision, statutory undertakers and contingencies, this estimate should be increased to approximately £45M (ID/AG/35). This previously identified possible route would be included as one option in the study into long term solutions. The start of construction of a long term solution could commence by January 2011 (ID/AG/12), although AG acknowledges that this date could be subject to slippage. However, the adoption of an incremental approach best accommodates possible programme slippage. The medium and long term measures are identified as a Phase 3 programme item, i.e. being unlikely to start before April 2010, in the 2004 Supplement to the Trunk Road Review (D8).

***Road Safety***

- 3.34 AG has not undertaken any formal Road Safety Audit or risk assessment of the A48 and Five Mile Lane. From information obtained from VoGC and from general observation, AG believes that the Sycamore Cross junction falls short of current design standards. It would not be necessary to acquire any land for construction of a new roundabout, fully compliant with current design standards, at this location. The £1.0M cost for a new roundabout at Sycamore Cross is included within the overall short term phase 2 budget of £2.19M up to the end of FY

2007/08 (ID/AG/23).

- 3.35 A figure of £0.4M is included within the £2.19M phase 2 budget to cover some safety improvements to Five Mile Lane. With regard to the cost of safety improvements, AG has relied on information extracted directly from a 2001/02 Transport Grant application submitted by VoGC to AG. The breakdown of the £0.4M figure is that given by VoGC in its application and is: design £30K; land £10K; and works £360K (ID/AG/24).
- 3.36 The VoGC application was supported by text which states: “It is anticipated this application would alleviate safety problems on certain sections of this road which currently represent a hazard for all types of traffic. There are stretches of road with very poor forward visibility due to a narrow carriageway (AG has determined that Five Mile Lane is 5.6m wide at its narrowest point), (ID/AG/21), several tight bends, combined with the lack of a verge width due to high hedges immediately adjacent to the road.” (ID/AG/24). AG’s acceptance of VoGC’s view of Five Mile Lane is confirmed (D3, Sections 4.6.1 & 4.6.2). AG would not redirect any traffic from the existing route on to the proposed Trunking route until essential safety work identified within the £0.835M short term phase 1 works had been carried out and any work undertaken had been subject to a safety audit (ID/WA/1A, paragraph 4.9).
- 3.37 Neither VoGC (ID/AG/26) nor the emergency services (ID/AG/34) keep detailed records on road closures due to incidents or flooding on Five Mile Lane. However, VoCG have confirmed that the frequency of closures on the A4050 and on Five Mile Lane due to incidents is comparable (ID/AG/26). VoGC considers that the safety cameras installed recently by VoGC have been successful in reducing accidents.
- 3.38 With additional traffic being directed on to Five Mile Lane before width and alignment issues have been resolved, the accident situation may well get worse in the short term.

### ***Comparison between the Proposed Trunking Route and the Existing Route***

#### ***Traffic Modelling***

##### *Study Area*

- 3.39 The area within which the traffic impacts of the proposed Trunking were modelled stretches between Cowbridge and Cardiff and between the M4 and the Bristol Channel (D40). The transport modelling assessed the changes of traffic flows on the following sections of highway:
- A48 between Culverhouse Cross and Sycamore Cross;
  - Five Mile Lane between Sycamore Cross and Waycock Cross;
  - A4050 Port Road between Culverhouse Cross and Crow Hill; and
  - A4226 Port Road East/West between Crow Hill and Waycock Cross.

Particular attention was paid to the anticipated impacts of the proposed Trunking on the villages of St. Nicholas and Tre-hill on the A48 and on the northern fringe of Barry along the A4050/A4226 Port Road East and Port Road West (ID/WA/3A, paragraph 2.2.2).

##### *Base Year Model*

- 3.40 There are two main input elements to a computer-based transportation model:
- the transportation network; and

- the trip matrix
- 3.41 The transportation network was made up of a series of links and nodes, which in the case of this highway traffic model represent sections of roads and road junctions. The network also incorporated zones which represent discrete parts of the study area where trips may start or terminate. The network contained parameters representing the theoretical capacity of links and junctions and information denoting the relationship between traffic flow and vehicle speeds for each link and the key junctions.
- 3.42 The trip matrix can be considered as a grid table displaying the number of trips originating and terminating in each zone within the model. Separate trip matrices were developed for the a.m. and p.m. peak hours, which within the study area have been shown to be between 8.00 a.m. and 9.00 a.m. and between 5.00 p.m. and 6.00 p.m. respectively.
- 3.43 A Simulation and Assignment of Traffic to Urban Road Networks (“SATURN”) traffic model was originally built for the 2002 Culverhouse Cross study. The SATURN model has been the standard industry modelling tool for around 20 years. Although this model was originally intended for use in urban situations, it is considered appropriate for use in this case. The trip matrices used in the model were based on information collected through both household surveys and roadside interviews. Due to unavailability of stopping locations no roadside interviews were carried out at Culverhouse Cross roundabout.

#### *Model Updates*

- 3.44 The model has been extensively updated to reflect observed traffic conditions in 2005 (ID/WA/3A, section 4). The forecasts for traffic growth were developed in accordance with national guidance for undertaking transport appraisal. Growth factors were derived using data contained within the National Road Traffic Forecast 1997 (D29) and the National Trip End Model both published by DfT. Separate trip matrices, representing the travel demand for both the a.m. and p.m. peak hours in each of the forecast years, were developed. The modelling focuses on week days.
- 3.45 In order to confirm that the model represented the prevailing conditions in 2005 as closely as possible, it was calibrated against the actual traffic flows recorded during surveys in 2005. This calibration process involved a comparison of vehicle count survey data against the equivalent data forecast by the model. Validation was undertaken by comparing modelled journey time data against data surveyed for the equivalent trip and by comparing observed and predicted traffic flows. Journey time surveys were undertaken by VoGC staff on behalf of Faber Maunsell (ID/AG/31 & 37). The 2005 model was calibrated in accordance with Design manual for Roads and Bridges (“DMRB”), Volume 12 (D20) and complied fully with the calibration criteria. All work on the modelling was subject to Faber Maunsell’s Quality Assurance procedures and the model is considered to be extremely robust. All outputs from the transport modelling are inter-related, i.e. elements have not been “cherry-picked” from different model runs in support of different parts of submitted evidence.

#### *Significant New Impacts*

- 3.46 The model takes account of the recently approved reconstruction of the Tesco superstore at Culverhouse Cross (ID/AG/29), although, as the retail area of the new store would be the same as the existing, no adverse impact is expected. No account has been taken of the possible future establishment of the Aerospace Centre of Excellence at St. Athan, either in terms of employee or construction traffic (ID/AG/33). No account has been taken of the proposed crematorium on the A48 which has recently been refused planning permission. Modelling takes account of seasonal variations such as Christmas.

*The Do Nothing and Do Something Scenarios*

- 3.47 The Do Nothing scenario assumed no changes would be made to the highway network and that traffic flows within the study area would continue to grow i.e. traffic to CIA would continue to be signed by the existing route. For the purposes of the assessment, 2007 was assumed to be the Opening Year and 2010 and 2015 were assumed as future years (ID/WA/3A, paragraph 5.1.1).
- 3.48 The Do Something transport network assumed that the proposed Trunking would be implemented, i.e. the short term phases 1 and 2 works would be undertaken. Improvements at Sycamore Cross and Waycock Cross would be carried out and signing alterations would be undertaken to direct trips between the M4 (J33) and CIA along the proposed Trunking route (ID/WA/3A, paragraph 5.2.1).
- 3.49 The model does not restrict the routes taken by airport employees or by HGVs travelling to and from the CIA (ID/WA/3A, paragraph 5.2.2). This is on the basis that travellers with local knowledge would choose their own route regardless of directional signs, particularly as signing would be advisory rather than mandatory. HGVs would not be directed along the A48 and Five Mile Lane until such time as the route was made more appropriate for large vehicles i.e. until the medium term Five Mile Lane safety measures were in place.

*Forecast Traffic Flows*

- 3.50 If no changes were made to the highway network, the 2007 p.m. peak hourly flows forecast for the A4050 Port Road would be 1,484 (106% of the calculated 1,400 capacity) and for the A4226 Port Road West would be 1,378, (115% of the calculated 1,200 capacity). Forecast two way traffic flows on the A48 would be 1,218, (87% of the calculated 1,400 capacity) and Five Mile Lane flows would be 458, (48% of the calculated 950 capacity), (ID/WA/3A, tables 5.1 & 5.2). Capacities were calculated manually in accordance with DMRB 13.1.9.5 (D39). Capacities are determined by a number of factors such as location, carriageway width, vertical and horizontal alignment, nature of surrounding development and the number of junctions. The capacities referred to were determined for the 2002 modelling but their derivation is no longer available on the project files (ID/AG/40, response to questions 6 & 7). Capacities of links are frequently derived manually; this allows complex numbers to be presented in an easily digested form. The capacity of Five Mile Lane was determined using the lowest road type described in the DMRB classification: Rural Single Carriageways – Road Class 1 (D39, section 2) and (ID/AG/36, responses to questions 6 & 7) and (ID/AG/38, response to questions 6 & 7).
- 3.51 Traffic flows on the A48 and the Five Mile Lane would be greater in the Do Something scenario. In the 2007 opening year, forecasts indicated a two-way traffic flow on the A48 between 8.00 a.m. and 9.00 a.m. of 1,830 vehicles if the proposed Trunking is implemented, compared to 1,560 vehicles if no changes are made. In 2015 two way traffic flows in the a.m. peak on the A48 would increase by 20% if the proposed Trunking was to take place; the equivalent figure for Five Mile Lane would be 19% (ID/WA/3A, table 5.5).
- 3.52 For the 2007 evening peak hour, forecasts indicated a two-way traffic flow on the A48 of 1,813 vehicles if the proposed Trunking is implemented, compared to 1,658 vehicles if no changes are made, an increase of 9.3% (ID/WA/3A, table 5.6). For the A4226 Port Road West the forecasts showed decreases in two way traffic flows of 215 (8.9%) and 140 (5.9%) vehicles in the morning and evening peak hours respectively (ID/WA/3A, tables 5.5 & 5.6).
- 3.53 In 2007 the two way flows on the A48 in the a.m. peak would be 1,560 vehicles/hour in the Do Nothing scenario (ID/WA/3A, table 5.1). By 2015, if the proposed Trunking was to take place the equivalent flow would be 2,405 vehicles/hour (ID/WA/3A, table 5.5), an increase of

54%. The corresponding increase in the Do Nothing situation would be 28.5%.

- 3.54 The forecast reduction in traffic flows resulting from the proposed Trunking would ease congestion on the existing route A4050 through the northern fringe of Barry. Although the forecasts indicate increases in traffic flows on the proposed Trunking route, the spare capacity available at junctions and on links on these two roads could accommodate these increased flows. Analysis of the traffic flow forecasts for the A48 showed that the tidal nature of traffic flow on the A48 would become less evident in future years, as trips were re-routed via the A48 and the difference between the east-bound and west-bound traffic flows gradually would become smaller. Further traffic growth along the existing route would lead to the deterioration of traffic flows to such a degree that congestion would be experienced for a greater proportion of the day.
- 3.55 Capacities at roundabouts were assessed by establishing observed traffic flows rather than by using the ARCADY roundabout modelling programme (ID/AG/1). Roundabouts on the A4050 north/south do not significantly influence the link capacity.
- 3.56 The model forecast the number of HGVs using the principal routes between Culverhouse Cross and CIA. Although the number of HGV trips overall is forecast to grow, the proposed Trunking would not result in an increase in HGVs using the A48 or Five Mile Lane (ID/WA/3A, paragraph 5.2.10).

#### *Journey Times*

- 3.57 Modelled Journey times between Culverhouse Cross and Waycock Cross were produced from the base 2002 model and compared with observed journey times for both the a.m. and p.m. peaks. For the a.m. peak the observed and modelled journey times from Waycock Cross to Culverhouse cross via the existing route were 13mins 35secs and 12mins 30secs respectively. For the proposed Trunking route the equivalent times were 9mins 29secs and 11mins 17secs respectively. Between Sycamore Cross and Culverhouse Cross the a.m. peak observed and modelled travel times were 4mins 17secs and 5mins 10secs respectively (ID/AG/37).
- 3.58 In the 2007 a.m. peak it would take 54secs less time to travel to M4 (J 33) from the CIA via the proposed Trunking route (20mins 12secs) than it would via the existing route (19mins 18secs). In the p.m. peak hour it would take 1min 18secs longer to travel from M4 (J33) to CIA via the proposed Trunking route (21min 6secs) than via the existing route (22mins 24secs). In future years the forecast journey times between M4 (J33) and CIA for the proposed Trunking route would always be lower than for the existing route if no changes were made to the highway network (ID/WA/3A, Table 5.4).
- 3.59 In the a.m. peak in 2010 it would take 5mins 11secs longer to travel from CIA to M4 (J33) by the proposed Trunking route than it would by the existing route. Most of this increased time is due to traffic on Five Mile Lane south having to yield to traffic at Waycock Cross roundabout coming from the west. This situation would be resolved by the installation of traffic lights at Waycock Cross roundabout, the provision of which is included in the TUBA analysis. The corresponding journey in the p.m. peak would take 1min 3secs less by the proposed Trunking route than by the existing route (ID/WA/3A, table 5.7).

#### *Economics*

- 3.60 Transport User Benefit Analysis (“TUBA”) (ID/AG/4) and Cost/Benefit Analysis (“COBA”) (ID/AG/3) assessments have been undertaken, based on the changes in traffic flows, to compare the Do Nothing scenario with the Do Something scenario. The TUBA and COBA assessments took no account of wider economic effects, including increased tourism in Wales, further inward investment and the growth of CIA that could result from the proposed



Trunking (ID/AG/2 & 38, response 5).

#### *TUBA Methodology*

- 3.61 A TUBA assessment was undertaken for a period of 60 years (2007-2066), which is in line with current Government guidance. The costs, which were the proposed Trunking costs and changes in fuel revenue were defined as Net Present Value of Costs, equated to -£0.174M (£2.59M excluding increase in fuel revenue). Increases in fuel revenue were off-set against the proposed Trunking costs as they were a benefit to the Government. The Net Present Value of Costs was based on the short term costs of the proposed Trunking, £3.025M, at December 2003 prices (ID/AG/23) discounted to 1998 prices.
- 3.62 The benefits, which were changes in operating costs and journey time were defined as Net Present Value of Benefits, equated to -£38.081M. The benefits were negative due to increased operating costs and increased travel time (ID/WA/3A, paragraph 6.3.1).
- 3.63 The difference between the costs and the benefits was defined as Net Present Value and equated to -£37.907M (Net present Value = Net Present Value of Benefits - Net Present Value of Costs). TUBA does not take into account the cost benefit of changes in accident numbers; hence an Accident Only COBA has been carried out.

#### *COBA Methodology*

- 3.64 An Accident Only COBA was undertaken for a period of 60 years (2007-2066), which was also in line with current Government guidance. This analysis compared the predicted accidents for a Do Nothing scenario and a Do Something scenario based on the changes in traffic flows between these scenarios. Accident rates for the analysis were derived from local accident data for the last five years on the A48/A4226/A4050 (ID/WA/3A, tables 6.12 & 6.13). The most recent serious accident on Five Mile Lane was on 23<sup>rd</sup> April 2006 (ID/AG/22). Proposed Trunking costs were not entered into an Accident Only COBA.
- 3.65 The cost of the proposed Trunking in terms of increased accidents (Net Present Value of Benefits) was -£8.583M over 60 years (ID/WA/3A, paragraph 6.2.15), hence it was a disbenefit. This equated to a total increase in accident numbers of 134 over the 60 year assessment period (2 Fatal; 12 Serious; 120 Slight).
- 3.66 The overall economic disbenefit of the proposed Trunking was determined as £46.49M. Although both the TUBA and COBA assessments were undertaken for a 60 year period, AG has already issued invitations to tender to consultants for a study into a comprehensive longer term solution to the problems of Culverhouse Cross and access to CIA (ID/AG/12). The outcome of this study should be known by September 2007 and, subject to funding and completion of statutory procedures, construction could commence by January 2011. AG acknowledges however that the study may recommend different solutions to the problems of access to CIA and Culverhouse Cross congestion.

#### ***Accidents***

- 3.67 Between January 2000 and December 2005 there were 152 reported personal injury accidents on the two main routes to CIA. Accidents which occurred at Culverhouse Cross and Waycock Cross and those which occurred on the A4226 between Waycock Cross and CIA have been excluded from the assessment. Vehicles travelling between CIA and Culverhouse Cross would pass along these sections of road regardless of the route chosen. Comparative analysis of the two alternative routes between Culverhouse Cross and CIA is therefore based only upon 128 personal injury accidents, when the 24 accidents occurring at locations common to both routes are excluded.

- 3.68 Some 54 or 42% of the accidents in the analysis occurred on the proposed Trunking route. Two of the accidents in 2002 were fatal. There were also fatal accidents in 2001, 2003 and 2005 (ID/WA/3A, table 6.13). Of the 54 accidents, 30 occurred on Five Mile Lane between Sycamore Cross and Waycock Cross, compared to only 10 on the A48 between Culverhouse Cross and Sycamore Cross. 14 accidents occurred at Sycamore Cross junction. Between Sycamore Cross and Waycock, accidents are fairly evenly distributed, although there are clusters along Five Mile Lane, between Grovelands Farm and the Welsh National Hawking Centre. Four of the 5 fatal accidents occurred on the corner by Sutton Farm (D45). On the A48 between Culverhouse Cross and Sycamore Cross, most accidents occurred on the two bends near the Downs (7 of 11). There was also a serious accident at Tre-hill in 2003 (D45).
- 3.69 It is forecast that there would be an increase of 134 accidents if the proposed Trunking was to proceed, extra over the number of accidents on the existing route together with the number of accidents that would occur on the A48 and Five Mile Lane if the proposed Trunking did not take place. This would comprise: 2 fatal; 12 serious; and 120 slight personal injury accidents. These are forecast to occur over the next 60 years between Culverhouse Cross and Waycock Cross. These figures have been used in the COBA Accident Only economic assessment (ID/AG/36, response 5), see also paragraph 3.65.

#### ***Reliability of Journey Times***

- 3.70 It is considered that the proposed Trunking would provide more reliable journey times to CIA, as the proposed Trunking route has greater capacity than the existing route. As traffic volumes grow on the existing route, traffic flows would become less reliable (WA5, paragraph 5.6). AG believes that reliability of journey times is a more important factor in people deciding which route to take to CIA than the actual journey time. No specific analysis has been undertaken to derive information on journey time reliability.
- 3.71 With the inclusion of the A48 and Five Mile Lane into the trunk road network, early warning of any incidents on the proposed Trunking route, that might be an obstacle to the passage of traffic, could be relayed through an emerging variable message warning sign system on the M4 and the A4232.

#### ***Queue Lengths***

- 3.72 The traffic model has assessed queue lengths at junctions. (ID/AG/36, responses 2 & 3). The average queue is defined as the average number of stationary queued vehicles during the peak hour. The model outputs are not consistent with the observations of the Objectors that in the a.m. peak:

- traffic backs up from Culverhouse Cross to beyond St. Nicholas; and
- traffic backs up on the off slip from the A4232 to Culverhouse Cross.

The Objectors may have observed the worst situation during the peak a.m. hour. (ID/AG/40, response 1 & 2).

#### ***Environmental Impact***

- 3.73 The environmental impacts of the proposed Trunking were assessed under eight subject areas.
- Water Quality, Drainage and Flood Defence;
  - Biodiversity;
  - Visual Amenity and Landscape;

- Noise and Vibration;
  - Air Quality;
  - Cultural Heritage;
  - Accessibility and Social Exclusion; and
  - Community Severance.
- 3.74 The proposed Trunking contains no proposals for construction of new highways, other than junction improvements. Following a preliminary review of the proposed Trunking it was concluded that the potential environmental impacts for Water Quality, Drainage, Flood Defence, Bio-diversity, Visual Amenity or the Landscape would be negligible leaving five subject areas warranting further investigation.

*Noise*

- 3.75 The noise impact study assessed that changes in noise levels (LA10, 18 hour) resulting from the proposed Trunking would be less than 1dB(A) (ID/WA/3A, table 6.1) at each of the worse case receptors considered (D42 & ID/WA/3A, appendix G). It is generally accepted that changes in road traffic noise levels of up to 3dB(A) are not widely perceptible. This threshold is stated in Guidance on Methodology for Multi-Modal Studies (D36, paragraph 4.3.5) published by DETER in 2000. Draft guidance from the Institute of Environmental Management and Assessment (D37, chapter 7, section 7.66) specifies that changes in noise levels of less than 1dB(A) can be classified as negligible.

*Vibration*

- 3.76 Extensive research on a range of buildings of various ages and types has been carried out, but no evidence has been found to support the perception that traffic induced vibrations are a source of significant damage to buildings of any age (D17, paragraph 6.4). Ground-borne vibrations are produced by the movement of vehicles on the road surface and can be felt in nearby buildings if heavy vehicles pass over irregularities in the road. The proposed Trunking is not forecast to significantly alter the number of HGVs using the A48 or Five Mile Lane and is therefore unlikely to change the nuisance associated with vibrations.

*Air Quality*

- 3.77 The air quality assessment forecasts changes in the concentrations of contaminants at eight locations (D42) particularly susceptible to air pollution. Only small changes to the concentration of the indicator contaminants nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub>) at the representative air quality receptors are forecast as a result of the proposed Trunking (ID/WA/3A, tables 6.7, 6.8, 6.9 & 6.10). Where additional emissions are forecast, levels are predicted to be significantly lower than the maximum prescribed by UK levels (ID/WA3A, table 6.6).
- 3.78 The magnitude of the increases in the concentration of contaminant is less than 1 µg/m<sup>3</sup> at each of the receptor sites. According to guidelines published by the National Society for Clean Air (D32, chapter 6, figure 1), the impacts for receptors along the A4050 Port Road and A4226 Port Road West can be classed as minor-beneficial and the impacts for receptors located on the proposed Trunking route can be classed as minor-adverse. Overall, the proposed Trunking is likely to have a beneficial impact on local air quality.

*Cultural Heritage*

- 3.79 St. Nicholas is designated a Conservation Area (D22, paragraph 3.4.78 & Appendix 3). This designation means that the VoGC must have due regard to the preservation of the special historic or architectural character of the area during the exercise of its planning powers. In addition some of the buildings adjacent to the A48 are listed nationally as being of special historic or architectural interest.
- 3.80 DMRB states that the types of impact from highway projects on historic buildings are likely to be the same as those on modern buildings (D16, chapter 11, paragraph 11.1). Sites representing cultural heritage and conservation areas may also be affected by severance and loss of amenity.

*Accessibility and Social Exclusion*

- 3.81 The appraisal of community severance focuses upon the village of St. Nicholas on the A48 and the northern fringe of Barry on the A4050. It is expected that the proposed Trunking would reduce severance of the community living in the northern part of Barry and increase severance in St. Nicholas and Tre-hill. The impacts on both communities have been considered.
- 3.82 It is estimated that the population of Tre-hill and St. Nicholas is 351 and that 64% of the dwellings in St. Nicholas and Tre-hill are located to the north of the A48 (ID/WA/3A, table 6.16). All of the amenities, except the Church Hall, are located to the north of the A48 (ID/WA/3A, table 6.17).
- 3.83 St. Nicholas primary school is a Church of Wales voluntary controlled school. It educates children between the ages of four and eleven years and has a roll of approximately 120 pupils. The school is adjacent to St. Nicholas Church in the main part of the village to the north of the A48 (ID/WA/3A, table 6.18).
- 3.84 Barry is the principal town of the Vale of Glamorgan. It has a population of approximately 46,800. The A4050 Port Road and the A4226 Port Road West pass through the northern fringe of Barry between Crow Hill and Waycock Cross.
- 3.85 Only a small part of Barry is located on the northern side of the A4050/A4226 Port Road (ID/WA/3A, table 6.15 & appendix K). The majority of dwellings and facilities in the town are located south of the road. The severance caused by the A4226 Port Road has the potential to impact upon trips to the north of the road originating up to 5km to the south. On the basis that the majority of community facilities which may attract trips are located within Barry, it has been assumed that severance would be most keenly felt by those living to the north of the A4050/A4226 Port Road.
- 3.86 The population of Barry affected by the proposed Trunking is estimated to be 2,503 (ID/WA/A3, table 6.19). Most of the facilities, except Bryhill Golf Course, Tesco Supermarket and the Texaco Petrol Station are located to the south of the Port Road (ID/WA/3A, table 6.20).
- 3.87 There are four schools located within the northern Fringe of Barry. All four are to the south of the A4050/A4226 Port Road. In total approximately 3,417 pupils attend the schools in close vicinity to the affected route (ID/WA/3A, table 6.21 & ID/AG/32).

*Community Severance*

- 3.88 In St. Nicholas there are fewer community facilities which would cause residents to cross the

- A48. A pedestrian crossing facility is incorporated within the signal controlled junction in the centre of St. Nicholas. There is also scope to provide pedestrian crossing facilities in Tre-hill or elsewhere in St. Nicholas if the need could be demonstrated.
- 3.89 In Barry, the population living to the north of the A4050 Port Road which is separated from the community facilities in Barry is estimated to be 5,496.
- 3.90 If the proposed Trunking is implemented, impacts on community severance could arise as a result of the changes in traffic flows. The impacts are measured in terms of new severance or relief from existing severance and should be measured by the change in the annual average daily traffic (“AADT”) flows in accordance with DMRB (D18).
- 3.91 2007 opening year traffic flows have been determined for the Do Nothing and Do Something scenarios to assess the potential community severance impacts. DMRB specifies that the appraisal of community severance should be based only on AADT. The proposed Trunking is forecast to result in changes to traffic flows immediately after traffic between CIA and Culverhouse Cross has been directed via the A48 and Five Mile Lane.
- 3.92 The proposed Trunking would have some affect on the traffic flows in both St. Nicholas and Barry. St. Nicholas would experience an increase in traffic and Barry would experience a reduction in traffic. It can be concluded that the impact of the proposed Trunking would be for a slight increase in severance on the A48 through St. Nicholas and a slight relief from severance on the A4050/A4226 on the northern fringe of Barry. The proposed Trunking would also have an impact on the traffic flows on the Five Mile Lane, and the A4050 between Culverhouse Cross and Crow Hill thus affecting the degree of severance caused due to these roads (ID/WA/3A, table 6.22). The increase of or relief from severance caused by these changes in traffic flows can be considered slight.
- 3.93 The review of the estimated population in each settlement and the catalogue of community facilities show that a larger population would experience relief from severance in Barry than would be affected by the slight increase in severance in St. Nicholas.

#### 4.0 THE CASES OF THE SUPPORTERS

**The material point of the case of the Supporter who appeared at the inquiry was:**

***S4, Mr S Hodgetts on behalf of CIA***

*Air Travel Policy Context and CIA*

- 4.1 CIA was a member of the AG’s Airport Study Group.

**The material points of the written cases of the Supporters were:**

***S1, Mr E Foley, Head of Engineering on behalf of Merthyr Tydfil County Borough Council (“MTCBC”)***

*The Proposed Trunking*

- 4.2 MTCBC supports the proposed Trunking and in particular the trunking of Five Mile Lane. The proposed Trunking would benefit the economy and population generally in South Wales (S1/1).

*Costs and Programme*

- 4.3 MTCBC is concerned at the ability of NAFW to fund the associated road improvements without a detrimental effect on the existing trunk road budget (S1/1).

***S2, Mr D Parker of DTZ Peida Consulting on behalf of Legal and General****Air Travel Policy Context and CIA*

- 4.4 Legal and General has land interests immediately to the east of CIA. The proposed Trunking would be a vital step towards improving accessibility to CIA and the realisation of a number of far wider benefits that would be brought to the South Wales economy. A key element of a successful region is access to a modern airport and successful regional development is a major factor in the growth of national economies (S4, paragraphs 1 & 2).
- 4.5 The DfT 2002 Air Transport Report concludes that, if UK demand for air travel is unconstrained, passenger numbers at CIA are likely to rise from around 1.5 million passengers per annum (“mppa”) in 2001 to 9mppa in 2030. This increase is threatened by other airports at Bristol and at Piling. CIA has sufficient runway capacity to accommodate the forecast increases. Poor location and off site facilities would be a restriction to the future success of development of CIA. This is evidenced by the poor take up of development space at CIA Business Park (S4, paragraph 3).
- 4.6 The Wales Trades Union Council sees CIA as a key strand within any economic development strategy for Wales. CIA is not an integrated part of the economic development profile of the region and currently is little more than a base for small scale scheduled services and seasonal holiday charter flights (S4, paragraph 4).
- 4.7 The DfT White Paper 2003, The Future of Air Transport concludes that CIA is best placed to serve the likely increase in demand over the next 30 years. However, additional terminal capacity and improved surface access would be necessary to service this growth. The CIA Master Plan notes that 66% of current trips to the airport traverse a network which is constrained and suffers from delay and congestion (S4, paragraph 5).
- 4.8 Improvements to the access to CIA should be promoted as a priority (S4, paragraphs 7 & 8).

*Significant New Impacts*

- 4.9 Access improvements would be required if the proposed Aerospace Centre of Excellence facility was to proceed at St. Athan (S4, paragraph 6).

***S3, Mr J Horne, Managing Director of Cardiff International Airport****Air Travel Policy Context and CIA*

- 4.10 CIA was a member of the Airport Study Group which identified surface access improvements as a key factor in overcoming barriers to growth of CIA and related benefits to the Welsh economy (ID/CIA/1, paragraph 2).

*The Proposed Trunking*

- 4.11 Whilst being committed to a future more comprehensive solution, CIA acknowledges that the proposed incremental approach would bring benefits to Wales in terms of increased potential to develop air services. CIA’s support for AG’s current strategy for traffic management and road improvements is outlined in its Master Plan (ID/CIA/1, paragraphs 4 & 5).

- 4.12 CIA fully and unequivocally supports the proposed Trunking (ID/CIA/1 paragraphs 1 & 6).

## 5.0 THE CASES OF THE OBJECTORS

### **The material points of the cases of the Objectors who appeared at the inquiry were:**

*(Inspector's note: Where Objectors have made similar objections and presented similar evidence, the evidence is grouped under topic headings with the name of the relevant Objectors identified. Similar or identical evidence is reported only once)*

#### ***O2, Mr G Greaves***

##### *The Vale Protection Group*

- 5.1 The Vale Protection Group ("VPG") is a non political organisation with no statutory powers. It comprises seven individuals with common interests who live in St. Nicholas and the Tumble. Objectors appearing at the inquiry, representing themselves and VPG are:

#### ***O2, Mr G Greaves***

#### ***O4, Mr P Dewey***

#### ***O5, Mr R Jones***

#### ***O8, Mr T Knowles***

#### ***O12, Dr P Williams***

#### ***O10, Mr M Cox***

The VPG has held two public meetings prior to the inquiry, one in October 2005 and one in February 2006. These were attended by some 100 people who endorsed the objections made by the VPG to the proposed Trunking.

#### ***O2, Mr G Greaves***

#### ***O4, Mr P Dewey***

#### ***O5, Mr R Jones***

#### ***O12, Dr P Williams***

##### *Air Travel Policy Context and CIA*

- 5.2 CIA's Master Plan predicts 5.608mppa in 2020 and 7.813mppa by 2030. Freight levels are expected to rise from almost 3,000 tonnes in 2004 to 18,000 tonnes in 2030. Each element of growth would impact upon the proposed Trunking and on a wider network of routes. The DfT White Paper concluded that CIA could support 5mppa in 2030 (ID/O2/1).
- 5.3 Figures supplied by the CIA's management reveal that CIA handled 1.779mppa in 2005; a fall of 6% over 2004. The number of passengers passing through CIA in 2005 comprised 54% scheduled flights and 46% charter flights (ID/O2/1). By comparison, Bristol (Lulsgate), the main competitor airport, with its acknowledged poor access, handled 5.253mppa in 2005; a growth of 16% over the equivalent 2004 position. Thus, traffic levels at Bristol are similar to those which are anticipated by the DfT for CIA in 24 years time (D12). Therefore there is time to design a proper access to CIA, rather than relying upon the sub-standard route represented by the proposed Trunking (ID/O2/4, page 3, paragraph 5)

- 5.4 DfT policy concludes that there are new responsibilities placed upon owners, as follows: “Airport operators would be expected to develop appropriate access plans and to contribute to the costs of any additional infrastructure or services needed” (D12, page 60). It has been confirmed that CIA’s owners are unable to contribute to the funding necessary to improve infrastructure and that they have reached “an accommodation” with NAFW to cover such costs. This could place CIA at odds with Government policy and raises the highly contentious issue as to why scarce public funding should be made available to a private company (ID/O2/4, page 3, paragraphs 6-8) and (ID/O5/1, paragraph 3).
- 5.5 It is apparent that in their letter of support CIA are seeking an assurance that a “second phase” solution would be expected as part of their declared support (ID/CIA/1). The CIA Study Group understands the practical difficulties of improving surface access. The proposed Trunking falls far short of the call from the Study Group to be ambitious and aspirational in helping CIA contribute to the economic growth of the region (D28, paragraph 1.7).
- 5.6 CIA views its economic future best served by a dedicated M4 (J34) link and a multimodal public transport interchange at M4 (J34). Traffic flow data indicates that there is no urgent need to relieve CIA of congestion; only the need to resolve the existing bottleneck at Culverhouse Cross (SC/6A, page 11).
- 5.7 AG acknowledges that the proposed Trunking is important for the message that it would send out. Parties using or considering using CIA would wrongly believe that the proposed Trunking would bring with it associated highway improvements. CIA would be just as satisfied with trunking of the existing route (ID/O4/01, page 1). No meaningful work has been undertaken to confirm the perceptions about CIA referred to in the CIA Study Group conclusions.
- 5.8 The availability of a long runway at CIA and the restricted availability of land at the UK’s major airports make it likely that in coming years more aircraft maintenance would be carried out at regional airports where costs are lower. Cardiff and the Welsh economy should benefit significantly from this (SC/6A, page 10).

***O5, Mr R Jones***

*The 2002 Trunk Road Review*

- 5.9 There is no real strategy for Welsh transport. The proposed Trunking is a case of do something for as little as possible and accept an inferior and less safe solution. AG’s consultants recommended route was to develop a new direct link from CIA to M4 (J34) but this was rejected by AG (but still referred to as a possible long term solution), (ID/O5/1, paragraph 18).
- 5.10 During the late 1990s, AG initially supported a VoGC proposal for a new road from the A4232 to the south of Culverhouse Cross joining the A4050 (a two phase programme to improve CIA access and to link the Vale with Cardiff). This support was withdrawn in 2000 and funding was stopped (ID/O5/1, paragraph 2). Planning policy stresses the importance of establishing a high quality road link to CIA from the M4 and Cardiff. The proposed Trunking does not support this objective (ID/O5/1, paragraph 19).

***O8, Mr T Knowles***

***O12, Dr P Williams***



*The Way Forward*

- 5.11 Culverhouse Cross is a major shopping centre for the whole of South Wales. There has been completely uncoordinated, haphazard overdevelopment occurring at this site for at least 20 years. The vast majority of people causing the congestion at Culverhouse Cross are those who use it in order to commute to and from work or who use the shopping facilities there. AG may be using the proposed Trunking primarily to get control of the Culverhouse Cross area so as to facilitate the consideration of all related planning matters (SC/6A, page 7).
- 5.12 The Way Forward forecasts that overall traffic growth from 2003 at Culverhouse Cross would be 35% by 2016, including 300% growth in traffic to CIA (D3, paragraph 1.1). The Culverhouse Cross Study recognised that, unless improvements are made, the Culverhouse Cross interchange would virtually gridlock (D3, paragraph 2.1). AG accepts that the proposed Trunking would not provide relief to Culverhouse Cross (D3, paragraph 3.2.2).
- 5.13 Although more than two-and-a-half years have elapsed since the Study was published, AG has not identified a solution to the growing problems at Culverhouse Cross (ID/O8/1, appendix iv). Consequently, no detailed study has been carried out and costed. No allowance has been made in transport budgets for the cost of any proposal to solve those problems. (ID/O8/1, paragraph 12).
- 5.14 There is no logical reason to transfer traffic from the faster, shorter existing route to the slower, longer proposed Trunking route. AG may wish to be seen to do something as a political public relations gesture, so it can claim to be designating a trunk road to bring work to Wales. It would be of no strategic importance to the economy of Wales as a whole (SC/6A, page 5).
- 5.15 Alternatively, the proposed Trunking may be a tactical staging ploy designed to help enable the development of the M4 (J34) route. Imminent gridlock at Culverhouse Cross for all traffic using the A48 caused by the proposed Trunking might cause a sufficient change in views within commuters and others in the Vale, so as to enable AG to overcome what it perceives to be strong potential opposition to AG's consultant's preferred M4 (J34) route (SC/6A, page 5).
- 5.16 There is a high risk that all Vale residents may be adversely affected by road development over the next 5 - 10 years and may find themselves in a situation where a large amount of public money, say £10 - £20M, has been invested in Five Mile Lane with another £10 - £20M invested in Culverhouse Cross with no long-term benefit to road traffic movements accruing from either. Many £Ms may have been squandered without having anything of long term worth to show for it (SC/6A, page 6).
- 5.17 No reason has been given by AG as to why the M4 (J34) route recommended by Faber Maunsell was abandoned. This is unacceptable. AG planners are confusing the issue of congestion at Culverhouse Cross causing difficult road access to Cardiff for all who live in the Southern Vale, with the issue of the need to improve access from the M4 to CIA (SC/6A, page 6).

***O71, Mr A Cairns***

***O2, Mr G Greaves***

***O8, Mr T Knowles***

***O12, Dr P Williams***

***O10, Mr M Cox***

***O43, Professor Heywood-Thomas***

*The Proposed Trunking*

- 5.18 AG has historically shown a lack of commitment to improving the A48/A4226. Previous Transport Grant applications from VoGC to improve the safety of Five Mile Lane have been refused by AG (SC9/A, paragraph 3). There is no guarantee that Five Mile Lane would be upgraded. Thus traffic would be signed and encouraged to travel along a road that already has a higher accident and fatality rate than the existing route to CIA. All traffic would be signed along the proposed Trunking route except HGVs, although it is not clear how this restriction would be monitored and enforced (SC/6A, page 2).
- 5.19 CIA has an aspiration for improved access to the airport. They therefore support trunking but not necessarily the proposed Trunking being considered by this inquiry. CIA has emphasised the need for an access road to the airport that would provide a fast link to a road system serving all parts of Wales and their preference would be for a direct link from the airport to the M4 (J34). This was the recommendation from an earlier study rejected by AG. Such a link would allow AG to realise their objective of allowing all of Wales to share in the prosperity of South Wales (ID/O10/1, page 2).
- 5.20 There is no firm timetable for design, land acquisition, statutory procedures, budgets and funding or implementation stages for the medium and long term phases. Furthermore, the inquiry has revealed that the proposed Trunking is not intended to serve as a means of improving the route to CIA or even for conferring some form of reliability in journey quality or duration. The key driver for change appears to be general traffic volumes (ID/O2/4, page 2). AG has no fall back option if the proposed Trunking Order is not made. An alternative option has not been put before the inquiry. AG accepts that the proposed Trunking by itself, would not improve access to CIA (SC4/A, appendix viii). The policy of creating a trunk road to connect CIA and the whole of the Vale to the motorway system would not be met by connecting a traffic jam to a roundabout through a winding country lane (ID/O10/1, page 2).
- 5.21 The UK Highways Agency defines Trunk Roads as a system of strategic routes of national importance that cater for the through movement of long-distance traffic. They are classified alongside motorways and principal dual-carriageways as having speed limits likely to be 50mph or more. The proposed Trunking would not comply with these criteria and the A48 could not, in the long term, be widened through St. Nicholas (ID/O10/2).
- 5.22 The proposed Trunking would not enable traffic to travel more quickly on the A48 and on Five Mile Lane than it does at present. Any increase in the speed limit through St. Nicholas as a result of the proposed Trunking would be dangerous and unacceptable. Tumble Hill on the A48 is unsuitable for increased HGV traffic (SC/8A, paragraph 4).

***O71, Mr A Cairns AM***

***O2, Mr G Greaves***

***O4, Mr P Dewey***

***O5, Mr R Jones***

***O8, Mr T Knowles***

***O12, Dr P Williams***

***O10, Mr M Cox***

***O43, Professor Heywood-Thomas***

*Costs and Programme*

- 5.23 The medium and long term phases of AG's proposals do not have any allocations within AG budgets. The trunk road programme is committed for the foreseeable future. It is significant that MTBC has expressed concerns about available funding (S1/1). Irrespective of the medium and long term situation, the financial commitment involved with the proposed Trunking is not in the public interest. There are other more urgent demands on the public purse (SC/8A, paragraph 7).
- 5.24 AG accepts that A48/Five Mile Lane route is not currently suitable for trunking. The proposed Trunking would pass control of these stretches of road to AG for maintenance and improvement, but in the short term, i.e. for at least five years, there would only be some general work carried out. AG's short term phase 1 & 2 budget of £3.025M only allows £0.4M for partial widening or re-alignment of Five Mile Lane. (ID/O4/01, page 1) and (ID/O5/1, paragraph 3).
- 5.25 AG estimates that about £10M might be required to undertake the medium term improvements to Five Mile Lane. These medium term works would only be committed if they are supported by the outcome of the long term study and there is the political will and budget to follow them through. Experience shows that the final cost of a road project is usually two to three times the initial estimate. Add to this the cost of a long term solution and there is every chance that about £50-£60M of the trunk road budget for all of Wales might be spent on the Cardiff Sub-Region road network, all to achieve a reliable increase in the journey time to CIA (ID/O12/1, page 5).
- 5.26 Comprehensive solutions for the three set objectives remain unresolved and may never be completed. Earlier consultant's reports represent wasted public expenditure. In short, AG seems unable to exercise its strategic role (ID/O2/4, pages 4 & 5). The long delay in starting the process to identify and implement a long term solution provides no confidence that these problems would be satisfactorily resolved in the foreseeable future. The short term solution represented by the proposed Trunking would become a long term nightmare as traffic volumes increase (ID/O8/1, paragraph 17b).
- 5.27 A more cost-effective approach might involve dealing with the perceived A4050 flow problems simply by installing the Culverhouse Cross MOVA computerised traffic signal controls which is within the already committed budgets and linking the Culverhouse Cross traffic lights with those at the Tesco junction. Managing the traffic flows in the two currently non-linked systems more intelligently, coupled with judicious improvements on the A4050, such as removing the Old Port Road roundabout, should help alleviate the Culverhouse Cross congestion (ID/O12/1, page 6).

***O71, Mr A Cairns AM***

***O2, Mr G Greaves***

***O4, Mr P Dewey***

***O5, Mr R Jones***

***O8, Mr T Knowles***

***O12, Dr P Williams***

***O10, Mr M Cox***

***O43, Professor Heywood-Thomas***

*Road Safety*

- 5.28 The most important consideration must be road safety (ID/O4/1, page 2). AG has undertaken no safety case or risk assessment, namely:
- no meaningful improvements are proposed for Five Mile Lane in the short term;
  - no HGVs would be signed along the proposed Trunking route (supporting the argument that current option is safer);
  - no consideration has been given to flooding issues on Five Mile Lane associated with the Waycock River;
  - no pedestrian crossing has been proposed at Tre-hill to deal with increased traffic where there are bus stops on both sides of road; and
  - no consideration has been given to school traffic and congestion around the access roads on to the A48 in St. Nicholas, including the three lane junction with Dyffryn Lane at a pinch point on the A48.
- 5.29 The horizontal and vertical alignments, drainage and accident rates found along Five Mile Lane are totally unacceptable (ID/O2/4, page 4). The phase 1 & 2 safety improvements would be carried out within the existing highway boundaries and no steps have been taken to purchase any land required for Five Mile Lane widening or straightening. Five Mile Lane cannot accommodate two HGVs passing in opposite directions due to its narrow width (ID/O2/2 & 3) and (ID/O10/3, paragraph 2). It is significant that AG had to have the narrowest width of Five Mile Lane determined during the inquiry. No Order has been proposed or is intended to prevent HGVs from using Five Mile Lane before the safety improvements have been completed (ID/O8/1, paragraph 8). HGV drivers from outside the area are likely to be guided by satellite navigation systems and these systems would be based on the trunk road designation (ID/O10/1, page 2).
- 5.30 AG has submitted that the proposed Trunking would not give rise to fatalities on Five Mile Lane in excess of the levels experienced over the past five years. Given no extra land acquisition for alignment improvement is anticipated and the proposed programme for medium term works, this seems extremely optimistic (ID/O12/1, page 4).
- 5.31 Five Mile Lane must not be designated as part of the proposed Trunking route to CIA until safety improvements have been carried out (ID/O5/1, paragraphs 8, 9 & 11). As no time scale has been published for the medium and long term phases increased accidents and delays could be anticipated for years to come (ID/O10/1, page 2). There is a clear and long overdue need for Five Mile Lane to be improved irrespective of the proposed Trunking. This work should have first call on any available funding (SC/8A, paragraph 1). Higher volumes of traffic would increase the risk of accidents to pedestrians crossing the A48 in St. Nicholas
- 5.32 Many of the houses in St. Nicholas open directly on to the A48. The additional traffic, as a result of the proposed Trunking, would increase the risk of accidents (SC9/A, paragraph 1) and (SC/8A, paragraph 3).

***O5, Mr R, Jones***

***O8, Mr T Knowles***

***O12, Mr M Cox***

*Comparison between the Proposed Trunking Route and the Existing Route*

- 5.33 The existing route to CIA is shorter (4.9 miles as opposed to 6.9 miles) and is already safer than the proposed Trunking route. It is wider and it has the potential for introducing a number of low cost improvements to increase traffic flow. Most airport traffic is in the morning and is against main flow from Barry towards Culverhouse Cross, thus capacity is not a factor for traffic going to CIA (ID/O5/1, paragraph 6).
- 5.34 The different characteristics of the existing route and the proposed Trunking route have been viewed during the accompanied site visit on 12<sup>th</sup> May 2006. The existing route is eminently more suitable to provide the desired trunk road to CIA than the proposed Trunking route (ID/O8/4).
- 5.35 AG's contention that the roundabout features on the A4050 north/south leg are a restraint to traffic flow is not accepted. The long, narrow and twisty section of Five Mile Lane with its 40mph speed limit together with the 30mph section of the A48 through St. Nicholas adds considerably to journey times (ID/O10/1, page 2).

***O4, Mr P Dewey******O5, Mr R Jones******O8, Mr T Knowles******O12, Dr P Williams******O10, Mr M Cox****Traffic Modelling*

- 5.36 The traffic model has deficiencies. The St. Nicholas junctions have been omitted from the traffic model. AG seeks to justify not including them by saying that they were not included in the original 2002 model. This is nonsense. If it was wrong to omit it then, it is still wrong. There is no need for consistency as the purposes for producing figures for the inquiry are distinctly different from the purposes of the initial study. It is also incorrect to dismiss this traffic-signalled junction, extensively used all day but especially in the a.m. peak as evidenced during the site visit, as minor. The model is invalid unless the assumptions are properly derived and the model takes account of all relevant information (ID/O4/1, page 1). AG's statement (ID/AG/36, response to question 4) that the model has not included numerous minor roads and pedestrian crossings on the existing route is strongly disputed.
- 5.37 The derivation of the capacity of Five Mile Lane assumed a road width of 7.3m, (D39, section 2) whereas the actual width is 5.6m in places. No explanation of the derivation of the assumptions used to define this stretch of road was presented other than that they were undertaken "manually" (ID/O4/1, page 2).
- 5.38 AG has submitted that the Wenvoe North roundabout would not constrain flow on the A4050 and that flows were only restricted when the flow/capacity ratio exceeded 0.85. However, evidence from AG (ID/WA/3A, appendix B) shows calculated ratios at this roundabout to be 0.97, 0.91, 1.01, 0.97 (ID/O12/1, pages 4 & 5).
- 5.39 There is no analysis to establish journey time reliability on Five Mile Lane e.g. agriculture use, tractors, caravans, holiday traffic, etc (ID/O5/1, paragraph 4).
- 5.40 AG's forecast average speeds of traffic in 2005 and 2007 from Culverhouse Cross to Sycamore Cross at 71Km/hr and 70Km/hr (WA3, appendix E, page 15). These average speeds cannot relate to the corresponding forecast traffic flows (ID/O12/1, pages 4 & 5).

5.41 AG's contention that there is spare capacity on the A48 is not accepted. At busy times it is extremely difficult to access the A48 east-bound from the side road from the Downs, as traffic is stationary or moving nose to tail. On some occasions during the a.m. peak, these tail backs extend from Culverhouse Cross back as far as Bonvilston to the west of Sycamore Cross on the A48. When gaps in traffic do occur, entry into the east-bound lane is frustrated by west-bound traffic (ID/O10/1, page 1).

5.42 The University of Leeds and Atkins have confirmed that the SATURN model should be applied to large conurbations and that it requires modification before it can be applied to urban situations

***O2, Mr G Greaves***

***O5, Mr R Jones***

***O8, Mr T Knowles***

***O12, Dr P Williams***

***O10, Mr M Cox***

*Significant New Impacts*

5.43 The decision to proceed with the Aerospace Centre of Excellence at an expenditure estimated at £18B is anticipated in October 2006. With the enormous scale and expenditure attributed to this project, there would be a compelling case for introducing a direct, discrete highway link from the M4 at Miskin to a point near the St. Athan facility. This option would relieve Culverhouse Cross and give access to traffic from West Wales, the Midlands and beyond, whilst providing a high quality access to CIA and the Southern Vale (ID/O2/4, page 6), (ID/O5/1, paragraph 15) and (SC/6A, page 8).

5.44 Traffic flows and delays would increase significantly as a result of the forthcoming redevelopment of the Tesco store expanding retail space by 38.5%, for which planning approval was granted on 9<sup>th</sup> March 2006. (ID/O8/01, paragraph 7) and (ID/O10/1, page 1).

5.45 A planning application to build a crematorium adjacent to the A48 near St. Nicholas was rejected by VoGC on 4<sup>th</sup> May 2006 but remains subject to appeal. If approval was to be given on appeal, traffic delays on the A48 would be likely to be increased significantly due to slow moving corteges. West-bound corteges would need to turn right from the A48 into the crematorium causing further traffic delays (ID/O8/01, paragraph 14).

5.46 The Valleywood studios development proposal by Costain proposes a new M4 (J34A). This provides an alternative to the long term solution to connect Culverhouse Cross M4 (J34) with CIA, already rejected by AG (ID/O5/1, paragraph 16).

5.47 If the HTV studio land was to be redeveloped, it would impact seriously on Culverhouse Cross congestion (ID/O5/1, paragraph 13).

***O2, Mr G Greaves***

***O8, Mr T Knowles***

***O12, Dr P Williams***

*Forecast Traffic Flows*

5.48 AG predicts an annual, compound increase in traffic volumes of 2% per annum for the A48 from the west through Bonvilston and St. Nicholas. At a public meeting held on 16<sup>th</sup> October

- 2005, AG confirmed 20% under-utilised highway capacity along the proposed Trunking route and 20% over-utilisation on the existing route. However, they readily conceded that if traffic was to grow along the proposed Trunking route to match the existing route flows, then traffic congestion conditions at Culverhouse Cross would be intolerable (ID/O2/4, page 4).
- 5.49 Analysis of traffic on Five Mile Lane revealed that only 3% of the total volumes on it travel to or from CIA. A similar examination for the Wenvoe by-pass resulted in a 5% value. Combining and interpreting these factors helps identify that the majority of vehicles passing through Culverhouse Cross are commuter movements to and from Cardiff/Barry and that these motorists generate traffic congestion at Culverhouse Cross (ID/O2/4, page 4) and (SC/6A, page 6). Traffic to and from CIA is travelling in a different direction to the predominant traffic flows measured and predicted in the a.m. and p.m. peak periods. The CIA Master Plan confirms the peak hour for departures as being between 7.00 a.m. and 8.00 a.m. and the peak hour for arrivals as being between 2.00 p.m. and 3.00 p.m. (ID/AG/5, figures 14 & 15).
- 5.50 A AG traffic survey carried out on Wednesday 23rd March 2005, was only two days before Good Friday (SC4/A, appendix ix). AG's statement that schools broke up on 25<sup>th</sup> March 2005 (ID/AG/10, issue 7, paragraph 3) is disputed. Education Departments of both the VoGC and CCC confirmed that the schools controlled by both Councils broke up on Wednesday 23rd March 2005. Some schools were likely to have taken 23rd March 2005 as an Inset Day but that no records of this were available. Consequently, Wednesday 23rd March 2005 cannot be regarded as a normal school day insofar as it related to traffic in the peak periods. The a.m. and p.m. peak traffic volumes and the pattern of traffic movements during the day are substantially different during school holidays from those during school terms. Traffic volumes throughout the day are also significantly reduced due to family holidays taken during school holidays. As such the reported volumes comparing the proposed Trunking route with the existing route are misleading (SC4/A, appendix ix).
- 5.51 The limiting factor for traffic flow of east-bound vehicles on the A48 is the traffic lights at the Tesco junction. The true capacity for east-bound vehicles on the A48 has been demonstrated to be about 964 vehicles per hour not 1,400 vehicles as stated by AG (ID/WA/3A, table 5.2). Forecast traffic flows of 1,129 vehicles per hour in the a.m. peak period (ID/WA/3A, table 5.1) represent 117% of the actual 964 capacity, not 81% of the 1400 theoretical capacity (ID/08/1, paragraph 18d).
- 5.52 Although the traffic light sequences are demand driven, any variation in the traffic signal sequence could only bring about a marginal increase in flow without causing unacceptable delays to other traffic at the junction. It appears reasonable to presume that, if an adjustment of the lights would solve the problem of the long tail back and delay to traffic on the A48 without causing problems to other traffic, such an adjustment would have been made already since the lights were introduced about three years ago (ID/08/1, paragraph 18e).
- 5.53 AG in their evidence rely only on peak hour travel flows. No evidence has been submitted to cover the other 22 hours of the day when the majority of journeys are undertaken (ID/08/1, paragraph 3, b, v).

***O8, Mr T Knowles***

***O12, Dr P Williams***

*Journey Times*

- 5.54 The distance from Culverhouse Cross to Waycock Cross via the existing route, is 5.1 miles. The distance by the proposed Trunking route is 7.2 miles which is 41% longer than the existing route. The calculated absolute minimum journey time for a vehicle travelling at

- exactly the speed limit, with instantaneous acceleration and deceleration, without any hindrance or delay on the existing route between Culverhouse Cross and Waycock Cross, is 6mins 47secs at an average speed of 45.11mph (72.62kph). On the proposed Trunking route, the calculated absolute minimum journey time is 9mins 51secs at an average speed of 43.86mph (70.54kph), (ID/O8/02, appendix x). The absolute minimum journey time by the proposed Trunking route is 48% longer than by the existing route.
- 5.55 AG has indicated the average speed on the A48 between Culverhouse Cross and Sycamore Cross to be 71kph (ID/WA/3A, appendix F). This is higher than the calculated maximum possible average speed of 70.54kph referred to above and casts doubts on the validity of the model outputs.
- 5.56 In light traffic on Sunday 5<sup>th</sup> February 2006, VPG measured journey times between Culverhouse Cross and Waycock Cross. A car travelling as near as possible to the speed limit, but with speed reduced as necessary for traffic conditions, took 8mins 48secs on the existing route and 12mins 23secs on the proposed Trunking route being an average speed on each route of 33.4mph (ID/O8/1, paragraph 2).
- 5.57 On two week-days, Monday 6<sup>th</sup> March and Wednesday 8<sup>th</sup> March 2006, VPG measured journey times during the a.m. peak on the existing route and on the proposed Trunking route between Waycock Cross and Culverhouse Cross, by cars leaving Waycock Cross at the same time. On the existing route the measured time on the first day was 19mins 10secs and on the second day the time was 15mins 41secs; average time 17mins 25secs. On the proposed Trunking route, the time on the first day was 17mins 47secs and on the second day 17mins 35secs; average time 17mins 41secs. Thus, on the first day, the proposed Trunking route was quicker by 1min 23secs and on the second day, the existing route was quicker by 1min 54secs (SC4/A, appendix ii, A - D).
- 5.58 Further journey time data was gathered by VPG between Thursday 9<sup>th</sup> February and Wednesday 5<sup>th</sup> April 2006. Twelve drivers recorded the journey times for 16 clockwise and 16 anticlockwise loops between Waycock Cross and Culverhouse Cross. A statistical analysis of the objective data on journey times was undertaken. There is a greater than 95% confidence that the results of the journey time surveys are true (ID/O12/2). VPG's data was honestly gathered and analysed. VPG rejects AG's submission that VPG's data should be inadmissible on the basis of it being gathered or analysed inaccurately. (ID/O12/2, appendix 1).
- 5.59 AG compared their modelled journey times with their observed journey times between Culverhouse Cross and Waycock Cross during the a.m. and p.m. weekday peaks (ID/AG/37). VPG in turn compared AG's observed journey times along each section of the route with VPG's measured journey times (SC4/A, appendices i & ii) and VPG's calculated minimum journey times (SC4/A, appendix x). AG's observed a.m. time from Waycock Cross by the proposed Trunking route was 9mins 29secs, compared with VPG's average measured time of 17mins 41secs. On the existing route AG's observed time was 13mins 35secs compared with VPG's average time of 17mins 25secs. VPG's calculated minimum journey time, not dependant on the direction of travel, was 9mins 51secs.
- 5.60 AG's observed a.m. journey time from Waycock Cross to Culverhouse Cross via the existing route of 13mins 35secs is substantially less than average time measured by VPG of 17mins 25secs. In respect of the existing route, the journey times stated by AG are credible. For the proposed Trunking route AG's observed time of 9mins 29secs was substantially shorter than VPG average time of 17mins 25secs and 22secs below VPG's calculated minimum time of 9mins 51secs. In respect of the proposed Trunking route AG's evidence that observed journey time of 9mins 29secs is 22secs shorter than the absolute minimum time is incredible.
- 5.61 AG's observed and modelled journey times for the a.m. peak from Sycamore Cross to



Culverhouse Cross are 4mins 17secs and 5mins 10secs respectively. In the opposite direction the figures are 5mins 40secs and 4mins 33secs respectively (ID/AG/37). VPG's equivalent measured average time from Sycamore Cross to Culverhouse Cross is 10mins 56secs (SC4/A, appendix ii, a & c). VPG's measured time in light traffic on a Sunday morning was 5mins 50secs (SC4/A, appendix i). VPG's calculated minimum journey time from Sycamore Cross to Culverhouse Cross is 3mins 57secs (SC4/A, appendix x).

- 5.62 AG's evidence, that observed journey time in the a.m. peak between Sycamore Cross and Culverhouse Cross (4mins 17secs) is faster than the journey time in the opposite direction (5mins 40secs), is incredible. Also it is incredible that AG's observed 4mins 17secs figure is only 20secs longer than VPG's calculated absolute minimum journey time of 3mins 57secs.
- 5.63 It takes 30% longer outside the a.m. peak and 25% longer during the a.m. peak to travel from Waycock Cross to Culverhouse Cross. The longer a.m. peak time is not due to any delay along Five Mile Lane (the part of the proposed Trunking route that AG wishes to improve and thus make faster). The journey times along Five Mile Lane were 7mins 19secs after and 6mins 44secs during the a.m. peak, not a great deal of difference and not far off the calculated minimum travelling time of 5mins 51secs for this section of the route (SC/6A, page 4). Thus the extra time incurred during the a.m. peak is entirely due to the delays between Sycamore Cross and St. Nicholas and between St. Nicholas and Culverhouse Cross (SC/6A, page 2) and (SC4/A, appendices i & ii).
- 5.64 The congestion on this route is due to Culverhouse Cross. If the proposed Trunking was to go ahead, road improvements to Five Mile Lane would increase safety but would fail to influence journey times significantly. Indeed any improvement of Five Mile Lane would only draw more traffic from the Southern Vale onto the A48.
- 5.65 The nature of the five roundabouts on the A4050 to the south of Culverhouse Cross is such that extremely limited delays are caused in both peak and non peak periods to through traffic in each direction (ID/O8/2, appendix xi).

#### *Economics*

***O5, Mr R Jones***

***O12, Dr P Williams***

- 5.66 AG has gone for the cheapest solution, which on its own would not deliver the objectives set for the proposed Trunking. No cost/benefit analyses have been carried out on possible alternative solutions and hence AG does not conform to Government's requirement for demonstrating Value for Money. AG did not ask Faber Maunsell how the network might be altered to optimise the flow of traffic to CIA (ID/O12/1, page 5).

***O5, Mr R Jones***

***O8, Mr T Knowles***

***O12, Dr P Williams***

***O10, Mr M Cox***

#### *Reliability of Journey Times*

- 5.67 Part of AG's justification for the proposed Trunking is that it would reduce the perception of remoteness of CIA and improve journey time reliability. The traffic evidence submitted by AG does not comment on reliability (ID/O5/1, paragraph 3x). No consideration has been given to the disruption that would be caused to trunk road traffic, after the proposed Trunking

had been implemented, by the proposed short term or medium term works to Five Mile Lane. Reliability would also be affected by farm vehicles and animals traversing and passing along Five Mile Lane.

- 5.68 In contrast to the wider existing route there are few, if any, escape routes or turning around facilities in the event of an incident on Five Mile Lane. The same difficulty would arise for emergency vehicles needing to access an accident. Five Mile Lane is a dangerous road that may not be improved for six to seven years. Repeated road closures could give the proposed Trunking route to CIA a reputation for being unreliable. (ID/O10/3, paragraph 3).
- 5.69 AG submits that travellers' choice of route to CIA would be determined not by actual journey times, but by whether journey times were reliable. Travellers from Culverhouse Cross to CIA would always choose the shorter route. No amount of telling them that they would get there reliably five minutes later by the long way round through a country lane would persuade most people to take the indirect route. No data on reliability of journey times has been made available. AG's contention that the proposed Trunking would provide more reliable journey times, appears to be uninformed by data and is thus vacuous (ID/O12/1, page 3).
- 5.70 The effect of the proposed Trunking would be that firms supplying satellite navigation data would update their information to show the proposed Trunking route as the recommended route whether the route had been signed for use by HGVs or not. All traffic would increase on the proposed Trunking route as a result of the trunking (ID/O10/1, page 2).

***O8, Mr T Knowles***

***O10. Mr M Cox***

*Queue Lengths*

- 5.71 The modelled queue lengths do not accord with the situation observed by VPG on the ground at St. Nicholas and on the A4232 off slip. AG has presented no comparison between observed and modelled queue lengths. If forecast data can be checked against actual data then this should be done (ID/O4/1, page 2). The evidence given by AG that queues only comprise stationary vehicles is misleading. Queues comprise both stationary vehicles and those vehicles inching forward slowly as part of the queue. The information provided by AG in this regard is valueless (ID/O10/3, paragraph 1).
- 5.72 Queues for east-bound traffic on the A48 usually result from congestion and the delay at the traffic lights at the Tesco junction. Whilst it is recognised that the traffic light sequence at this junction is demand driven, the complex nature of the junction is such that, at both peak and off peak periods, the lights for east-bound traffic on the A48 are green for only a limited proportion of the time in any hour. Extrapolation of on site measurements demonstrates that a maximum of 964 vehicles would pass the junction on the A48 in an hour (ID/08/01, paragraph 6b).

***O5, Mr R Jones***

***O71, Mr A Cairns AM***

*Environmental Impact – Vibration*

- 5.73 Increased traffic on the A48 would inevitably give rise to vibration damage to buildings in St. Nicholas such as the Church Hall, which is only 2m away from the road (SC/9A, paragraph 2) and (SC9/A, paragraph 2).

***O71, Mr A Cairns***

***O10, Mr M Cox***

*Environmental Impact – Air Quality*

- 5.74 The proposed Trunking would have a negative impact on St. Nicholas in terms of air quality (SC9/A, paragraph 3).
- 5.75 In 2005 the NO<sub>2</sub> levels at Western Cemetery adjacent to Culverhouse Cross were 43ug/m<sup>3</sup>, as compared with the National Air Quality Standard of 40ug/m<sup>3</sup>. All of AG's air quality evidence originates from sites nowhere near to Culverhouse Cross. The prediction of only a 1ug/m<sup>3</sup> increase at Culverhouse Cross can only be a wild guess as it based on no local data source (ID/O10/1, page 1).

***O71, Mr A Cairns AM***

*Environmental Impact - Cultural Heritage*

- 5.76 The proposed Trunking would be detrimental the culture and way of life of St. Nicholas (SC9/A, paragraph 2).

*Mistakes in AG's Evidence*

***O5, Mr R Jones***

***O8, Mr T Knowles***

***O12, Dr P Williams***

- 5.77 There are a high number of errors in AG's evidence. In particular, contrary to AG's submission, visibility on the A48 at Tre-hill is not clear (ID/O5/1, paragraph 4, iii). There is no village shop in Tre-hill; it is in Bonvilston, 1km to the west of Sycamore Cross (ID/O8/7, paragraph 3, vi). Ysgol Gyfun Bro Morgannwg on the A4050 is not, as stated by AG, a Special Needs School. There is no shop in Tre-hill and the Church Hall in St. Nicholas is not on the north side of the A48, both as stated by AG (ID/O12/4, page 1).

*Summaries*

***O2, Mr G Greaves***

- 5.78 The three objectives which AG originally identified have not been addressed and practical solutions, if they exist, remain undeclared. This whole exercise demonstrates a strong case for doing nothing and allowing surface transport to utilise the existing route, whilst retaining highway ownership in the hands of the local authority. Immediate funding should be made available for safety improvements to Five Mile Lane and AG energies should be directed towards designing and implementing the long term solutions based upon the M4 (J34) at Miskin. Whilst improved access to CIA is desirable, the proposed Trunking should be dismissed (ID/O2/4, page 7).

***O5, Mr R Jones***

- 5.79 The proposed Trunking would not alleviate the existing problems and in fact would aggravate them further. Any proposed Trunking must be accompanied by proper risk assessments with safety issues addressed before trunking takes place. AG proposes to do nothing in the short term and only review safety if the proposed Trunking is approved. The overall plan does not deliver any of the three objectives stated by AG and suggests a lack of joined-up thinking. The

existing route provides clearer deliverables in terms of expediency, traffic flow to CIA, safety, lower risk, value for money, reliability and potential for low cost improvements. The absence of a clear vision, lack of coherent strategy and limited funding are all reasons why proposed Trunking should not go ahead. Wales deserves a better solution for the 21<sup>st</sup> Century (ID/O5/1, pages 3 & 4).

***O8, Mr T Knowles***

- 5.80 The proposed Trunking route is far less suitable for trunking than the existing route and would do nothing to improve journey times to CIA. On the contrary, most journey times would be increased and reliability would be reduced. The traffic model, upon which AG's case for the proposed Trunking has been based, has been shown to be deficient in a number of important areas. The proposed Trunking does not meet the expediency test as required by Section 10 of the Highways Act 1980 and the proposed Order should be rejected (ID/O8/7, paragraph 11).

***O12, Dr P Williams***

- 5.81 The network is constrained in the Culverhouse Cross area of Cardiff. This problem would not be solved by the proposed Trunking. Delays during the a.m. peak are on the A48, not Five Mile Lane. Improvements on Five Mile Lane would not help A48 delays. Development of CIA is essential for all of Wales, but CIA's associated, publicly-funded infrastructure must plumb into all of Wales, not just Cardiff. However, to develop CIA, the possible Aerospace Centre of Excellence and Barry a direct link to M4 (J34) is necessary. A spread of prosperity out of Cardiff is now required in order to benefit the economy and people of Wales as a whole (SC/6A, page 12).

***O10, Mr M Cox***

- 5.82 A trunk road is not created by calling it one (ID/O10/1, page 3). Potential investors in industry would not be fooled by AG's position that the perception of a trunk road is more important than actual highway improvement (ID/O10/3, paragraph 5). The proposed short and medium term improvements should be abandoned and the long term measures should become priority. To proceed with the proposed Trunking now would be premature at best and would be counter productive. The earliest time for trunking should be when fully planned and costed proposals have been developed and the source of financing determined (ID/O10/1, page 4).

**The material points of the written objections were:**

*(Inspector's Note: The written objections have been categorised into separate grounds of objection and these have been identified with the Objector citing each ground)*

***O6, Mr P Roberts & Mrs J Keane***

***O15, Mr J Shore***

***O22, Mr W Thomas***

- 5.83 Ground of objection 1: Improved access to CIA is un-necessary and undesirable.

***O6, Mr P Roberts & Mrs J Keane***

***O18, Mrs C Guard***

***O31, Mrs E Banks***

***O36, Dr K Cooper***

***O40, Mrs W Lowe***

- O46, O King-Davies*  
*O47, Dr R McDonald*
- 5.84 Ground of objection 2: The proposed Trunking does not achieve the set objectives as there are no short term physical improvements proposed.
- O40, Mrs W Lowe*
- 5.85 Ground of objection 3: There is no committed budget to bring about any necessary improvements.
- O32, Mr & Mrs R Harry*  
*O40, Mrs W Lowe*  
*O55, Dr R Moore*  
*O58, Mr & Mrs J Strong*  
*O60, Ms B Wilcox*  
*O67, Mr P Humphreys*
- 5.86 Ground of objection 4: AG has a hidden agenda as, if implemented, the proposed Trunking would lead to wider development.
- O3, Mrs K Clouston*  
*O10, Mr M Cox*  
*O18, Mrs C Guard*  
*O19, Dr D Staziker*  
*O47, Dr R McDonald*
- 5.87 Ground of objection 5: The proposed Trunking would have an undesirable environmental impact particularly with regard to deterioration in air quality and noise intrusion.
- O3, Mrs K Clouston*  
*O4, Mr P Dewey*  
*O7, Mr & Mrs Adams*  
*O15, Mr J Shore*  
*O18, Mrs C Guard*  
*O24, Mrs S Gardiner*  
*O34, Mr G Welply*  
*O37, E Saunders*  
*O52, Mr D Lubin*  
*O53, Mr & Mrs C Williams*  
*O58, Mr & Mrs J Strong*  
*O59, Ms L Arcos*  
*O60, Ms B Wilcox*  
*O61, Mr J Harris*

*O64, Mr J Hitchings*

*O65, Ms C Radman-Daw*

*O66, Ms F Harris*

*O67, Mr P Humphreys*

*O70, C Roach*

- 5.88 Ground of objection 6: The proposed Trunking would do nothing to help the existing traffic problems at Culverhouse Cross.

*O3, Mrs K Clouston*

*O7, Mr & Mrs Adams*

*O9, Mr & Mrs Howell*

*O11, Mr & Mrs P Lawrenson*

*O13, Mr & Mrs P Maunders*

*O14, Mr R Buckland*

*O16, D & G Kerlake*

*O17, Mr P Knoyle*

*O19, Dr D Staziker*

*O20, G & A Hoskins*

*O21, R Newbury*

*O22, Mr W Thomas*

*O24, Mrs S Gardiner*

*O26, Mrs S Annetts*

*O27, Mrs B Newbury*

*O28, Mrs J Howell-Richardson*

*O29, Mrs L Carthew MBE*

*O31, Mrs E Banks*

*O32, Mr & Mrs R Harry*

*O33, Mr D Sillence*

*O34, Mr G Welply*

*O37, E Saunders*

*O39, Ms B Wood-Inglis*

*O40, Mrs W Lowe*

*O45, The Occupier*

*O46, A King-Davies*

*O52, Mr D Lubin*

*O55, Dr R Moore*

*O56, Mr R Tyler*

*O57, Ms T Whiting*

*O58, Mr & Mrs J Strong*

*O59, Ms L Arcos*

*O60, Ms B Wilcox*

*O61, Mr J Harris*

*O63, Mr & Mrs J Fairweather*

*O67, Mr P Humphreys*

*O68, Mr E Bruce-Shaxson*

5.89 Ground of objection 7: The existing route is better suited than the proposed Trunking route to accommodate additional traffic flows.

*O1, Mr I Brice*

*O3, Mrs K Clouston*

*O6, Mr P Roberts & Mrs J A Keane*

*O11, Mr & Mrs P Lawrenson*

*O15, Mr J Shore*

*O16, D & G Kerslake*

*O19, Dr D Staziker*

*O20, G & A Hoskins*

*O21, R Newbury*

*O22, Mr W Thomas*

*O23, Mr R Mason*

*O24, Mrs S Gardiner*

*O25, Mrs P Wallslate*

*O26, Mrs S Annetts*

*O27, Mrs B Newbury*

*O28, Mrs J Howell-Richardson*

*O29, Mrs L Carthew MBE*

*O30, Mrs P Adams*

*O32, Mr & Mrs R Harry*

*O34, Mr G Welply*

*O36, Dr K Cooper*

*O38, Mr W Davies*

*O39, Ms B Wood-Inglis*

*O40, Mrs W Lowe*

*O45, The Occupier*

*O46, O King-Davies*

*O48, Mr R Hourmont*

*O49, Mrs J Mansfield*

*O50, Mr S Bolland & Mrs G Cottrell*

*O51, Mr B Davies*

*O52, Mr D Lubin*

*O55, Dr R Moore*

*O60, Ms B Wilcox*

*O62, Mr N Hourmont*

*O63, Mr & Mrs J A Fairweather*

*O64, Mr J Hitchings*

*O65, Ms C Radman-Daw*

*O66, Ms F Harris*

*O69, Mrs S Palmer*

- 5.90 Ground of objection 8: It would be inappropriate to direct additional traffic on to Five Mile Lane as it has a very poor safety record.

*O24, Mrs S Gardiner*

*O47, Dr R McDonald*

- 5.91 Ground of objection 9: The proposed Trunking offers no saving in journey times over the existing route.

*O3, Mrs K Clouston*

*O5, Mr R Jones*

*O7, Mr & Mrs Adams*

*O17, Mr P Knoyle*

*O18, Mrs C Guard*

*O21, R Newbury*

*O22, Mr W Thomas*

*O25, Mrs P Wallslate*

*O32, Mr & Mrs R Harry*

*O35, Mr S Bolland, on behalf of St. Nicholas Church in Wales Primary School*

*O39, Ms B Wood-Inglis*

*O40, Mrs W Lowe*

*O42, T Matthews*

*O44, Mr J Otto-Jones*

*O47, Dr R McDonald*

*O50, Mr S Bolland & Mrs G Cottrell*

*O53, Mr & Mrs C Williams*

*O55, Dr R Moore*

*O60, Ms B Wilcox*



***O63, Mr & Mrs J Fairweather***

***O69, Mrs S Palmer***

***O70, C Roach***

- 5.92 Ground of objection 10: The proposed Trunking would cause additional severance in St. Nicholas and there would be a negative impact on property and on St. Nicholas Primary School.

***O54, Mrs K Davies***

- 5.93 Ground of objection 11: Long term works may give rise to flooding problems in the vicinity of the Ely River.

***O47, Dr R McDonald***

- 5.94 Ground of objection 12: There has been no comparison of the number of properties that lie within 5m of the A48/A4226 and the A4050/A4226 routes.

## **6.0 THE CASES OF THE INTERESTED PARTIES**

**The material points of the written cases of the Interested Parties were:**

***IP4, Mr J Cooper on behalf of Caerphilly County Borough Council (“CCBC”)***

- 6.1 CCBC has no objection to the proposed Trunking. CCBC presume that some works would be carried out along the trunked roads at some time in the future and would appreciate being consulted on such matters as they are of regional significance (S2/1).

***IP2, Mr D Merion Evans on behalf of St. Nicholas and Bonvilston Community Council***

- 6.2 A public meeting is necessary to better understand the proposed Trunking (IP2/4).

***IP3, Ms V Pearce on behalf of Welsh St. Donat’s Community Council***

- 6.3 The Community Council would like to be kept abreast of developments regarding the proposed Trunking as some of the details are unclear (IP3/1).

***IP1, Mr K Taylor***

- 6.4 Information on any specific road improvements, particularly at Waycock Cross, is requested when this becomes available (IP1/1).

***IP5, Mr W Johns-Powell***

- 6.5 There is no objection to the proposed Trunking. There is no connection between further development at Culverhouse Cross or the development of a crematorium near St. Nicholas and the proposed Trunking (S3/1).

***The respondents to the draft Order notice issued by AG to statutory and non-statutory bodies***

- 6.6 Of the 25 statutory bodies and the 61 non-statutory bodies consulted (ID/AG/11), responses

were obtained from the Health and Safety Executive who had no observations on the proposed Trunking (ID/AG/1, letter 55). Defence Estates had no objection to the proposed Trunking (ID/AG/1, letter 41). NTL responded by observing that their plant may be affected by future construction works but registered no objection to the proposed Trunking (ID/AG/1, letter 51).

## 7.0 THE RESPONSE OF THE PROMOTING AUTHORITY

**The material points of the response of the Promoting Authority to the cases of the Objectors who appeared at the inquiry were:**

*(Inspector's Note: AG responded to the written objections by written rebuttals and the material points of these rebuttals are reported herein. Also reported are summary points contained in AG's closing statement, but only where those points were made during cross-examination and have not been already reported.)*

### *AG Planning Policy Context*

- 7.1 Trunking of the existing route was rejected in 2002, there is no policy to trunk it and the only comparison open to the inquiry is the proposed Trunking or no trunking. Many Objectors have asserted that nothing should be done until there is an adopted long term solution. This is contrary to the express adoption of a need for a short term measure in the planning policies. Rejection of the proposed Trunking would inevitably mean that the planning policies, which are to be carried out, would not be carried out (ID/AG/41, paragraph 26).

### *The Proposed Trunking*

- 7.2 The relevant power is in Highways Act 1980 Section 10 (2). In Wales, NAFW may direct that a highway shall become a trunk road– “if it is satisfied after taking into consideration the requirements of local and national planning...that it is expedient for the purpose of extending, improving or reorganising ...the national system of routes for through traffic in ...Wales that any highway ...should become a trunk road” (ID/AG/41, paragraph 1).
- 7.3 The criterion under Section 10 of the Highways Act 1980 is that trunking must be expedient having regard to planning policies. The dictionary meaning of expedient is that something is “suitable, advantageous or achieves a particular purpose”. Here the purpose is the extension, improvement or reorganisation of the trunk road system (ID/AG/41, paragraph 27).
- 7.4 The question is whether the proposed Trunking is consistent with the planning policy of improving access to CIA. It is not a legitimate objection that improved access is not required or that connecting CIA to the trunk road system is unnecessary, or that economic benefits would not be achieved. Those issues have already been resolved by planning policy (ID/AG/41, paragraph 32).
- 7.5 The Objectors misunderstand the objectives of the proposed Trunking. They have chosen to rely on earlier, more general studies to incorrectly assert that the proposed Trunking is intended to improve the Culverhouse Cross interchange. The total traffic through the junction would not be materially affected and the proposal is neutral in effect (ID/AG/41, paragraph 43).
- 7.6 Underlying some of the objections is the fact that trunking by itself does not improve a road. The purpose is to enable or facilitate change. Unless the road is trunked, NAFW have no power to spend money or compel VoGC to undertake improvements. There has to be a first step. Yet many of the Objectors submit that there are no guarantees of improvements. If the

first step is denied, nothing can be done (ID/AG/41, paragraph 45).

#### *Costs and Programme*

- 7.7 Evidence has been given on anticipated expenditure and it is clearly practicable for that expenditure to be met by AG, given the priority to achieving wider benefits for the regional/national economy. It is clear that VoGC has committed insufficient expenditure given that the block grant is un-hypothecated (ID/AG/41, paragraph 47). AG has no powers to compel VoGC to set funds aside for improvements to Five Mile Lane.

#### *Comparison between the Proposed Trunking Route and the Existing route*

- 7.8 The relevance of the existing route is limited to providing a comparison with the proposed Trunking route. Here the Objectors consistently pose the wrong question, seeking to establish superiority of the existing route, but based on current traffic flows. Either they argue for its trunking which is not an issue or they compare with it the present day traffic which is incorrect. The proper question is whether the proposed Trunking is expedient by comparing it with what would happen in the future if nothing is done (ID/AG/41, paragraph 31).

#### *Traffic Modelling*

- 7.9 The traffic model included the Dyffryn Road junction on Five Mile Lane because it was included in the original 2002 model (ID/AG/36, response to question 4). The omission of the Dyffryn Lane junction on the A48 in St. Nicholas is not significant because it is not a junction which has a material impact on the overall flow figures or journey times. No Objector has shown that queue lengths or delays are attributable to the omission. The omission of junctions was not done selectively to skew results and it is acceptable practice to use modelling this way (ID/AG/41, paragraph 61).
- 7.10 It is not appropriate to assess the AADT capacity of existing roads using TA 46/97 (ID/AG/36, response to question 9) and (ID/AG/38, response to question 9).

#### *Significant New Impacts*

- 7.11 There is no evidence of specific developmental pressure along the route. If there was it would be subject to normal planning processes. Economic development of the wider region is part of the intended objectives, but that is an advantage, not a disadvantage, of the proposed Trunking (ID/AG/41, paragraph 48).
- 7.12 The Tesco development was taken into account in the modelling. The St. Athan development identified by Mr Greaves, which he alleged was known about in 2002, was not the current proposal and it was not in the public domain when the modelling was done. The development now under consideration is not approved and cannot be taken into account at the inquiry (ID/AG/41, paragraphs 61 & 62).
- 7.13 If the Aerospace Centre of Excellence at St. Athan was to happen then this inevitably would accelerate the long term measures. However, nothing that would take place in the short term phases 1 and 2 would be wasted.

#### *Forecast Traffic Flows*

- 7.14 The unchallenged evidence is that the existing route would suffer an increase in traffic and be over capacity such that access along it to CIA would get worse not better (ID/AG/41, paragraph 32). The manually derived capacity of Five Mile Lane is 950 vehicles/hour. There is 65% of this capacity utilised in the south-bound p.m. peak hour in 2015 (ID/WA/3A, table

5.20). This means that there is ample margin for error in the capacity derivation without compromising the Five Mile Lane situation.

- 7.15 The Objectors comment that, if the input data is wrong, the result is wrong. However, the Objectors do not establish any material deficiency of sufficient weight in the data and modelling outputs presented. The clearest example is the evidence on the average speed on the A48. Average travel times make absolutely clear that the speed input was not 71kph (as incorrectly alleged) but about half that. The Objectors simply failed to deal with the table of journey time results (ID/AG/41, paragraph 58).

#### *Journey Times*

- 7.16 On one simple basis all of the Objectors' evidence was misdirected. The necessary comparison is of forecast journey times with increased traffic on roads where capacity has been assessed. The Objectors simply gave evidence of current comparisons. It is appreciated that they would seek to submit that the data for current times cannot be correct, but their evidence on that is far from compelling (ID/AG/41, paragraph 75).
- 7.17 The route descriptions included in evidence refers to both the existing and proposed Trunking routes between Culverhouse Cross and CIA. The descriptions only refer to junctions where motorists travelling on the main route must give way or potentially stop. Junctions where motorists approach the main route, and where main route vehicles do not have to stop, are not included in the route descriptions (ID/AG/10, response to issues 9 & 11).
- 7.18 A total of 26 surveys were undertaken throughout the modelled road network between 15<sup>th</sup> October 2001 and 24<sup>th</sup> May 2005. Turning counts were undertaken for seven junctions between 9<sup>th</sup> September 2004 and 25<sup>th</sup> March 2005. The Objectors have submitted that the turning count survey on Wednesday 23rd March 2005 at the junction between the A48 and Cophorne Way was undertaken during school holidays. Schools in the control of both the VoGC and CCC broke up for the 2005 Easter holidays on 25<sup>th</sup> March, two days after the survey was undertaken (ID/AG/10, response to issue 7, paragraph 2).
- 7.19 The traffic modelling does not support the assertion that the proposed Trunking would increase the number of HGVs using the proposed Trunking route. The outputs from the model indicate that there would be no change in the number of HGVs using the A48, Five Mile Lane or the A4226 Port Road East/West as a result of the proposed Trunking, but that there would be an increase in the number of HGVs using the A4050 Port Road. It is thought that the HGV flows on the proposed Trunking route would not change since the destination of most HGVs is Barry Docks, which is accessed from M4 (J33) via Culverhouse Cross, the A4050 past Wenvoe and the A4231 Barry Docks Link Road (ID/AG/10, response to issue 7, paragraph 3). It is important to note there is currently no restriction in the use of either the A48 or Five Mile Lane by HGVs and advisory signing would be used to direct HGVs along the A4050 Port Road, rather than along the A48, should the proposed Trunking be confirmed.
- 7.20 The Objectors submission that VPG's measured journey times are as good as or better than those measured by AG, misses the point. AG used a whole range of observed journey times to assist in validating the computer modelling. It is the standard accepted model which is relied upon and this is to be preferred to trip measurement with no formal methodology (ID/AG/41, paragraph 77). VPG's data was from a small sample over a limited period with no evidence of comparability between cars/drivers or of instructions given. It is not accepted that VPG's figures are representative of the journey times required for analysis. They are representative of a short time on a few days, not of the situation day in and day out (ID/AG/41, paragraph 79).
- 7.21 Objectors who simply stated that the traffic was jammed etc. were not objective. Lack of

formal methodology is the criticism of the 12 partial journeys measured by VPG. Independence is normally expected of objective evidence and is standard procedure. The journey times used by Faber Maunsell, apart from being independently derived by persons used to the task, were used to validate the model. They were not relied upon as direct evidence and the whole challenge was misconceived (ID/AG/41, paragraph 80).

#### *Queue Lengths*

- 7.22 Mr Knowles would not accept the evidence that the flows from Tesco's to Culverhouse Cross had been included (ID/AG/21 & ID/WA/3A, appendix B). Traffic flow figures have been compiled by standard methodology.
- 7.23 The evidence presented by Mr Knowles on the possible volumes of through A48 traffic at the Tesco junction was based on static analysis using measured car lengths and stopping distances recommended by the Highway Code. This methodology is inappropriate compared with the dynamic methodology used by the SATURN model.

#### *Environmental Impact*

- 7.24 Directing motorists to and from CIA via the proposed Trunking route would add to the flow of traffic on the A48 through St Nicholas and Tre-hill. The severity of any environmental impacts resulting from the proposed Trunking is expected to be less than would be experienced if the existing route was to remain the signed route to CIA. This is because of the relative size of communities affected (ID/AG/41, paragraph 81). Air Quality monitoring is only undertaken at Western Cemetery on an intermittent basis.

#### *Summary*

- 7.25 The disadvantages arising from conditions becoming worse on the proposed Trunking route would be outweighed by advantages arising from conditions becoming better on the existing route. The balancing of all relevant issues favours the proposed Trunking. Concerns about journey times and safety do not add sufficient weight to reject the proposed Trunking.

#### *Mistakes in AG's Evidence*

- 7.26 The misnaming of places is limited and immaterial to the traffic data. Contrary to the submission by Objectors, according to information received from VoGC, the Ysgol Gyfun Bro Morgannwg School caters for secondary age pupils with special educational needs (ID/AG/32).

#### **The material points of the response of the Promoting Authority to the written objections were:**

##### *Ground of objection 1: Improved access to CIA is unnecessary and undesirable.*

- 7.27 The proposed Trunking accords with national and local planning policy (ID/AG/10, response to issue 1).

##### *Ground of objection 2: The proposed Trunking does not achieve the set objectives as there are no short term physical improvements proposed.*

- 7.28 The proposed Trunking is an important short term step towards achieving improved access to the CIA. More comprehensive solutions are required in the medium and long term. However, a substantial amount of work is required to develop and appraise these potential solutions and to undertake the statutory procedures required. It is therefore the view of AG that short

improvements are required until such time as the medium and long term solutions can be introduced (ID/AG/10, response to issue 2).

*Ground of objection 3: There is no committed budget to bring about any necessary improvements.*

7.29 The maintenance and improvement of trunk roads are funded directly from within AG budgets. The maintenance and improvement of local authority roads are funded mainly from within un-hypothecated funds allocated to Unitary Authorities by AG and partly from finance raised by local council tax (ID/AG/10, response to issue 3, paragraph 1).

7.30 Applications in 1988/9 and 2001/2 for Transport Grant for the A48/A4226 made by VoGC related to traffic calming on Five Mile Lane and were not part of more strategic improvements of a route to CIA. These were not funded by AG. The only local authority Transport Grant application relating to the A48/A4226 as a strategic route to CIA was made in 2004/5. £0.2M was requested for feasibility studies relating to the implementation of the short and medium term measures from the Culverhouse Cross Study. This application was funded in full. Applications for Transport Grant by the VOGC for design and feasibility studies relating to an alternative route to CIA from Culverhouse Cross via Wenvoe and North Barry has received funding totalling £2.7M since 1999/2000

7.31 AG is fully committed to the proposed Trunking and the allocation of funds to bring the route up to a suitably high standard commensurate with trunk road status (ID/AG/10, response to issue 3, paragraph 5).

7.32 The proposed Trunking in no way prejudices a long term solution for relief to Culverhouse Cross and improved access to CIA. Should sections of the proposed Trunking route not be required as part of the long term solution and hence considered for de-trunking in the future, then improvements already carried out would benefit the route in its local road context; an aspiration demonstrated by VoGC. NAFW has demonstrated its general commitment to improving transport links to CIA by contributing £17M to the opening of the Vale railway line serving CIA (ID/AG/10, response to issue 3, paragraph 7).

*Ground of objection 4: AG has a hidden agenda as, if implemented, the proposed Trunking would lead to wider development.*

7.33 The proposed Trunking is a stand alone project. Any future development would be subject to separate planning application processes. The incremental strategy has its origins in the 2002 A48/A4232 Culverhouse Cross and Airport Access Study, which had no brief to consider wider development implications (ID/AG/10, response to issue 4).

*Ground of objection 5: The proposed Trunking would have an undesirable environmental impact particularly with regard to deterioration in air quality and noise intrusion.*

7.34 The impact of the proposed Trunking on concentrations of NO<sub>2</sub> and PM<sub>10</sub> in the study area is not significant. Overall, the proposal is likely to have a beneficial impact on local air quality (ID/AG/10, response to issue 5).

*Ground of objection 6: The proposed Trunking would do nothing to help the existing traffic problems at Culverhouse Cross.*

7.35 The proposed Trunking is not forecast to change the total traffic negotiating the Culverhouse Cross interchange. No evidence has been submitted to support the assertion that the proposed Trunking would worsen the existing traffic congestion at the interchange (ID/AG/10, response to issue 6).

*Ground of objection 7: The existing route is better suited than the proposed Trunking route to accommodate additional traffic flows.*

- 7.36 The proposed Trunking route has underused capacity and can accommodate additional traffic flows; the existing route does not have underused capacity.

*Ground of objection 8: It would be inappropriate to direct additional traffic on to Five Mile Lane as it has a very poor safety record.*

- 7.37 The phase 1 and 2 short term works would be followed by medium and long term works that would fully address the existing safety problems on Five Mile Lane (ID/AG/10, response to issue 8).

*Ground of objection 9: The proposed Trunking offers no saving in journey times over the existing route.*

- 7.38 From Culverhouse Cross, the existing route distance is 8.10km (5.1 miles). In total motorists pass through seven roundabouts, three signal controlled junctions and a signal controlled pedestrian crossing. From Culverhouse Cross the proposed Trunking route distance is 11.5km (7.2 miles). Motorists on the proposed Trunking route travelling to CIA pass through two signal controlled junctions. In addition motorists travelling from the airport must give way at Sycamore Cross (ID/AG/10, response to issues 9 & 11).

*Ground of objection 10: The proposed Trunking would cause additional severance in St. Nicholas and there would be a negative impact on property and on St. Nicholas Primary School.*

- 7.39 Any detrimental effect would be localised and would be outweighed by the benefits arising elsewhere as a result of the proposed Trunking (ID/AG/10, response to issue 10).

*Ground of objection 11: Long term works may give rise to flooding problems adjacent to the Ely River.*

- 7.40 No response is considered necessary to this objection as no works are proposed in the vicinity of the Ely River.

## 8.0 CONCLUSIONS

- 8.1 Having regard to the foregoing and the evidence submitted by the parties, I have reached the following conclusions, reference being given in square brackets [ ] to earlier paragraphs of this report where appropriate. I first of all consider the subsisting objections of the Objectors who appeared at the inquiry.

### *Air Travel Policy Context and CIA*

- 8.2 The Objectors do not dispute that AG's policy to enhance routes to CIA has its origins in the Wales Spatial Plan [3.7] and I have no doubt that AG, in considering its policy towards CIA, has relied, not on CIA's Master Plan projections but on DfT's projected growth figures [3.9].
- 8.3 AG submits that CIA suffers from two negative perceptions. CIA is perceived to be a holiday airport, unconnected to the region's economic profile and also it is perceived that it is remote from the UK motorway network [3.10]. There is no dispute that there has been no quantitative assessment undertaken by the CIA Study Group, of which AG was a member, to support the Group's conclusions regarding these perceptions [3.10 & 5.7]. However, to my mind, there are two really meaningful questions that have not been addressed. Firstly are these negative perceptions influenced by the existing congestion at Culverhouse Cross and secondly would these perceptions be changed by virtue of the fact that the proposed Trunking would have no impact on the Culverhouse Cross situation and also that it would direct traffic along an unimproved Five Mile Lane [3.32]? I carry this matter forward for further consideration
- 8.4 AG accepts that it has not sought any contribution from CIA towards the cost of providing improved access [3.10]. The Objectors point out that by not doing so puts AG at odds with Government policy [5.4]. It seems to me however, that the 2003 White Paper, *The Future of Transport* relaxes this contribution requirement in circumstances where infrastructure improvements bring wider benefits than only to the airport operator. Given that the proportion of airport traffic is small in relation to the totality of traffic on the network [5.49] and that AG has participated in the CIA Study Group [3.10], as required by the White Paper, I do not consider that this issue could justify me recommending against making the draft Order. I therefore do not consider this matter further.
- 8.5 The Objectors accept that improved access to CIA is desirable at some time in the future [5.78 & 5.81]. In particular they observe that CIA has a long runway and the shortage of land at other UK airports should make CIA attractive as an aircraft maintenance centre, thus allowing it to contribute positively to the Welsh economy [5.8]. However, they suggest that there should be no rush to proceed with the proposed Trunking, as passenger numbers in 24 years time at CIA would only be the same as the number of passengers that currently use Bristol Airport, with its acknowledged poor access provision [5.3]. However, in my view the circumstances at CIA are entirely different to those at Bristol Airport. In the case of Bristol the airport appears to be thriving, but in the case of Cardiff it appears that some sort of stimulation of growth is required. I fully understand that DfT, CIA and AG believe that the proposed Trunking could be a catalyst for such growth. This view is very much endorsed by the Supporters [4.2 - 4.10]. It seems to me that whether or not the proposed Trunking would be a catalyst for growth very much hinges on the perception issue referred to above. In this regard I accept the view of the Objectors that, although CIA understandably supports the proposed Trunking, it has an eye to the long term prospect [4.11] of a direct link to the M4 (J34), [5.6]. The timing of the various phases of AG's strategy is an issue that I consider further.

### *The Trunk Road Review and the Way Forward*

- 8.6 I disagree with the Objectors that there is no apparent strategy for Welsh transport [5.9]. In the



case of the proposed Trunking, in my opinion, AG's strategy for an incremental approach is clear [3.20]. However, as the Objectors have pointed out, the reasons why AG did not accept the recommendations of the original Culverhouse Cross and CIA Access Study for a link from M4 (J34) to Sycamore Cross have not been explained [5.9]. It is clear that AG's strategy is for further studies to be carried out into the medium and long term phases. The medium term works would not be committed unless they are supported by the outcome of the further study into a long term solution [3.20 – 3.22].

- 8.7 There is no doubt in my mind that AG readily acknowledges that the proposed Trunking would not address existing congestion problems at Culverhouse Cross. I also accept that it never has been AG's intention that it should do so [3.27]. The proposed Trunking is seen by AG as the first step to improving access to CIA, thus fulfilling one of the objectives set out in the Way Forward [3.19]. I do not carry forward into my further considerations the issue as to whether or not the proposed Trunking would resolve the congestion problems at Culverhouse Cross.
- 8.8 The Objectors have alluded to AG's short term measures being a tactical political gesture or a ploy in reducing opposition to its long term objectives [5.14 & 5.15]. The Objectors have submitted no evidence to support this view and I place no weight on these observations. On the contrary, I accept the view of AG that expenditure on the proposed short term works would not be entirely wasted if the proposed Trunking proposal had to be reversed in the future [7.32].

#### *The Proposed Trunking*

- 8.9 I agree with AG that the proposed Trunking would only be relevant to "strangers" to the road network of the area seeking to access CIA and the southern Vale who, for the most part, would follow road signs from the M4. The residents of the area and commuters, by and large, would not be influenced by a change in road signing or road classification. They would continue to use routes that they would see as suiting them best and would only change route allegiance, not because signing had changed, but because the route characteristics had changed [3.49]. In relation to the above, and in my opinion, a significant point that has not been disputed is that only a small proportion of traffic on the network is actually attributable to strangers and to travellers to and from CIA [5.49]. In addition, and also not disputed, is the fact that the small proportion of traffic going to and from CIA is mostly travelling in the opposite direction to the commuter flows during the a.m. and p.m. peaks [5.49]. The Objectors therefore adduce that the key driver for the proposed Trunking is not CIA traffic but traffic growth generally [5.20]. It is clear to me that with such tidal traffic flows, an emerging lack of capacity on the network is not in fact a constraint to increasing CIA traffic and I carry this issue forward for further consideration.
- 8.10 There is no dispute that the signing of the proposed Trunking route for all CIA and Vale traffic would not be unveiled until the short term phase 1 works had been completed and a Safety Audit of these works had been undertaken [3.36]. The short term phase 2 works, whilst providing some safety enhancement to Five Mile Lane, are mostly directed at capacity improvements at Sycamore Cross and Waycock Cross [3.21]. Furthermore it is clear that HGVs would continue to be directed by advisory signing to use the existing route until the medium term widening and straightening of Five Mile Lane had been completed [3.49]. AG has submitted evidence to demonstrate that there would be very little, if any, additional use of Five Mile Lane by HGVs, even after it had been widened [3.56]. It adduces that this is because most HGVs wish to access Barry Docks via the A4050 [7.19]. The Objectors have submitted that use of the entire proposed Trunking route by HGVs would increase, in spite of the advisory signing to direct them along the existing route, partly on account of the increasing use of satellite navigation systems [5.29].

- 8.11 It seems to me that the Objectors and AG agree that usually trunk roads are of a higher standard than local authority maintained roads [3.28 & 5.21]. There appears to be no over-riding requirement that trunk roads have to be to dual-carriageway standard. However, I suspect that it would be very unusual for a road of the very poor standard of Five Mile Lane, as it is now and is likely to remain for some time, to be classified as a trunk road. My opinion is reinforced by AG's comment that it is fully committed to allocate funds to bring the proposed Trunking route up to a standard commensurate with trunk road status [7.31]. In this regard I share the views of the Objectors that anyone using or considering using CIA would expect a route, signed as a trunk road, to be of a much higher standard than is Five Mile Lane [5.7]. In my opinion, this again relates to the perception issue that I consider later.
- 8.12 One of the reasons for AG favouring the proposed Trunking route is that it would, in its opinion, be more suitable for being incorporated into a long term solution than would the existing route [3.26]. I can well understand that this would be readily achievable with regard to Five Mile Lane but I very much agree with the Objectors that St. Nicholas, with its Conservation Area status and listed building content, would be a considerable obstacle to any on-line improvement of the A48 [5.21]. I consider this issue later.

#### *Costs and Programme*

- 8.13 AG's proposals and associated budgets for the short term phase 1 & 2 works are clear [3.30 & 3.31]. However, the Objectors have concerns that there is uncertainty about availability of phase 2 funding, as confirmation of the AG 2007/08 FY budget would not be obtained until December 2006 [5.23]. I do not consider it unusual that FY 2007/08 budgets would not be confirmed until December of 2006 and accept AG's position that at this stage, evidence of funding for this £2.19M can be no more certain than by it being identified in its rolling programme [3.31].
- 8.14 The Objectors also express concern about the availability of funding for the medium and long term phases [5.25 & 5.26]. This concern is echoed by one of the Supporters, MTCBC [4.3]. The Objectors support their view by citing the fact that AG historically has shown a lack of commitment to improving Five Mile Lane [5.18]. The Objectors also point out that the two to three year delay, since publication of the Way Forward, in progressing the further studies into long term solutions gives little confidence that AG is treating the long term solution with any sense of urgency [5.13 & 5.26]. AG responds that the medium and long term phases are identified in the December 2004 Transport Review with a programmed start date unlikely to be before April 2010. AG further responds that it has shown commitment by Transport Grant funding having been awarded to VoGC [7.30] and by AG contributing £17M to the re-opening of the Vale of Glamorgan railway [7.32].
- 8.15 On this issue I share the concerns of the Objectors, particularly with regard to timing. As I see it, although technically the proposed Trunking is a stand alone project, its full implementation i.e. bringing Five Mile Lane up to a standard commensurate with trunk road status, is dependent on the later medium and long term phases of AG's strategy. To my mind the proposed Trunking cannot be considered in isolation but must be viewed in relation to the likelihood of the follow up phases actually happening. In this regard, whereas it is true that "Project No. 35, CIA Access" is identified in AG's 2004 Supplement to the Trunk Road Forward Programme [3.33], it is only scheduled as having Phase 3 priority, just one level above the "on hold" category. It seems to me that this indicates a lower level of priority than has been suggested by AG and I carry this issue forward into my further considerations.

#### *Road Safety*

- 8.16 The Objectors submit that road safety must be the most important factor when considering the proposed Trunking [5.28] and express concern about several safety issues, including in

particular Five Mile Lane. AG acknowledges it has undertaken no risk assessment of the A48 and Five Mile Lane in advance of publishing the draft Order [3.34]. AG accepts that improvements are needed to Sycamore Cross junction [3.34] and that Five Mile Lane presents a hazard to all types of traffic [3.36]. Some safety improvements are proposed within the phase 1 & 2 budgets [3.35] but, as no land acquisition is proposed and no statutory procedures are envisaged, these would not resolve the Five Mile Lane width and alignment deficiencies [3.21]. AG accepts that accidents on Five Mile Lane could well increase in the short term [3.38].

- 8.17 As discussed above [8.10], it is clear that AG would not direct HGVs along the proposed Trunking route until Five Mile Lane had been widened and re-aligned [3.49]. The Objectors suggest that this demonstrates recognition by AG of the risks associated with Five Mile Lane [5.28]. They point out that as signing to direct HGVs away from using the proposed Trunking route would be advisory, rather than mandatory, there would be no control over HGVs using Five Mile Lane [5.18]. AG does not dispute that Five Mile Lane is as narrow as 5.6m in places [3.36] and that two HGVs could not pass comfortably [5.29]. I concur with this view as I observed, when travelling in a medium sized coach during the accompanied site inspection that the coach driver had to slow down considerably in one location to permit the passage of a car in the opposite direction.
- 8.18 It is clear to me that all the parties accept that there are considerable difficulties with Five Mile Lane, but AG did not fully identify the extent of these difficulties prior to publishing the draft Order. Rather, it relied on general observation and information gathered from VoGC [3.34 – 3.36]. A sum of £0.4M, extracted directly from a VoGC Transport Grant application, has been included within AG's short term phase 2 works budget for realignment and width improvement of Five Mile Lane [3.35]. AG presented no evidence to indicate what extent of works this budget would cover. Moreover, in spite of the VoGC's application making it clear that their £0.4M budget included some £10K for land acquisition [3.35], AG has no programming contingency in the event that such land could not be acquired by agreement [3.28] and that any compulsory acquisition that might be necessary, would require statutory procedures. It seems to me that, whereas a landowner adjacent to Five Mile Lane might be willing to sell some land by agreement to the local authority for a minor road improvement, it cannot be assumed that the same willingness would prevail if such acquisition was part of a larger AG road Trunking scheme. As a consequence, in my view, the envisaged short term phase 2 works could well extend beyond the anticipated 2007/08 financial year timescale. It is also clear to me that the length of Five Mile Lane that could be meaningfully improved in the short term phase 2 for £0.4M would be very limited, bearing in mind the overall Five Mile Lane improvement budget is around £10M [3.32]. AG, in the short term, appears to be proposing to take on an un-quantified risk for an indeterminate time scale whilst allocating a fixed budget for unspecified and very limited safety improvements. Although I have noted that no objection has been raised to the proposed Trunking by consultees to the Order such as the police, the ambulance service or the fire brigade [6.6] I place much weight on this issue and carry it forward for further consideration.
- 8.19 The Objectors have raised other safety issues [5.28]. No evidence has been submitted by them to demonstrate the extent of the risk caused by flooding on Five Mile Lane and I consider this objection no further. Similarly, the Objectors have not submitted any evidence to demonstrate the extent of any A48 pedestrian crossing problems in St. Nicholas or in Tre-hill, although AG acknowledges that there was a serious accident in Tre-hill in 2003 [3.68]. I take no further account of this issue as AG has stated that, if the need could be demonstrated, pedestrian crossings could be provided in St. Nicholas or in Tre-hill [3.88].

*Comparison between the Proposed Trunking Route and the Existing Route*

- 8.20 There is no dispute that the existing route is some 2.0 to 2.1 miles shorter than the proposed

Trunking route [5.33] and [7.38]. Also there is no dispute that the proposed Trunking route has a worse serious accident record than the existing route [3.67 & 3.68]. AG, without presenting any evidence, submits that the proposed Trunking route lends itself more readily to future improvement than does the existing route [3.26]. I have concluded elsewhere that I find it difficult to see how the A48 could be improved through St. Nicholas [8.12]. Moreover, I saw nothing on either my unaccompanied or accompanied site inspections to lead me to disagree with the views of the Objectors that the existing route was suited to low cost improvements [5.33 & 5.35]. It certainly appeared to me that along the entire length of the A4050 Port Road East and West and the A4226 Port Road West, at some time in the past, a land corridor had been protected for subsequent upgrading the existing roads to dual-carriageway standard. I consider this matter later.

#### *Traffic Modelling*

- 8.21 AG submits that the traffic modelling has been undertaken using nationally accepted SATURN software [3.43] and that all the inputs have been subjected to Quality Assurance procedures [3.45]. AG further adduces that the outputs from the traffic modelling have been verified against field surveys and the model has been satisfactorily calibrated in accordance with laid down DMRB criteria. The model is considered to be extremely robust [3.45]. I do not accept the Objectors' challenge regarding the appropriateness of the SATURN model [5.42]. AG suggests that the traffic data submitted by the Objectors has not been independently produced and has not been gathered and analysed in accordance with accepted practice [7.16, 7.20 & 7.21]. The Objectors reject these assertions [5.58] and I place weight on what they see as major flaws in the traffic modelling evidence submitted by AG [5.36].
- 8.22 AG has stated, in presenting its evidence, that it has placed particular emphasis on examining the villages of St. Nicholas and Tre-hill [3.39]. The Objectors point out that this emphasis is not reflected by the omission from the traffic model of the only signal controlled road junction on the A48, between the Tesco junction and Sycamore Cross [5.36]. It seems to me, that in seeking to compare the existing route with the proposed Trunking route in traffic terms, for AG to include all the signal controlled junctions on the existing route and to omit the A48 St. Nicholas junction on the proposed Trunking route is an unfortunate oversight. I very much share the views of the Objectors that the fact that this junction was not included in the 2002 traffic model provides no justification for AG to omit it from the modelling evidence presented at the inquiry [5.36]. The journey time anomalies discussed below [8.33] add to my concern regarding this omission.
- 8.23 In the view of the Objectors AG's evidence on traffic capacities on the existing route and proposed Trunking route was unconvincing [5.37 & 5.41]. There is no doubt in my mind that AG's capacity evidence on links and roundabouts was subject to change during the inquiry. In spite of the fact that AG confirmed that capacities were manually determined, it was unable to produce evidence of this derivation, saying that capacities established for the 2002 modelling work, in effect had been lost [3.50]. To submit, as AG did, that an accurate derivation of capacity for Five Mile Lane was really unnecessary as Five Mile Lane had so much capacity to spare, did not, to my way of thinking, lend weight to its case [7.14].
- 8.24 Other substantive concerns expressed by the Objectors about the modelling outputs relate to journey times [8.30 – 8.33] and queue lengths [8.38] and are considered under those respective headings.

#### *Significant New Impacts*

- 8.25 The Objectors have identified all the actual or potential new developments in the area [5.43 – 5.48]. AG responds that they have taken account of all extant developments and the traffic growth arising as a consequence, if appropriate [7.11 – 7.13]. I accept AG's response on this

issue and take no further account of this matter.

#### *Forecast Traffic Flows*

- 8.26 The Objectors submit that part of AG's data is unreliable because it was gathered on Wednesday 23<sup>rd</sup> March 2005, a day that schools in CCC and VoGC broke up for the Easter holidays [5.50]. On the other hand AG submits that schools broke up on the 25<sup>th</sup> March [7.18]. No conclusive evidence has been presented by either party in this regard and I consider it no further as the survey undertaken by AG on the 23<sup>rd</sup> March was only one of some 26 surveys undertaken by it between October 2001 and May 2005 [7.18].
- 8.27 The Objectors dispute the A48 capacity figures derived by AG [5.41]. VPG has used different techniques to determine road capacities and has adduced that the limiting capacity of the A48 is actually the capacity through the Tesco traffic lights [5.51]. Whereas I have found VPG's traffic evidence to be generally sound, in this situation I agree with the views of AG that using a static analysis is less appropriate than using the dynamic methodology of the SATURN model [7.23].
- 8.28 The Objectors have raised concerns that AG's traffic forecasts focus on peak hour flows [5.53]. I appreciate that the traffic modelling work has been undertaken using well established methodology, usually adopted when considering new road proposals [3.43]. However, in my opinion, given that the purpose of the proposed Trunking is in connection with improving access to CIA, greater emphasis could have been placed on traffic flow data coinciding with the periods when relatively more traffic is actually going to and from CIA. However, I do not place much weight on this issue and do not consider it further.
- 8.29 The average speeds submitted by AG were challenged by the Objectors [5.55], pointing out that average speeds quoted by AG were close to the absolute maximum possible average speeds. I am satisfied by AG's response that the average speeds quoted were used in the context of determining AADTs and associated noise impacts and the actual average speeds were about half of the quoted 71kph when determined by journey times [7.15]. I consider this matter no further.

#### *Journey Times*

- 8.30 Data has been submitted by both AG and the Objectors on journey times, some of which is broadly in agreement and some of which is not. I reject AG's view that I should place little weight on the journey time evidence submitted by the Objectors [7.16 & 7.20]. Whilst I fully understand that the Objectors are laymen in dealing with traffic figures I found, that for the most part, their work was well planned, undertaken and presented. In my view, it is entirely appropriate for evidence given to the inquiry by Objectors to be in such a fashion as they see fit, provided it is relevant. It was certainly clear to me that the Objectors' evidence and cross examination, far from lacking weight [7.15] and not being compelling [7.16] as suggested by AG, identified gaps and anomalies in AG's evidence. I do not intend to dwell on all the disputed issues between the parties in this regard; I intend only to examine four issues.
- 8.31 The first three issues concern a.m. peak journey time data between Sycamore Cross and Culverhouse Cross which shows that:
- AG's observed journey time in the direction of peak flow is 4mins 17secs which is 1min 23secs shorter than the observed time of 5mins 40secs in the opposite direction [5.61];
  - AG's modelled journey time in the direction of peak flow is 5mins 10secs which is only 37secs shorter than the modelled time of 4mins 33secs in the opposite direction [5.61];

and

- AG's observed time in the direction of peak flow of 4mins 17secs is only 20secs longer than VPG's calculated absolute minimum journey time of 3mins 57secs [5.61].
- 8.32 The fourth issue concerns a.m. journey time data between Waycock Cross and Culverhouse Cross via the proposed Trunking route. This shows that AG's observed journey time in the direction of peak flow of 9mins 29secs is 22secs shorter than VPG's calculated absolute minimum journey time of 9mins 51secs [5.60].
- 8.33 The Objectors submit that these four particular pieces of evidence are "incredible" [5.60 & 5.62]. AG has not challenged VPG's calculated absolute minimum time evidence and has offered no explanation of these anomalies. It is significant to me that these anomalies are present either within AG's own evidence or between AG's evidence and VPG's undisputed calculated absolute minimum journey times. I share the concerns of the Objectors as to how the observed a.m. peak journey time between Sycamore Cross and Culverhouse Cross, i.e. the direction of commuter flow with tail backs at the Tesco junction could be 1min 23secs shorter than the journey time in the opposite free flowing direction. Also, like the Objectors, I cannot see how the modelled journey time between Sycamore Cross and Culverhouse Cross, in the a.m. peak, could be only 37secs longer than the modelled journey time in the opposite direction. It may be no coincidence that these journey time anomalies occur on a section of the proposed Trunking route where a signal controlled junction has been omitted from the traffic model [8.22]. To my mind, these factors taken together cast doubt on the model outputs and calibration exercise, notwithstanding the fact that AG has confirmed that the model has been fully calibrated and that it is robust. I place much weight on this issue and carry it forward for further consideration.

#### *Economics*

- 8.34 AG and the Objectors differ on what economic comparisons should have been carried out. On the one hand the Objectors argue that the proposed Trunking proposals should have been compared against alternative solutions [5.66]. On the other hand AG adduces that the alternative of trunking the existing route has already been dismissed so the only comparison that could be made is between the proposed Trunking and the Do Nothing scenario [7.8]. Notwithstanding this AG submits that the Net Present Value of the proposed Trunking is - £37.907M [3.63] and that the overall economic disbenefit is £46.49M [3.66]. I consider this issue later.

#### *Reliability of Journey Times*

- 8.35 Another reason for AG favouring the proposed Trunking route over the existing route is that it considers that reliability of journey times would be better [3.26]. AG submits that journey times to CIA would become less reliable on the existing route as traffic flows increase and any spare capacity on the network is used up [3.70]. The Objectors adduce that no assessment of journey reliability has been undertaken and that Five Mile Lane, until such times as it would be widened and straightened, would be more unreliable than the existing route [5.67]. They further submit that unlike the A4050, Five Mile Lane is narrow, has very few "escape routes" in an emergency situation and that it is subject to regular delays on account of farming activities [5.67 & 5.68].
- 8.36 AG responds that it could reduce disruption on the proposed Trunking route by providing early warning of any incidents on Five Mile Lane by variable message signing on the A4232 [3.71]. As already concluded however [8.9], regular users of the network would make their own choice of the route that they take. I am of the opinion that most regular travellers on the network would consider Five Mile Lane, as it is now, would present a greater risk in terms of

likelihood of accidents and more unpredictable road conditions. On the other hand strangers travelling to and from the Vale or CIA, not having the benefit of familiarity of the network would have no predetermined view of which route would be more reliable and would be directed by traffic signs along the proposed Trunking route. Therefore, there would be additional, but not significant increases in traffic volumes on Five Mile Lane. As discussed above [8.11] this additional traffic would encounter a standard of road well below their expectation. To my mind, herein lies the risk, and the associated need, as the Objectors adduce, for better emergency access provision than is available on Five Mile Lane. In support of my opinion I cite a personal observation that I made during my unaccompanied site inspection, which I described to the inquiry. As I was travelling along Five Mile Lane I got caught in a tail back behind a tractor. There was no opportunity to pass it due to limited forward visibility and to attempt to have done so would have been extremely hazardous. It seems to me that the question of reliability is also a perception issue and as with other similar matters I carry this forward for further consideration.

- 8.37 The question of journey reliability has only been focussed on the highways between Culverhouse Cross and Waycock Cross. Most airport and other travellers would originate from the direction of the M4 and would travel the signed route to CIA and the southern Vale via the A4232, Culverhouse Cross and the A4050. It seems to me that on this route the major obstacle and source of unreliability is actually the Culverhouse Cross junction. It has already been established that the proposed Trunking is not intended to result in any improvement at Culverhouse Cross [3.27]. It could therefore be argued that reliability of journeys on Five Mile Lane is only a relatively small component of the overall reliability issue.

#### *Queue Lengths*

- 8.38 AG produced evidence on queue lengths at junctions on the network. This information was qualified in that queues were defined as the average length of stationary vehicles during the peak hour [3.72]. The Objectors' understanding of a queue length, not surprisingly in my view, is the length of vehicles that are stationary together with the length of vehicles that are inching forward to join on behind those that are stationary [5.71]. It seems to me that the difference in interpretation of what constitutes a queue length explains the apparent incompatibility between AG's and the Objectors' evidence [3.72]. There is no doubt in my mind, from the observations I made during my accompanied and unaccompanied site visits that queues do tail back on the A48 from Culverhouse Cross and the Tesco junction in the a.m. peak.

#### *Environmental Impact*

- 8.39 The Objectors, although submitting no evidence, consider that the proposed Trunking would have a detrimental impact on noise, vibration and severance in St. Nicholas and on air quality particularly at Culverhouse Cross [5.73 - 5.76]. I place little weight on the unsubstantiated views of the Objectors and concur with AG that, on balance, the impact along the A4050 on the outskirts of Barry would be marginally reduced and in the vicinity of St. Nicholas the impact would be marginally increased [7.24]. I accept that the extent of any increased impacts would be insignificant. I do not consider this objection further.

#### *Mistakes in AG's evidence*

- 8.40 I have noted the mistakes in AG's evidence cited by the Objectors [5.77]. I accept AG's response, particularly in respect of the description of Ysgol Gyfun Bro Morgannwg in Barry [7.26]. Whilst there are several such factual errors in the evidence submitted, given that the number of these errors is small and, as in this case, they are of no material significance, I conclude that they do not detract from the totality of AG's case. I take no further account of this objection.

- 8.41 I now consider the subsisting written objections under each ground already identified [5.83 – 5.94], but only if the ground of the written objection has not been already covered by the consideration given above to the cases of the Objectors who appeared at the inquiry.

*Ground of objection 4: AG has a hidden agenda as, if implemented, the proposed Trunking would lead to wider development.*

- 8.42 The Objectors have submitted no evidence in support of their views. I accept the view of AG that the proposed Trunking is a stand alone project and any future development would have to be subject to separate planning application processes. [7.33]. I give no further consideration to this objection.

*Ground of objection 11: Long Term works may give rise to flooding problems in the vicinity of the Ely River.*

- 8.43 There are no works planned in the vicinity of the Ely River [7.40] and I consider this objection no further.

*Ground of objection 12: There has been no comparison of the number of properties that lie within 5m of the A48/A4226 and the A4050/A4226 routes.*

- 8.44 Although I concur with the statement made by the Objector I am satisfied that AG has undertaken the environmental impact assessment work in accordance with laid down DMRB criteria [3.90] and I consider this objection no further.

*Assessment of Objections in Relation to Highways Act Criteria*

- 8.45 At the pre-inquiry meeting and at the opening of the inquiry I advised the parties that I would consider the evidence presented in relation to the criteria laid down in Section 10 (2) of the Highways Act 1980, namely: “the Minister shall keep under review the national system of routes for through traffic in England and Wales, and if he is satisfied after taking into consideration the requirements of local and national planning, including the requirements of agriculture, that it is expedient for the purpose of extending, improving or reorganising that system..... he shall by Order direct.....”

- 8.46 I consider these criteria are not altered by the February 2002 revision of the Highways Act, Section 10. Thus it seems to me that the proposed Trunking must be assessed in relation to :

- the requirements of national planning;
- the requirements of local planning;
- the requirements of agriculture; and
- after taking account of the above three items whether or not the proposed Trunking is expedient.

In my opinion Section 10 (2) of the Highways Act 1980 clearly calls for the expediency consideration to follow on as a stand-alone test “after” determining whether the proposed Trunking complies with the requirements of planning and agriculture. Here I draw a narrow but nonetheless important distinction with the views expressed by AG which are that the expediency test must have regard to planning policies [7.3].

- 8.47 There is no doubt in my mind that the proposed Trunking complies with the requirements of national and local planning [3.7 – 3.9 & 3.11 – 3.14]. The proposed Trunking and the associated phase 1 & 2 works would have no impact on agriculture as no land acquisition is



proposed [3.28]. Therefore to my mind the remaining test is whether or not the proposed Trunking would be expedient.

8.48 During the inquiry I took care with all the witnesses to discuss and identify what tests or conditions should be applied to the proposed Trunking proposal under the “expediency” heading. I note that AG refers to the dictionary meaning of expedient as meaning “suitable, advantageous or achieves a particular purpose” [7.3]. It seems to me that the conditions I set out below reasonably accord with this dictionary meaning. Accordingly, I consider that I need to be satisfied that:

- there is a need for the proposed Trunking and that the proposed Trunking would meet that need;
- the proposed Trunking is appropriate and safe;
- the impact of the proposed Trunking on the local environment would be acceptable;
- the proposed Trunking would represent the best available option and best value for money;
- resources would be available within a reasonable timescale to implement the proposed Trunking; and
- the advantages of the proposed Trunking would outweigh any disadvantages.

8.49 I now examine each of the above conditions in turn in relation to the evidence submitted to the inquiry and to the consideration I have already given above to the subsisting objections.

*There is a need for the proposed Trunking and that the proposed Trunking would meet that need.*

8.50 In my view, the need for the proposed Trunking has little to do with improving journey times or journey reliability to and from CIA as the direction of travel of airport travellers is mostly in the opposite direction to peak commuter flows [8.9]. Neither would the proposed Trunking resolve the congestion issues at Culverhouse Cross as this is not its purpose [8.7]. The real need is to overcome the perceptions about the location of CIA and the type of services operated by CIA. As these perceptions have not been quantified, in my opinion, the need has not been demonstrated [8.3]. Even if the perceptions and hence the need had been demonstrated, no evidence has been presented that the negative perceptions about CIA would be reversed as a result of the proposed Trunking [8.3, 8.5, 8.11 and 8.36]. It could be that perceptions would become even more negative than they are at present. I conclude therefore that this condition has not been met.

*The proposed Trunking is appropriate and safe.*

8.51 In publishing its Trunking proposal AG has undertaken no risk assessment of the highway for which it intends to assume responsibility [8.18]. No details have been made available or indeed are available of the safety improvements that AG proposes to undertake on Five Mile Lane as part of the phase 2 short term works. As far as timing is concerned, no contingency is in place in the event that statutory procedures might be required to undertake these works [8.18]. The medium term widening and straightening works to Five Mile Lane would not be implemented for at least several years. Given the very poor safety record of Five Mile Lane and given that the proposed Trunking would result in additional traffic being directed on to it, mostly comprising strangers to the area, I am unable to conclude that the proposed Trunking is safe.

8.52 Until such times as Five Mile lane is straightened and widened it would remain, according to

VoGC's assessment, which is accepted by AG, a road that "represents a hazard to all types of traffic" [3.36]. The standard of Five Mile Lane as it presently exists, in my opinion, falls far short of any reasonable person's expectation of what should be provided by a "trunk road" [8.11]. AG accepts that the standard of Five Mile Lane is not commensurate with trunk road status [7.31]. As discussed above [8.3], no assessment has been undertaken of what the change in perception would be if Five Mile Lane was to be signed as part of the proposed Trunking route to CIA or if the proposed Trunking would not bring about any improvements to Culverhouse Cross. It seems to me that it would also be unsatisfactory to create a trunk road that would be unsuitable for use by HGVs for a number of years [8.10]. Signing might restrict HGV traffic on Five Mile Lane, but it is of concern to me that other wide vehicles such as large holiday caravans would be signed along Five Mile Lane.

8.53 AG's case for the proposed Trunking route is supported by the traffic model. I find the traffic model inadequate in that it has omitted the signal controlled junction in St. Nicholas [8.22] and inaccurate with regard to journey times [8.33]. These and other issues, to my mind, cast doubts on the appropriateness of the modelling inputs and outputs in support of the proposed Trunking.

8.54 I am of the view that the proposed Trunking has not been demonstrated to be appropriate. As such, considering also safety [8.51] I conclude that this condition has not been met.

*The impact of the proposed Trunking on the local environment would be acceptable.*

8.55 I accept that the proposed Trunking would have no significant environmental impact. On balance fewer people in St. Nicholas and Tre-hill would be affected by a small negative impact than would a greater number of people in North Barry who would be affected by a small positive impact [8.39]. I conclude that this condition has been met.

*The proposed Trunking would represent the best available option and best value for money.*

8.56 AG has presented only the proposed Trunking option to the inquiry; the only alternative is the Do Nothing scenario. The proposed Trunking results in an NPV of -£37.907M and an economic disbenefit of £46.49M over the 60 year assessment period [8.34]. From the evidence presented by AG, it is not possible for me to reach a conclusion on this condition.

*Resources would be available within a reasonable timescale to implement the proposed Trunking.*

8.57 I am satisfied that it is likely that funding would be available for the phase 1 & 2 works. However, as already discussed [8.51] some delay could arise if statutory procedures were to prove necessary for the phase 2 safety improvements to Five Mile Lane. The medium term phase depends on whether the outcome of further studies supports the improvement of Five Mile Lane. The long term phase also depends on the outcome of further studies and the acceptance by AG of any resulting recommendations. The medium and long term phases are identified as a Phase 3 project in AG's Trunk Road Forward Programme which is just above the "on hold" category in terms of priority [8.15].

8.58 It seems to me that there is a very real likelihood that the medium term phase, upon which full implementation of the proposed Trunking depends, could be subject to delay. This could arise on two counts. Firstly, the further studies and acceptance of the study recommendations could be delayed and secondly, AG's Phase 3 CIA access project could slip as it is not a high priority project. On this condition I conclude that the phases 1 & 2 could be implemented within a reasonable timescale but I cannot similarly conclude on the medium and long term phases. Because of the Five Mile Lane safety issues this is a real concern.

*The advantages of the proposed Trunking would outweigh any disadvantages.*

- 8.59 AG considers that there are four advantages of the proposed Trunking that would [3.26]:
- take traffic away from the existing route where it can only travel at relatively low speeds, because of numerous traffic signals and roundabouts;
  - have greater capacity to adsorb increased traffic volumes compared with the existing route;
  - have greater potential for upgrading and incorporation into a long term solution; and
  - provide more reliable journey times to CIA than does the existing route.
- 8.60 To my mind, AG has over emphasised the “numerous roundabouts” issue on the existing route. From the evidence presented and from what I have seen the five roundabouts on the north/south section of the A4050 present very little obstruction to traffic. Also it appears to me that the comparative journey time analysis between the proposed Trunking route and the existing route presents no compelling case for saving in journey time, one way or the other, particularly taking into account the delays that would still occur at Culverhouse Cross [8.50].
- 8.61 Although the evidence submitted by AG indicates spare capacity on the A48 and Five Mile Lane I can attach little weight to it bearing in mind the general doubts that surround the traffic modelling [8.21 - 8.24].
- 8.62 No evidence has been submitted to support AG’s case that the proposed Trunking would lend itself better to future incorporation into a long term solution than would the existing route. The way in which the A48 could be improved in the vicinity of St. Nicholas has not been explained [8.12] and no evidence has been submitted to demonstrate the unsuitability of the existing route for incorporation into a long term solution [8.20].
- 8.63 No meaningful assessment has been undertaken of journey time reliability [8.35]. In spite of the fact that the emergency services have raised no objection to the proposed Trunking [8.18], I place much weight on the “escape route” problems on Five Mile Lane compared with the existing route [8.35].
- 8.64 I consider that none of the four advantages of the proposed Trunking route identified by AG have been convincingly proven. However, I accept that there would be an overall environmental impact advantage arising from the proposed Trunking. As discussed above I see the disadvantages of the proposed Trunking as the likely increased risk of accidents as a result of additional traffic on Five Mile Lane and the uncertainty of duration of that increased risk [8.15 & 8.18]. As a consequence, it may well be that negative perceptions that currently exist regarding CIA are not changed but that they become even more negative. Accordingly, I conclude that the advantages of the proposed Trunking do not outweigh the disadvantages and therefore this condition has not been met.

#### *Summary*

- 8.65 Of the six conditions relevant to the expediency criteria identified above [8.48], I consider that four fail to comply [8.50], [8.51 – 8.54], [8.57 & 8.58] and [8.59 – 8.64], one complies [8.55] and it is not possible to conclude on one condition [8.56]. Overall therefore, I conclude that the proposed Trunking is not expedient.
- 8.66 In reaching my recommendation I have taken account of the environmental evidence presented by AG and any other environmental evidence presented by the Objectors. I have had regard to all matters raised both at the inquiry and in written representations, but they do

not outweigh the conclusions I have reached and the recommendation that I make. I have weighed the evidence on both sides very carefully and, for the reasons I have stated, it is my view that the proposed Trunking is not in the public interest and should not be allowed to proceed.

- 8.67 If after having considered my report, NAFW is minded to make the Order, I draw its attention to the fact that TW has proposed minor textural modifications to the draft Order as published [3.29].

## 9.0 RECOMMENDATION

9.1 I recommend that:

**The A48 (Culverhouse Cross to Sycamore Cross), the A4226 (Sycamore Cross, Waycock Cross to Airport Roundabout), Port Road (Airport Roundabout to Cardiff International Airport Access Roundabout) (Trunking) Order 200- be not made.**

*Jack Moffett*

Inspector.

## APPENDIX A

### APPEARANCES

#### For the Promoting Authority, the Welsh Assembly Government

Mr G Walters of counsel, instructed by NAFW's Legal Services Division

He called:

Mr I Davies, BSc (Hons), CEng, TW (Chief Witness)  
MICE, MStructE.

Mr H Davies, BSc (Hons), MTD, Faber Maunsell (Expert Witness)  
MIHT, CILT.

#### Supporter

Mr S Hodgetts Head of Business Development  
CIA Ltd.  
Vale of Glamorgan  
CF62 3BD

#### Objectors

Mr A Cairns AM National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA

#### *For the Vale Protection Group*

Mr G Greaves BSc (Hons), FCIT, FCILT, Kinfauns  
MCMi. St. Nicholas  
CF5 6SH

Mr P Dewey Caia Farm  
St. Nicholas  
CF5 6SG

Mr R Jones MCP Management Consultants Ltd.  
Tre-hill Farmhouse  
St. Nicholas  
CF5 6SJ

Mr T Knowles

Cae Ffynnon  
12 Ger-y-Llan  
St. Nicholas  
CF5 6SY

Dr P Williams BA, BMBCh, DM, FRCP,  
FRCPATH.

11 Ger-y-Llan  
St. Nicholas  
CF5 6SY

Mr M Cox

Yew Tree Cottage  
The Lane  
The Downs  
St. Nicholas  
CF5 6SD

***For St. Nicholas and Bonvilston Community Council***

Professor J Heywood-Thomas

Chairman  
1 Village Farm  
Bonvilston  
CF5 6TY

## APPENDIX B

### LISTS OF DOCUMENTS

#### Attendance Lists

- A1 Inquiry attendance list – 09/05/06
- A2 Inquiry attendance list – 10/05/06
- A3 Inquiry attendance list – 11/05/06
- A4 Inquiry attendance list – 12/05/06
- A5 Inquiry attendance list – 01/06/06

### DOCUMENTS SUBMITTED BEFORE THE START OF THE INQUIRY

#### General Documents

- G1 Attendance Sheet from Pre-Inquiry Meeting
- G2 Pre-Inquiry Meeting Notes
- G3 List of Supporters
- G4 List of Objectors
- G5 List of Interested Parties

#### *Deposit Documents submitted by AG*

##### *Statements and Proofs of Evidence*

- WA1 Mr I Davies's Public Inquiry Statement (Superseded)
- WA2 Mr I Davies's Summary Proof of Evidence (Superseded)
- WA3 Mr H Davies's Public Inquiry Statement (Superseded)
- WA4 Mr H Davies's Summary Proof of Evidence (Superseded)

##### *Draft Order*

- D1 A48 (Culverhouse Cross to Sycamore Cross), the A4226 (Sycamore Cross, Waycock Cross to Airport Roundabout), Port Road (Airport Roundabout to Cardiff International Airport Access Roundabout) (Proposed Trunking) Order 200-.

##### *Proposed Trunking Studies*

- D2 The A48/A4232 Culverhouse Cross and Airport Access Study – Final Report (July 2002).
- D3 The A48/A4232 Culverhouse Cross and Airport Access Study – The Way Forward (Aug 2003).

*Other Documents*

- D4 The Highways Act 1980
- D5 Review of Trunk Roads 2002
- D6 Conclusions of the Trunk Roads Review 2002 – published July 2003
- D7 Trunk Road Forward Programme
- D8 2004 Supplement to the Trunk Roads Forward Programme 2002
- D9 Transport Framework for Wales
- D10 Wales: A Better Country
- D11 Wales Spatial Plan
- D12 The Future of Air Transport 2003
- D13 The Highways (Inquiry Procedure) Rules 1994 (S I 1994 No 3263)
- D14 Update on Section 10 of the Highways Act 1980
- D15 Design Manual for Roads and Bridges 11.3.1
- D16 Design Manual for Roads and Bridges 11.3.2
- D17 Design Manual for Roads and Bridges 11.3.7
- D18 Design Manual for Roads and Bridges 11.3.8
- D19 Design Manual for Roads and Bridges 11.3.10
- D20 Design Manual for Roads and Bridges 12.1.1
- D21 Design Manual for Roads and Bridges – Calculation of Road Traffic Noise
- D22 VoGC Adopted Unitary Development Plan
- D23 VoGC Local Transport Plan 2001-2006
- D24 VoGC Local Transport Plan Annual Progress Report
- D25 CCC Local Transport Plan 2000-2016 (Main Text)
- D26 CCC Local Transport Plan 2000-2016 (Appendices)
- D27 South Glamorgan (Cardiff Area) Replacement Structure Plan
- D28 Cardiff International Airport (CIA) Report of the Study Group Final Report July 2003
- D29 National Road Traffic Forecasts (Great Britain) 1997
- D30 DEFRA Local Air Quality Management, Technical Guidance LAQM.TG(03), 2003
- D31 Association of London Government, Transport and Environment Committee, Air Quality Assessments for Planning Applications – Technical Guidance Note, March 2001.
- D32 NCSA, Development Control: Planning for Air Quality



- D33 CRTN – Calculation of Road Traffic Noise, Dept of Transport, Welsh Office
- D34 Transport Analysis Guidance (TAG) Unit 3.3.2, Noise Environment Objective
- D35 Transport Analysis Guidance (TAG) Unit 3.3.2, worksheet
- D36 Guidance on the Methodology for Multi Modal Studies
- D37 Draft Guidance from the Institute of Environmental Management and Assessment (IEMA) Chapter 7 – Assessment
- D38 Scottish Transport Appraisal Guidance (STAG) 2003. Chapter 10 – Accessibility and Social Inclusion
- D39 Cost Benefit Analysis (COBA) Chapter 5 – Speed on Links

#### *A3 Plans*

- D40 Site Plan (additional)
- D41 Consultation responses. Location Plan (additional)
- D42 Location of Air and Noise Quality – Assessment Receptors (additional)
- D43 Community facilities (Proof of Evidence)
- D44 Personal Injury Accidents (2000-2005) on route along which traffic between Culverhouse Cross and the Airport is currently signed (Proof of Evidence).
- D45 Personal Injury Accidents (2000-2005) on route along proposed route between Culverhouse Cross and the Airport (Proof of Evidence).
- D46 Vulnerable Road User Accidents (2000-2005) (Proof of Evidence)

#### **Statements of Case (Main and Summary Proofs of Evidence)**

SC1/	A	Mr G Greaves (OB2)	Proof of Evidence	18/04/06
SC2/	A	Mr P Dewey (OB4)	Proof of Evidence	18/04/06
SC3/	A	Mr R Jones (OB5)	Proof of Evidence	17/04/06
SC4/	A	Mr T Knowles (OB8)	Proof of Evidence incorporating Appendices i - ix	18/04/06
SC4/	B	Mr T Knowles (OB8)	Summary of Evidence	18/04/06
SC5/	A	Mr D M Cox (OB10)	Proof of Evidence	18/04/06
SC6/	A	Dr P Williams (OB12)	Proof of Evidence	16/04/06
SC6/	B	Dr P Williams (OB12)	Summary of Evidence	16/04/06
SC7/	A	Mr S Bolland (OB35)	Proof of Evidence	18/04/06
SC8/	A	Mr J Heywood-Thomas (OB43)	Proof of Evidence	12/04/06
SC9/	A	Mr A Cairns AM (OB71)	Proof of Evidence	10/04/06
SC10/	A	Dr R J McDonald (OB47)	Proof of Evidence	Not dated

**Standard Documents issued to Supporters, Objectors and Interested Parties, recurring on each File\***

SD/	1	Letter from AG re possible Public Inquiry	07/10/05
SD/	2	Letter from AG re Public Inquiry delayed	20/12/05
SD/	3	Letter from AG enclosing Statement of Case	31/01/06
SD/	4	AG Statement of Case	31/01/06
SD/	5	Letter from AG advising of PIM	10/03/06
SD/	6	Letter from AG re Proofs of Evidence	13/04/06
SD/	7	Letter from AG re location of Deposit Documents and revised list	27/04/06

(\*Where Welsh versions of letters have been issued by AG, these have not been listed in the documents.)

**Documents relating to Individual Supporters*****Supporter No. 1, Mr E Foley (Merthyr Tydfil County Borough Council)***

S1/	1	Letter of support to AG	19/07/05
S1/	2	Letter from AG to Supporter	10/10/05

***Supporter No. 2, DTZ Piedad Consulting***

S2/	1	Letter of support to AG	03/05/06
S2/	2	Letter from AG to Supporter	05/05/06

**Documents relating to Individual Objections*****Objector No. 1, Mr I Brice***

O1/	1	E-mail of objection to AG	25/07/05
O1/	2	Letter from AG to Objector	10/10/05
O1/	3	Further e-mail to AG	15/08/05
O1/	4	Further letter of objection to AG	19/09/05
O1/	5	Letter from AG re possible Public Inquiry	07/10/05
O1/	6	Letter from AG re Public Inquiry delayed	20/12/05
O1/	7	Letter from AG enclosing Statement of Case	31/01/06
O1/	8	Letter from AG advising of PIM	10/03/06
O1/	9	Letter from AG re Proofs of Evidence	13/04/06
O1/	10	Letter from AG re location of Deposit Documents and revised list	27/04/06

***Objector No. 2, Mr G Greaves***

O2/	1	Letter of objection to AG	01/08/05
O2/	2	Letter from AG to Objector	02/10/05
O2/	3	Further letter to AG	24/08/05

O2/	4	Response to objections from AG	18/08/05
O2/	5	Letter from Objector's MP, Mr J Smith, on his behalf	22/08/05
O2/	6	Letter from Mr A Davies AM responding to objections	20/09/05
O2/	7	Letter from AG	06/09/05
O2/	8	Letter of objection in response	10/10/05
O2/	8	Letter from AG in response	04/11/05
O2/	9	Letter in response from Objector	14/11/05
O2/	10	Letter from AG in response re Planning Application for crematorium	15/12/05
O2/	11	Letter from AG following telephone queries from the Objector	22/02/06
O2/	12	Letter from AG re location of Deposit Documents and revised list	27/04/06

***Objector No. 3, Mrs K Clouston***

O3/	1	Letter of objection to AG	25/08/05
O3/	2	Letter from AG to Objector	14/09/05

***Objector No. 4, Mr P Dewey***

O4/	1	Letter of objection to AG	25/08/05
O4/	2	Letter from AG to Objector	14/09/05
O4/	3	Letter from Objector detailing concerns	21/10/05
O4/	4	Letter from Objector chasing a response	11/11/05
O4/	5	Letter from Objector chasing a response	22/11/05
O4/	6	Response from AG	16/12/05

***Objector No. 5, Mr R Jones***

O5/	1	Letter of objection to AG	01/09/05
O5/	2	Letter from AG to Objector	08/10/05
O5/	3	Further letter to AG	07/09/05
O5/	4	Response to objections from AG	08/09/05
O5/	5	Letter from Objector's MP, Mr J Smith, on his behalf	23/09/05
O5/	6	More substantive reply from AG	04/10/05
O5/	7	Letter from Mr A Davies AM responding to objections	Draft
O5/	8	E-mail from Objector requesting further info re Tesco Planning Application	24/01/06
O5/	9	E-mail response from AG	31/01/06

**Objector No. 6, Mr P Roberts & Mrs J Keane**

O6/	1	Letter of objection to AG	01/09/05
O6/	2	Letter from AG to Objector	14/09/05

**Objector No. 7, Mr & Mrs Adams**

O7/	1	Letter of objection to AG	12/09/05
O7/	2	Letter from AG to Objector	22/09/05
O7/	3	Letter from Objector re further query	26/09/05
O7/	4	Response from AG	05/10/05

**Objector No. 8, Mr T Knowles**

O8/	1	Letter of objection to AG	07/10/05
O8/	2	Letter from AG to Objector (holding reply)	07/10/05
O8/	3	Letter from Objector with more detailed concerns	27/10/05
O8/	4	Letter from AG giving detailed response to queries	15/12/05
O8/	5	Letter from Objector with further queries	03/02/06
O8/	6	Holding response from AG	10/02/06
O8/	7	Further letter from Objector re errors in earlier letter	11/02/06
O8/	8	Letter from AG giving detailed response to queries	06/03/06
O8/	9	Further response from AG	11/04/06

**Objector No. 9, Mr & Mrs Howell**

O9/	1	Letter of objection to AG	04/10/05
O9/	2	Letter from AG to Objector (holding reply)	27/10/05
O9/	3	Letter from Objector with concerns re lack of notification for the Proposed Trunking	Not dated
O9/	4	Holding response from AG	21/10/05
O9/	5	Substantive response from AG	31/10/06

**Objector No. 10, Mr M Cox**

O10/	1	Letter of objection to AG	08/10/05
O10/	2	Letter from AG to Objector	31/10/05
O10/	3	Letter from Objector re M4 query	27/01/06
O10/	4	Response from AG	17/03/06

**Objector No. 11, Mr & Mrs P Lawrenson**

O11/	1	Letter of objection to AG	13/10/05
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O11/	2	Letter from AG to Objector	31/10/05
<b><i>Objector No. 12, Dr P Williams</i></b>			
O12/	1	Letter of objection to AG	19/10/05
O12/	2	Letter from AG to Objector (holding reply)	21/10/05
O12/	3	Letter from AG	15/12/06
O12/	4	Letter from Objector re further comments	19/12/05
O12/	5	Letter from AG	31/01/06
<b><i>Objector No. 13, Mr &amp; Mrs P Maunders</i></b>			
O13/	1	Letter of objection to AG	20/10/05
O13/	2	Letter from AG to Objector (holding reply)	21/10/05
O13/	3	Letter from AG	15/12/06
<b><i>Objector No. 14, Mr R Buckland</i></b>			
O14/	1	Letter of objection to AG	20/10/05
O14/	2	Letter from AG to Objector (holding reply)	21/10/05
O14/	3	Letter from AG	15/12/06
<b><i>Objector No. 15, Mr J Shore</i></b>			
O15/	1	Letter of objection to AG	20/10/05
O15/	2	Letter from AG to Objector (holding reply)	26/10/05
O15/	3	Letter from AG	15/12/06
<b><i>Objector No. 16, D &amp; G Kerslake</i></b>			
O16/	1	Letter of objection to AG	20/10/05
O16/	2	Letter from AG to Objector (holding reply)	26/10/05
O16/	3	Letter from AG	15/12/06
<b><i>Objector No. 17, Mr P Knoyle</i></b>			
O17/	1	Letter of objection to AG	23/10/05
O17/	2	Letter from AG to Objector (holding reply)	26/10/05
O17/	3	Letter from AG	15/12/06
<b><i>Objector No. 18, Mrs C Guard</i></b>			
O18/	1	Letter of objection to AG	19/10/05
O18/	2	Letter from AG to Objector (holding reply)	26/10/05
O18/	3	Letter from AG	15/12/06

**Objector No. 19, Dr D Staziker**

O19/	1	Letter of objection to AG	22/10/05
O19/	2	Letter from AG to Objector (holding reply)	26/10/05
O19/	3	Letter from AG	15/12/06

**Objector No. 20, G & A Hoskins**

O20/	1	Letter of objection to AG	22/10/05
O20/	2	Letter from AG	15/12/06

**Objector No. 21, R Newbury**

O21/	1	Letter of objection to AG	25/10/05
O21/	2	Letter from AG to Objector (holding reply)	26/10/05
O21/	3	Letter from AG	15/12/06

**Objector No. 22, Mr W R Thomas**

O22/	1	Letter of objection to AG	24/10/05
O22/	2	Letter from AG to Objector (holding reply)	31/10/05
O22/	3	Letter from AG	15/12/06

**Objector No. 23, Mr R Mason**

O23/	1	Letter of objection to AG	26/10/05
O23/	2	Letter from AG to Objector (holding reply)	31/10/05
O23/	3	Letter from AG	15/12/06

**Objector No. 24, Mrs S Gardiner**

O24/	1	Letter of objection to AG	24/10/05
O24/	2	Letter from AG to Objector (holding reply)	31/10/05
O24/	3	Letter from AG	15/12/06

**Objector No. 25, Mrs P Wallslate**

O25/	1	Letter of objection to AG	26/10/05
O25/	2	Letter from AG to Objector (holding reply)	01/11/05
O25/	3	Letter from AG	15/12/06

**Objector No. 26, Mrs S Annetts**

O26/	1	Letter of objection to AG	27/10/05
O26/	2	Letter from AG to Objector (holding reply)	01/11/05
O26/	3	Letter from AG	15/12/06

**Objector No. 27, Mrs B Newbury**

O27/	1	Letter of objection to AG	25/10/05
O27/	2	Letter from AG to Objector (holding reply)	01/11/05
O27/	3	Letter from AG	15/12/06

***Objector No. 28, Mrs J Howell-Richardson***

O28/	1	Letter of objection to AG	26/10/05
O28/	2	Letter from AG to Objector (holding reply)	01/11/05
O28/	3	Letter from AG	15/12/06

***Objector No. 29, Mrs L Carthew MBE***

O29/	1	Letter of objection to AG	26/10/05
O29/	2	Letter from AG to Objector (holding reply)	01/11/05
O29/	3	Letter from AG	15/12/06

***Objector No. 30, Mrs P Adams***

O30/	1	Letter of objection to AG	29/10/05
O30/	2	Letter from AG to Objector (holding reply)	01/11/05
O30/	3	Letter from AG	15/12/06

***Objector No. 31, Mrs E Banks***

O31/	1	Letter of objection to AG	24/10/05
O31/	2	Letter from AG to Objector (holding reply)	01/11/05
O31/	3	Letter from AG	15/12/06

***Objector No. 32, Mr & Mrs R Harry***

O32/	1	Letter of objection to AG	Not dated
O32/	2	Letter from AG to Objector (holding reply)	03/11/05
O32/	3	Letter from AG	15/12/06

***Objector No. 33, Mr D Sillence***

O33/	1	Letter of objection to AG	31/10/06
O33/	2	Letter from AG to Objector (holding reply)	03/11/05
O33/	3	Letter from AG	15/12/06

***Objector No. 34, Mr G Welply***

O34/	1	Letter of objection to AG	31/10/06
O34/	2	Letter from AG to Objector (holding reply)	07/11/05
O34/	3	Letter from AG	15/12/06

**Objector No. 35, Mr S Bolland**

O35/	1	Letter of objection to AG	28/10/06
O35/	2	Letter from AG to Objector (holding reply)	07/11/05
O35/	3	Letter from AG	15/12/06

**Objector No. 36, Dr K R Cooper**

O36/	1	Letter of objection to AG	30/10/06
O36/	2	Letter from AG to Objector (holding reply)	07/11/05
O36/	3	Letter from AG	15/12/06

**Objector No. 37, E Saunders**

O37/	1	Letter of objection to AG	02/11/06
O37/	2	Letter from AG to Objector (holding reply)	10/11/05
O37/	3	Letter from AG	15/12/06

**Objector No. 38, Mr W Davies**

O38/	1	Letter of objection to AG	03/11/06
O38/	2	Letter from AG to Objector (holding reply)	09/11/05
O38/	3	Letter from AG	15/12/06

**Objector No. 39, Ms B Wood-Inglis**

O39/	1	Letter of objection to AG	02/11/06
O39/	2	Letter from AG to Objector (holding reply)	09/11/05
O39/	3	Letter from AG	15/12/06

**Objector No. 40, Mrs W Lowe**

O40/	1	Letter of objection to AG	04/11/05
O40/	2	Letter from AG to Objector (holding reply)	09/11/05
O40/	3	Letter from AG	15/12/06
O40/	4	Letter from Objector re further comments	12/04/05

**Objector No. 41, T Matthews**

O41/	1	Letter of objection to AG	06/11/06
O41/	2	Letter from AG to Objector (holding reply)	09/11/05
O41/	3	Letter from AG	15/12/06

**Objector No. 42, Mrs W Lowe,**

O42/	1	Letter of objection to AG	04/11/05
O42/	2	Letter from AG to Objector (holding reply)	09/11/05



O42/	3	Letter from AG	15/12/06
O42/	4	Letter from Objector re further comments	11/04/05

**Objector No. 43, Professor J Heywood-Thomas**

O43/	1	Letter of objection to AG	30/10/05
O43/	2	Letter from AG to Objector (holding reply)	09/11/05
O43/	3	Letter from AG	15/12/06
O43/	4	Statement of Evidence	13/04/05

**Objector No. 44, Mr J Otto-Jones**

O44/	1	Letter of objection to AG	05/11/06
O44/	2	Letter from AG to Objector (holding reply)	09/11/05
O44/	3	Letter from AG	15/12/06

**Objector No. 45, The Occupier\*, Swallow barns, Dyffryn, St. Nicholas, CF5 6SU**

O45/	1	Letter of objection to AG	05/11/06
O45/	2	Letter from AG to Objector (holding reply)	10/11/05
O45/	3	Letter from AG	15/12/06

\*Occupier's name illegible.

**Objector No. 46, O King-Davies**

O46/	1	Letter of objection to AG	06/10/05
O46/	2	Letter from AG to Objector (holding reply)	09/11/05
O46/	3	Letter from AG	15/12/06
O46/	4	Letter from the Objector	20/12/05
O46/	5	Letter from the Objector	21/03/05
O46/	6	Response from AG	03/04/06

**Objector No. 47, Dr R McDonald**

O47/	1	Letter of objection to AG	Not dated
O47/	2	Letter from AG to Objector (holding reply)	10/11/05
O47/	3	Letter from AG	15/12/06
O47/	4	Statement of Evidence	Not dated

**Objector No. 48, Mr R Hourmont**

O48/	1	Letter of objection to AG	13/11/06
O48/	2	Letter from AG to Objector (holding reply)	16/11/05

O48/	3	Letter from AG	15/12/06
<b><i>Objector No. 49, Mrs J Mansfield</i></b>			
O49/	1	Letter of objection to AG	11/11/06
O49/	2	Letter from AG to Objector (holding reply)	16/11/05
O49/	3	Letter from AG	15/12/06
<b><i>Objector No. 50, Mr S Bolland &amp; Mrs G Cottrell</i></b>			
O50/	1	Letter of objection to AG	14/11/06
O50/	2	Letter from AG to Objector (holding reply)	18/11/05
O50/	3	Letter from AG	15/12/06
<b><i>Objector No. 51, Mr B Davies</i></b>			
O51/	1	Letter of objection to AG	10/11/06
O51/	2	Letter from AG to Objector (holding reply)	18/11/05
O51/	3	Letter from AG	15/12/06
<b><i>Objector No. 52, Mr D Lubin</i></b>			
O52/	1	Letter of objection to AG	09/11/06
O52/	2	Letter from AG to Objector (holding reply)	18/11/05
O52/	3	Letter from AG	15/12/06
<b><i>Objector No. 53, Mr &amp; Mrs C Williams</i></b>			
O53/	1	Letter of objection to AG	11/11/06
O53/	2	Letter from AG to Objector (holding reply)	18/11/05
O53/	3	Letter from AG	15/12/06
<b><i>Objector No. 54, Mrs K Davies</i></b>			
O54/	1	Letter of objection to AG	15/11/06
O54/	2	Letter from AG to Objector (holding reply)	21/11/05
O54/	3	Letter from AG	15/12/06
<b><i>Objector No. 55, Dr R Moore</i></b>			
O55/	1	Letter of objection to AG	17/11/06
O55/	2	Letter from AG to Objector (holding reply)	21/11/05
O55/	3	Letter from AG	15/12/06
<b><i>Objector No. 56, Mr R Tyler</i></b>			
O56/	1	Letter of objection to AG	06/11/06

O56/	2	Letter from AG to Objector (holding reply)	21/11/05
O56/	3	Letter from AG	15/12/06
<b><i>Objector No. 57, Ms T Whiting</i></b>			
O57/	1	Letter of objection to AG	16/11/06
O57/	2	Letter from AG to Objector (holding reply)	22/11/05
O57/	3	Letter from AG	15/12/06
<b><i>Objector No. 58, Mr &amp; Mrs J Strong</i></b>			
O58/	1	Letter of objection to AG	21/11/06
O58/	2	Letter from AG to Objector (holding reply)	25/11/05
O58/	3	Letter from AG	15/12/06
<b><i>Objector No. 59, Ms L Arcos</i></b>			
O59/	1	Letter of objection to AG	17/11/06
O59/	2	Letter from AG to Objector (holding reply)	25/11/05
O59/	3	Letter from AG	15/12/06
<b><i>Objector No. 60, Ms B Wilcox</i></b>			
O60/	1	Letter of objection to AG	Not dated
O60/	2	Letter from AG to Objector (holding reply)	28/11/05
O60/	3	Letter from AG	15/12/06
<b><i>Objector No. 61, Mr J Harris</i></b>			
O61/	1	Letter of objection to AG	28/11/05
O61/	2	Letter from AG to Objector (holding reply)	30/11/05
O61/	3	Letter from AG	15/12/06
<b><i>Objector No. 62, Mr N Hourmont</i></b>			
O62/	1	Letter of objection to AG	15/11/05
O62/	2	Letter from AG to Objector (holding reply)	05/12/05
O62/	3	Letter from AG	15/12/06
<b><i>Objector No. 63, Mr &amp; Mrs J Fairweather</i></b>			
O63/	1	Letter of objection to AG	05/12/05
O63/	2	Letter from AG to Objector (holding reply)	12/12/05
O63/	3	Letter from AG	15/12/06

**Objector No. 64, Mr J Hitchings**

O64/	1	Letter of objection to AG	Not dated
O64/	2	Letter from AG to Objector (holding reply)	12/12/05
O64/	3	Letter from AG	15/12/06

**Objector No. 65, Ms C Radman-Daw**

O65/	1	Letter of objection to AG	Not dated
O65/	2	Letter from AG to Objector (holding reply)	12/12/05
O65/	3	Letter from AG	15/12/06

**Objector No. 66, Ms F Harris**

O66/	1	Letter of objection to AG	Not dated
O66/	2	Letter from AG to Objector (holding reply)	12/12/05
O66/	3	Letter from AG	15/12/06

**Objector No. 67, Mr P Humphreys**

O67/	1	Letter of objection to AG	07/12/05
O67/	2	Letter from AG to Objector (holding reply)	13/12/05
O67/	3	Letter from AG	15/12/06

**Objector No. 68, Mr E Bruce-Shaxson**

O68/	1	Letter of objection to AG	12/12/05
O68/	2	Letter from AG to Objector	15/12/05

**Objector No. 69, Mrs S Palmer**

O69/	1	Letter of objection to AG	16/04/06
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**Objector No. 70, C Roach**

O70/	1	Letter of objection to AG	27/03/06
O70/	2	Letter from AG to Objector	Not dated

**Objector No. 71, Mr A Cairns AM**

O71/	1	Letter of objection to AG	10/04/06
O71/	2	E-mail highlighting further detail of objection/Statement of Evidence	24/04/06

**Documents related to Interested parties****Interested Party No. 1, Mr K Taylor**

IP1/	1	Letter to AG	20/07/05
IP1/	2	Letter from AG	10/08/05

***Interested Party No. 2, Mr D Meirion-Evans***

IP2/	1	Letter to AG	19/08/05
IP2/	2	Letter from AG	25/08/05
IP2/	3	Interested Party requesting attendance at community meeting	08/09/05
IP2/	4	Response from AG	14/09/06

***Interested Party No. 3, Ms V Pearce***

IP3/	1	E-mail to AG	07/10/05
IP3/	2	E-mail from AG re public meeting	31/10/05
IP3/	3	E-mail from AG requesting contact details	19/01/06
IP3/	4	Interested Party's response	19/01/06

***Interested Party No. 4, Mr J Cooper (Caerphilly County Borough Council)***

IP4/	1	E-mail to AG	03/08/05
IP4/	2	E-mail from AG to Supporter	10/10/05
IP4/	3	Letter of acknowledgement from the Interested Party	15/03/06

***Interested Party No. 5, Mr W Johns-Powell***

IP5/	1	Letter to AG	21/11/05
IP5/	2	Letter from AG to Supporter	25/11/05

**Inspector's Questions**

IQ/	1	Clarification of AG's Expert Witness Public Inquiry Statement	26/04/06
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**DOCUMENTS SUBMITTED DURING THE INQUIRY*****Documents submitted by AG***

ID/	AG	/1	Response to Inspector's questions (IQ1)	09/05/06
ID/	AG	/2	Further response to Inspector's question (IQ1)	09/05/06
ID/	AG	/3	Cost Benefit Analysis (COBA) Document	09/05/06
ID/	AG	/4	Transport User Benefit Appraisal (TUBA) Document	09/05/06
ID/	AG	/5	Cardiff International Airport draft Master Plan	09/05/06
ID/	AG	/6	The Future of Transport: A Network for 2030	09/05/06
ID/	AG	/7	A New Deal for Transport: Better for Everyone	09/05/06
ID/	AG	/8	AG's Opening Statement	09/05/06
ID/	AG	/9	The Planning Inspectorate's Notes for the Guidance of Inspectors	09/05/06
ID/	AG	/10	AG's Rebuttal of Objector's submitted evidence	09/05/06

ID/	AG	/11	AG's schedule of/letters to/ letters from consulted Statutory Bodies	09/05/06
ID/	AG	/12	Cardiff International Airport and Culverhouse Cross Access Improvements: Commission for Stage 1 Consultancy Service	09/05/06
ID/	AG	/13	Expenditure Profile	09/05/06
ID/	AG	/14	AG's Rebuttal Schedule	09/05/06
ID/	AG	/15	Notes to the Inspector Regarding the Names of AG Bodies	10/05/06
ID/	AG	/16	Statement on Source and Scale of Document D40	10/05/06
ID/	AG	/17	Proposed Trunking Order Consultation Clarification	10/05/06
ID/	AG	/18	Modification submitted by AG to Published draft Order (Doc. D1)	10/05/06
ID/	AG	/19	Statutory Procedures – Compliance Folio	10/05/06
ID/	AG	/20	Clarification on Flooding Issue – Objector No.54	10/05/06
ID/	AG	/21	Five Mile Lane – Clarification on Width	10/05/06
ID/	AG	/22	Details of Serious Accident on Five Mile Lane on 23 <sup>rd</sup> April 2006	10/05/06
ID/	AG	/23	Expenditure Profile – Further Breakdown	10/05/06
ID/	AG	/24	Vale of Glamorgan Council Transport Grant Bid for 2001-2002	10/05/06
ID/	AG	/25	Plan showing County and City Boundaries and major roads	10/05/06
ID/	AG	/26	Formal Road Closure Records	11/05/06
ID/	AG	/27	Forecast Links Flow between Culverhouse Cross Interchange and Copthorne Way Signal Controlled Junction	11/05/06
ID/	AG	/28	Data Used For the Calibration of the Updated SATURN Model	11/05/06
ID/	AG	/29	Trips Generated by Tesco's Superstores adjacent to the A48 at Culverhouse Cross	11/05/06
ID/	AG	/30	Clarification of the Locations of Junctions Listed in Appendix B – Tables 1 to 4	11/05/06
ID/	AG	/31	Note on Journey Time Surveys	11/05/06
ID/	AG	/32	Ysgol Gyfun Bro Morgannwg, Colcot Road, Barry – Clarification on Status	12/05/06
ID/	AG	/33	RAF St. Athan Site – Clarification	12/05/06

ID/	AG	/34	Five Mile Lane & A4050 from Culverhouse Cross to Waycock Cross – Road Closures Recorded by the Emergency Services	12/05/06
ID/	WA	/1A	Mr I Davies’s Public Inquiry Statement (Referenced)	12/05/06
ID/	WA	/2A	Mr I Davies’s Summary Proof of Evidence (Referenced)	12/05/06
ID/	WA	/3A	Mr H Davies’s Public Inquiry Statement (Referenced)	12/05/06
ID/	WA	/4A	Mr H Davies’s Summary Proof of Evidence (Referenced)	12/05/06
ID/	AG	/35	Junction 34, M4 to A48 Sycamore Cross – the long term Proposed Trunking	
ID/	AG	/36	Response to outstanding questions – Items 2 – 9.	18/05/06*
ID/	AG	/37	Comparison of Observed and Modelled Travel Times between Culverhouse Cross and Waycock Cross	17/05/06*
ID/	AG	/38	Note Prepared in Response to Inspector’s Request for Further Modelling Clarification	24/05/06*
ID/	AG	/39	Traffic Flow Ranges for use in the Assessment of New Rural Roads	01/06/06
ID/	AG	/40	Responses to Inspector’s further questions	01/06/06
ID/	AG	/41	Closing Submission	01/06/06

***Documents submitted by Objector No. 2, Mr G Greaves***

ID/	O2/	1	Summary of Activity at UK Airports 2005	10/05/06
ID/	O2/	2	Details on Truck Widths	10/05/06
ID/	O2/	3	Further details on Truck Widths	10/05/06
ID/	O2/	4	Revised Statement of Case	26/05/06*
ID/	O2/	5	AG statement on CIA dated 07/12/04	01/06/06
ID/	O2/	6	Closing Submission	01/06/06

***Documents submitted by Objector No. 4, Mr P Dewey***

ID/	O4/	1	Modifications to Statement of Case	26/05/06*
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***Documents submitted by Objector No. 5, Mr R Jones***

ID/	O5/	1	Revised Statement of Case	26/05/06*
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***Documents submitted by Objector No. 8, Mr T Knowles***

ID/	O8/	1	Revised Proof of Evidence	21/05/06
ID/	O8/	2	Appendices x - xiii	21/05/06*

ID/	O8/	3	Revised Summary of Evidenced	21/05/06
ID/	O8/	4	Supplementary Proof of Evidence	29/05/06*
ID/	O8/	5	Appendices xiv & xv	29/05/06*
ID/	O8/	6	Summary Supplementary Proof of Evidence	29/05/06*
ID/	O8/	7	Closing Submission	01/06/06

***Documents submitted by Objector No.10, Mr M Cox***

ID/	O10/	1	Revised Statement of Case	10/05/06
ID/	O10/	2	'Major Road' Definitions	11/05/06
ID/	O10/	3	Additional Evidence drawn from cross-examination of AG witnesses	25/05/06*

***Document submitted by Objector No.12, Dr P Williams***

ID/	O12/	1	Further evidence submitted after earlier evidence heard	26/05/06*
ID/	O12/	2	Appendix 1: Journey times by APG	26/05/06*
ID/	O12/	3	Appendix 2: Comparison of AG & VPG journey times	26/05/06*
ID/	O12/	4	Summary of further evidence	26/05/06
ID/	O12/	5	Closing Submission	01/06/06

***Document submitted by Supporter No.3 (CIA Ltd)***

ID/	CIA/	1	Letter of support for the proposed Trunking Order	11/05/06
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***Inspector's Questions***

ID/	IQ/	1	Clarifications requested on AG's responses to Inspector's Questions - Items 1-9	21/05/06*
ID/	IQ/	2	Further clarifications requested on AG's responses to the Inspectors Questions Items 1-9	30/05/06*

\* Denotes documents submitted during the adjournment of the Inquiry.