

Welsh Assembly Government Consultation Intra-Wales Scheduled Air Services

Response by Friends of the Earth Cymru

April 2004

Friends of the Earth Cymru

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- supports a unique network of campaigning local groups working in communities across Wales
- is dependent upon individuals for over 90% of its income

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Response to the Intra-Wales Scheduled Air Services Consultation Document (March 2004)

Thank you for the opportunity to respond to ideas for the development of an intra-Wales air service. Our views are summarised directly below and our supporting analysis is below the summary. If you require any clarification of our views and or assumptions please do contact us.

Summary

An intra-Wales scheduled air service as proposed in the Consultation would:

- * only offer a significant time saving to limited geographical catchment areas when compared to upgraded rail services
- * be very socially exclusive, only enabling significant time savings for very high travel cost for most origins and destinations
- * not be particularly convenient for many business related activities considering the proposed schedules
- * have a marginal overall effect on the Welsh economy which could be negative rather than positive
- * not make commercial sense and would require a continued public subsidy
- * would aim to encourage more travel and tourism by air resulting in more energy intensive lifestyles and consequent air quality and climate impacts
- * divert public funds which would be better spent on upgrading environmentally friendly coast to coast rail services and long-distance coach links

Friends of the Earth Cymru conclude that compared to any intra-Wales air services a fast coast to coast rail service, culminating in an express trains within a few years, would offer a more frequent, reliable, lower-cost transport link serving much greater numbers of people in a far more inclusive way.

Friends of the Earth Cymru recommend that:

- * the Welsh Assembly Government does not use public money to subsidise the operation of an intra-Wales air service
- * similar levels of public funding to that needed for the proposed air service should be spent on speeding up coast to coast rail services

Consultation Response

1 Aviation Study Assessment

1.1 On reading the Consultation and supporting documents it immediately becomes apparent that a detailed comparison with travel by road and particularly rail from origins to final destinations, rather than between airports, has not been undertaken. If the consultants analysis did not fully include the time and cost factors of surface access to and from airports from likely origins and destinations then the passenger forecasts are likely to be significantly in error. Yet the Consultation document itself makes little mention of such issues which strongly undermines our confidence in the assumptions which generated the forecasts. Some significant point-to point travel times and trip costs could easily have been included in the Consultation to facilitate more informed public responses to the document.

1.2 The consultants specialism is in the field of air travel. Yet for the most informed appreciation of potential demand in Wales, flying needs to be compared with existing and improved surface travel times which requires some traveler experience of surface travel in Wales and also the views of consultants with a specialism in rail particularly. We are concerned about some of RDC's 'benchmarking' and assumptions in their Route Development Strategy. The validity of the 'Passenger forecasts' in Table 3.2 of the Consultation document which affect much of the consultant's analysis, particularly the level of PSO subsidy and 'user benefits' of £1.5 million per year, are obviously dependent on such assumptions.

1.3 The forecasts have been derived by 'benchmarking' with a 'thin' Scottish PSO route (Glasgow-Campbeltown). We think this route has some significant differences, Campbeltown has no rail link and the flying distance is only 60 miles (rather than 160 miles) so the overall journey times and modal choices are different. Para 2.1.2 (Surface Distance) in the Strategy states; ' Note: Rail services have not been included as there are few potential equivalent rail routings in Wales, and there are no rail services connecting destinations in any of the comparable Scottish PSO services.' The comment about few equivalent rail routings in Wales is highly questionable. It goes on to say in Para 2.1.4 that a factor has been ' formed to reflect the comparative time benefits derived by air travel versus equivalent journey by road.' and refers Appendix K.

1.4 In Appendix K of the Strategy it states:

' As equivalent rail routings can be characterised by similar, or in most cases longer, travel times than road and require train-changes, it has been assumed that there will be no supplementary negative impact on the passenger forecasts.' (we presume this refers to the air passenger forecasts). The statement is factually questionable regarding relative road and rail travel times, and train-changes for that matter.

1.5 The travel time listed for road may reflect safe practical experience, especially if recommended safety breaks are taken (a 15 minute break after 2

hours 30 minutes of driving is recommended by the Royal Society for the Prevention of Accidents, RoSPA). However, some north-south rail journeys can routinely be undertaken in a shorter time than RDC cite. Journey times of 4 hours to Bangor can be achieved on some current services including the conveniently timed 5.14pm from Cardiff (see Appendix A).

1.6 In reality, the relative travel times between road and rail from north west to central south Wales are similar and less by rail from north east Wales. Some existing rail services are direct or one change only (at Crewe) and from December 2005 the Arriva Trains timetable includes six, two-hourly clock-face through services between Cardiff-Holyhead and intermediate hours there would be one connection at Shrewsbury.

1.7 There is also the prospect of significantly faster north-south rail travel. RDC's analysis unfortunately did not consider the effect of investment in faster rail links. Such an express rail service needs to be studied in detail. If and when line-speed and infrastructure improvements are made, and service timetables are revised accordingly, then significantly faster rail links become possible. Such a service might consider a business class (with 2+1 seat across, rather than 2+2 and no through passage for standard class passengers. We estimate that Cardiff - Bangor journey times by rail may reduce from about 4 hours down towards 3 hours 30 minutes as the necessary infrastructure and service changes are made (see Appendix B). Any improvements to the north-south rail service would also benefit travellers from some areas of mid Wales who could access the service at Shrewsbury.

1.8 Also many and more busy business people do appear to be choosing rail rather than road in order to free up valuable work time or for resting after a tiring business day. Laptops and mobile phone technology make this an increasingly serious consideration. There are also road safety benefits in this.

2 Comparison Between Air and Rail Journey Times

2.1 A detailed comparison between overall journey times and costs of travel by air and rail to likely destinations are set out in Appendix C. We have focussed on services to Cardiff. The travel times include surface access times from the dispersed population centres along the north Wales coast to the airports and then from Cardiff airport to Cardiff centre. It is probable that many business, political or other work associated meetings are more likely to be held around the centre of Cardiff (Cardiff Bay, Cathays Park, major hotels, major offices, hospitals, academic institutions, etc) than around the airport or in the Vale of Glamorgan.

2.2 The taxi fare from Cardiff airport to Cardiff centre is currently about £17 each way and a journey time allowance of 30-40 minutes each way is advised.

Consequently, the location of many meeting places is likely to benefit arrival in Cardiff centre by rail. Many meeting locations would be within a 10 minute taxi ride or walk from the station's well served taxi ranks.

2.3 The Cardiff airport to Cardiff centre travel time would be dependent on an improved rail service (Roose station or dedicated terminal link) or an upgrading of the road links (junction changes or major roadbuilding). By road a taxi from the airport to some typical meeting locations in Cardiff would currently be about 30 minutes more than by foot or taxi from the station. It may not take much less time even with upgraded road links due to increasing traffic, and even a rail service to the airport terminal may not depart and arrive at the most optimal times. Transfer times from aircraft to airport taxi rank may take up to 5 minutes and is not included in the analysis, neither are short road journeys to rail stations, or by car out to the nearest A55 junction.

2.4 Overall it appears there would be about a two hour reduction in journey time each way between air and rail from Bangor to Cardiff centre assuming modest rail improvements, reducing down to 1 hour 40 minutes with an express rail service. Travel times by car from the A55 Bangor junctions to the airport car park at Valley/Mona would be about a 20 minutes. Assuming a transfer time of 20 minutes, a flight time of 45 minutes and a transfer from Cardiff Airport to Cardiff centre taking 30-40 minutes, then by air it would take about 2 hours. This compares to 4 hours by rail, plus the journey from Cardiff station to the likely meeting locations. The reduction in travel time would be about 2 hours or so, or possibly between 15 to 30 minutes less with line-speed improvements, limited stopping and more powerful trains.

2.5 For locations on Anglesey to Cardiff centre, travel times by car to the Valley/Mona air terminal would be between 5 and 20 minutes from most locations. So the journey time reduction would be a 10-15 minutes below that from Bangor.

2.6 Between Colwyn Bay-Cardiff centre we estimate there would be about a one hour reduction in journey time each way assuming modest rail improvements, reducing to 50 minutes or less with an express rail service.

2.7 An airport at Valley/Mona would probably be of limited attraction east of Colwyn Bay. From the A55 junctions around Rhyl there is an additional 10 minute journey increase by air and a 10 minute decrease by rail on that from Colwyn Bay. That is, if Cardiff-Colwyn Bay is a 65 minute reduction each way over rail by air this would reduce to 40 minutes from Rhyl and 30 minutes from Prestatyn.

2.8 From North East Wales, flying from Hawarden (should it be opened to commercial services) the overall journey by air to Cardiff centre would be 1 hour 20/30 minutes. By rail it would be about three hours from Chester and 10 minutes less from Wrexham. Flying would reduce journey times each way by 1 hour

30/40 minutes, and 5 to 20 minutes less with line-speed improvements, limited stopping and more powerful trains.

3 Journey Costs

3.1 As regards costs, the operating costs of the air service in the Consultation is based on an average yield of £44 (net of taxes). However there would likely be some taxes to pay. The comparisons below do not take into account any taxes or ticket costs above the £44 one way stated. To ensure the rail and air comparison is fair any small additional ticket price in the air travel scenarios might be of similar a short taxi ride in the rail journey scenarios shown in Appendix C.

3.2 A Bangor-Cardiff saver return by rail costs about £55 and about £45 return from Chester, although a 'Railrover' ticket is better value for money. A '4 days in 8' Railrover costs £45 in winter and £55 in summer, allowing unlimited travel on Welsh railways with only minor restrictions, for four days in eight from the date of purchase. For frequent north-south travellers (twice in eight days), when the reduction in journey times would likely be most valuable, the Railrover would reduce the cost of a return rail trip to £28, or £22.50 in winter. An additional charge would be incurred for a single ticket covering any part of the journey taken before 9.30 am which would erode the value of a Railrover for early day travel.

3.3 Considering these factors, we estimate that journeys from Bangor to Cardiff centre by air would cost about £134 return. Compared to a Railrover or Saver return to Cardiff centre (£45 - 55), the addition cost of return air tickets (£88+), taxi/rail links to and from Cardiff centre (£34), plus the cost of travel the 35 miles round trip to and from Valley/Mona (£12), flying would cost at least £79 extra, or about 140% more than rail. The cost of time saving (return) would be 4 hours for £79 or about £20/hour, or as much as £26/hour with a faster rail service.

3.4 From Anglesey, return costs would be about £10 less than from Bangor, that is £125 return by air, about 125% more than by rail. From Colwyn Bay to Cardiff centre by air would cost about £150 return. Compared to a Rail rover or Saver return to Cardiff centre, the addition cost of return air tickets (£88+), taxi/rail links to and from Cardiff centre (£34), plus the cost of travel the 80 miles to and from Valley (£28*), flying would cost at least £95 extra, nearly 170% more than rail.

3.5 From North East Wales to Cardiff centre by air would cost £122 return. This would be at least £77 more than a Saver return ticket from Chester, about 170% more than rail.

4 User-Benefits

4.1 Para 5.16 in the Consultation document states: ' In particular, there is considerable scope for time-savings on journeys between North - South Wales, which would be cut by up to 2 hours 30 minutes each way. This would imply a user benefit of around £1.4 million per annum.' (the highest estimate, for Option 2A, two aircraft operation). We question how this figure is arrived at both in terms of hours saved from Anglesey and Hawarden (it cannot be assumed to be 2.5 hours each way as indicated in the Stage 3 report) and considering the high cost of time saved estimated above. For example, we estimate that 'time-saved' would cost about £20/hour from Bangor yet the value of time saving is valued at £11.75 per hour for business trips and £4.52 per hour for leisure trips (figures from Avia Solutions Stage 3 Report).

4.2 We think that the level of user-benefits for each service option should be clearly identified (how many business trips at £11.75 and leisure trips at £4.52) and recalculated taking into account existing and upgraded rail services and travel (time and cost) to and from likely, or surveyed, origins airports and destinations. Any such survey could offer a choice between upgraded surface links or an air link. Sensitivity tests should be included to give a more informed picture.

4.3 For the reasons detailed in Sections 1-3 above we question RDC's assumption that there would be no negative impact on the air passenger forecasts from improving rail services. This would likely result in less 'user-benefit' and a greater PSO subsidy than that estimated in Table 3.3 in the Consultation document.

5 Operational Losses and Public Service Order Support

5.1 We draw attention to the note in 3.16 of the Consultation that 'any airline operator providing services with public sector support would normally expect a commercial return on the services. Thus the level of subsidy would have to be greater than the level of losses forecast to ensure that the airline achieved a positive rate of return.' It is left to the consultee to guess what level of profit may be acceptable to an airline operator and what level of public support may be considered.

5.2 Consequently we make the assumption that even route Options 2B (one aircraft, Valley-Cardiff-Swansea) and Option 4 (Cardiff hub with Dublin), which have the lowest Year 4 operating losses of about £0.5 million per year, might require upwards or over £1 million per year in public subsidy for an operator to come forward. In either case the passenger subsidy would be very high.

5.3 Assuming a break even subsidy of £0.5/0.6 million per year PSO in Year 4 and assuming that the passenger forecasts are accurate then Option 4 (22,300 passengers a year) and Option 2B (18,100 passengers a year) would represent a subsidy for each passenger of £22.50 and £33 per trip respectively. For a

return flight the Year 4 subsidy would be £45 (Option 4) and £66 (Option 2B). However, assuming a subsidised operating profit of £0.5 million, requiring a £1 million per year PSO, then Option 4 and Option 2B would represent a subsidy for each passenger of £45 and £55 per trip respectively (note: per trip, double for a return flight).

5.4 For a return flight the Year 4 'commercial' subsidy may be £90 (Option 4) and £110 (Option 2B). Other route options with higher passenger forecasts have higher Year 4 operating losses, so the subsidy per trip is similar to route options 2B and 4. For example Option 2A has an operating loss of £1.3 million in Year 4 and 38,300 passengers a year. This would be a subsidy of £34 per trip to break even or around £50 per trip for a annual operator profit of £700k.

5.5 It may be argued that the level of 'user-benefits' would justify a public subsidy of up to £1.5 million per year depending on the route option. The necessary public subsidy would be typically about £50 per trip for a time saving of between 1 to 2.5 hours at most. How can this be justified when business time is valued at £11.75 per hour.

6 Airport Availability

6.1 It appears that scheduled flights from some airports might have some negative economic effects in themselves. Airbus may object to passenger use at Hawarden airport as scheduled flights could interfere with the timings of their expanding Airbus A380 operations. Objections may also be raised to the use of Worthydown as the air activity would preclude the sites' use for the County Show, Wales's second largest, which would have to be relocated. The show is estimated to be worth £12 million to the local economy and any air service economic benefits would have to be weighed against this.

6.2 We do not think Caernarfon airport would offer any benefits over Valley or Mona due to the poor road access and catchment. The current road is narrow and potentially dangerous as there is a deep ditch along one side of the road. Oncoming vehicles generally slow down before than feel safe to pass. A flurry of car and taxi activity before a flight could result in frustrating time delays or injury. Also, the journey time by road, obeying the speed limits through the villages, between the airport and Bontnewydd was timed at 14 minutes by us recently. So road access times would be approaching 20 minutes from Caernarfon, 25 minutes from Bangor and 40 minutes from Holyhead.

7 Other Specific Considerations

7.1 The effect that an air service would have on rail patronage also needs to be considered. We think that a significant percentage of those flying would be drawn

from existing road and rail passengers. For example, in Option 2B there would be 18,300 passengers per year in Year 4. That is 60 trips per day or 30 day-returns (assuming a 310 day 'year' or a Mon-Sat service). If 13 return rail travellers per day switch to air from the Holyhead/Bangor-Cardiff areas then the fare loss to the rail operator would be about £650 a day or about £200,000 per year. This also raises the question of would the rail service franchise holder require more rail subsidy to maintain their services, or require less with an upgraded faster service.

7.2 Note also that the number of potential car journeys that would shift to air per day would be small - between zero and 30 return cars per day, or 60 trips at most with a single aircraft operation. This number is small in the context of north-south traffic levels on the A470 for example. Traffic levels on the A470, north of Merthyr vary typically between 3,000 vehicles per day in winter to about 8,000 vehicles per day in August.

7.3 We also question the convenience of the air service when the proposed timetable rather than the journey times are considered. In Option 2A and B (Cardiff Hub), while an 8.15 am morning departure from Anglesey, arriving in Cardiff airport at 9am (Cardiff centre 9.40am) would be well timed. Yet, surprisingly the last flight back to Anglesey from Cardiff/Swansea is 3pm which is hardly convenient for a day trip, afternoon meeting or conference. This would be a major flaw in such an air service in itself especially as it is billed as a day-return business service.

7.4 A rail service will soon offer six through trains a day on a two-hourly clock-face between Holyhead and Cardiff with intermediate hourly departures with a change at Shrewsbury. Surface links are also more reliable in the sense that adverse weather could result in the cancellation of a flight. No data for weather related cancellations is evident in the Consultation. Yet presumably the existing airport operators would be able to give some indication of weather related availability.

7.5 The train also passes through Newport which is also a major and growing business destination and which would not be served well by the proposed air service options. A recent Royal Mail survey suggests that Newport saw business growth of 2.2% in 2003 making it the fifth fastest-growing UK location (article in Western Mail Business Section 20.04.04). Comparing air and rail journey times to Cardiff centre there would be an additional 15 minute each way surface journey time from Cardiff airport. Also, the train times to Newport from north Wales are also about 15 minutes less than to Cardiff. So the return time saving reduction would reduce by about 1 hour to about three hours in comparison with return rail from the Bangor area.

8 Economic Considerations

8.1 The Stage 3 report suggests that low GDP and low propensity to fly compared to England, or south east England, is some kind of problem. In sustainable development terms GDP is not a good welfare index (people in England are not automatically 20% happier, etc). Also Wales's 'low propensity to fly' is surely good because flying is a highly energy intensive activity with even higher climate damaging emission impacts which are threatening the very future of human and other life in Earth's biosphere.

8.1 In para 5.17 it states that ' There are a number of other economic benefits of facilitating closer integration within Wales, although these are hard to quantify.' We agree that they are hard to quantify and suspect they probably imagined or could just as easily be negative, that is, benefiting competing economies. As the time savings are very marginal between the major populations in south central Wales and north east Wales the greatest time savings would be between two westerly rural areas. However, other than the aviation industry itself, no significant business interests or sectors are cited as potentially benefiting from such closer links, other than tourism which we (and Avia Solutions ?) think would be marginal.

8.2 A new industry may develop in both these westerly regions, namely marine renewable energy generation and manufacture. Yet, as much as we would like to see such renewable energy activity we have heard nothing from potential developers about a need for a north-south air service to facilitate this sector.

8.3 As regards the numbers of jobs created by the service, presumably similar numbers of jobs could be created by similar levels of public subsidy in any industry. Also, the OEF study (Stage 3 Report) which states that the aviation industry is worth £10 billion to the UK GDP is incidental and misleading. The aviation industry in the UK receives various substantial tax breaks and external costs valued at £6 billion per year by the European Environment Agency. Indeed, UK tourists spend more abroad than visitors spend in the UK. In 2000 the deficit was at least £10 billion (IPPR).

8.4 Regarding benefits through closer political and administration links we think that faster rail and coach links are still the better investment especially as Cardiff railway station is so close to both Assembly Building/Cardiff Bay and Cathays Park. For the regular north Wales or west Wales regional committee meetings the scheduled flights would not be convenient. We question whether a charter service would be better and far cheaper for such and similar occasions.

8.5 Regarding inward investment decisions generally which 'can be critical in many cases' we again think that given the overall situation and marginal time saving over a rail alternative it is unlikely that inward investment decisions would be significantly advantaged or compromised. Indeed, large corporations are more likely be able to hire private aircraft or own them than small and medium sized

indigenous companies. Also, there are already large international airports located in south Wales (CIA) and near Manchester not far from the A55 Expressway, so international accessibility would not be much affected. The CBI may support an intra-Wales air service but some of the commentary in the Stage 3 Report refers to fast road access to Cardiff airport.

8.6 Even if an air service did enable faster business links the economic effects to 'Wales plc' would probably be mixed. The effect of faster business-related air links would probably be similar to SACTRA's findings about faster road links which enable servicing from afar and potentially facilitate the exploitation of weaker peripheral economies by stronger more centralised economies. A report entitled 'Transport and the Economy'

(http://www.dft.gov.uk/stellent/groups/dft_transstrat/documents/page/dft_transstrat_022512.hcsp) states :

"Studies in economic geography confirm that there is no guarantee that transport improvements will benefit the local or regional economy at only one end of the route - roads operate in two directions, and in some circumstances the benefits will accrue to other, competing, regions. Thus in the important case discussed above where monopoly prices in a sector may be reduced by competition from outside, some benefits, such as increased employment, may accrue to the distant competitors rather than the local producers. Assessment of whether economic impacts will actually benefit the intended target area will need to consider impacts outside the immediate neighbourhood. This is the case whether or not imperfect competition applies. Therefore greater attention should be paid to the question of where the impacts will occur, and on whom they will fall".

and in the Summary (paragraph 40):

"In summary, we make the following general points here about the way in which the wider economic impacts of projects are often appraised:

- * little of what is done can be described as standard practice;
- * the estimates that are made are often best characterised as 'the best that can be done with the data available and the current state of knowledge';
- * little attention is paid, in most cases, to double-counting with other aspects of the appraisal and to phenomena such as the two-way road effects; and
- * these benefits are usually only brought into play when the promoter wishes to use them in favour of the project, never in the reverse case." (paragraph 9.70)

For these reasons we cannot in any way be confident that the air service would have much effect or whether it would be positive or negative.

8.7 As the European Union is now expanding eastwards it is probably even more difficult to say whether the overall effect on Wales plc would be positive or

negative. More manufacturing jobs could be relocated east to low-wage economies just as much as more work might be generated for Welsh firms in an expanded market.

8.8 The service is intended to facilitate day return business trips. The Consultation states: 'opportunity for completing business day-trips within Wales.' Presumably, any business trips currently undertaken which involve an overnight stay in Cardiff, Swansea, Bangor or wherever would become unnecessary. This would result in less activity in the guest-house sector in those cities and job losses there should be taken into account.

8.9 As regards stimulating additional tourism we think that the proposed air services would be unattractive to significant numbers of ' high-spending overseas tourists ' not least because of the marginal time saving to the numerous but dispersed tourist attractions along each coast.

8.10 For most tourists the surface travel options, be they rail, car or long-distance bus services, pass through superb scenery so the journey becomes very much more part of a holiday. There are numerous luxury 'sight-seeing' coach trips on offer from various tourist resorts around Wales to verify this demand. Indeed, tourist activity could be better exploited with some of the potential funds available by further investment in the recently introduced long-distance bus links supported by the Assembly.

8.11 The exception to this may be tourist demand for trips between Dublin and Cardiff which might create significant demand during public holidays and long week-ends. However, as regards the economic benefits of such tourist activity, particularly between Cardiff and Dublin, this would likely be a two-way effect with no significant economic benefits to Wales plc although there would be some additional revenue to the air service operator.

8.12 Overall, we think that any positive economic effects on some sectors or companies which comprise ' Wales plc ' would be relatively minor and there could be as many and minor negative economic impacts on other sectors or companies. So the air service would probably have only minor overall economic impact and which could be either positive or negative.

9 Tourist Travel

9.1 In para 5.17 of the Consultation it states that 'Internal air services would also benefit the tourism industry, by increasing the number of short-stay overseas visitors who typically spend relatively high amounts per night.'

9.2 We respond by saying that the increasing number of short stay, longer distance trips by air is a significant indicator of unsustainable development.

Travel by air requires more fuel per passenger mile travelled and enables much longer than trips by car or other modes in a given time. Consequently flying encourages energy intensive travel choices and lifestyles which result in high greenhouse gas emissions and air pollution. The increasing number of short or weekend breaks to more distant locations is arguably the most unsustainable aspect of one of the most unsustainable human activities.

9.3 Considering the thousands of people suffering social exclusion in Wales* and millions of people around the world faced with life threatening poverty we consider it inequitable to subsidise or even encourage such tourism activities on the back of real or imagined business need. Worse, the greenhouse gas emissions would only contribute to the climate change-related stresses and regional disasters in many areas of the developing world (estimated 3 million climate refugees per year by 2050) due to global warming under existing emission forecasts. While any such additional emissions would be small compared to the country's overall emissions Wales should set sustainable trends especially if it is trying to lead or be an exemplar on sustainable development policies.

10 Environmental Considerations

10.1 In terms of energy use and emissions the aviation fuel consumed would likely be offset to some degree. This would depend on the number of existing travellers who switch mode from car, any rail passengers switching to air and any new journey generated. Would-be rail would probably increase their road emissions in journeys to and from the airports by about an average of 50 miles per return journey, as would new travellers. Indeed, flying is not a lifestyle trend that should be encouraged as the journeys undertaken may easily become more frequent and may extend to more distant locations. If new journeys are encouraged or journeys undertaken more frequently any such road fuel saving offset would diminish rapidly. However, due to the high cost and in many cases marginal overall time saving benefit we think that there would be little encouragement for new travel.

10.2 In terms of greenhouse gas emissions there could be also be some increase due to the 'radiative forcing' effect of aircraft emissions even if the reduction in road fuel consumed were significantly offset by reduced car travel. Radiative Forcing Index (RFI) is a factor which accounts for the additional greenhouse effect of carbon dioxide injected at altitude by aircraft over that from ground sources (due to vapour trails, etc). The RFI is estimated to be 2.7 times.

10.3 A north-south return car journey may be about 280 miles consuming about 8.0 gallons of fuel (assuming an average of 35 miles per gallon). In Option 2B there would be 30 day-returns. So, if 10 car travellers switch to air the road fuel saving would be 80 gallons minus the road fuel used to travel to and from the

airport and to and from their destinations in taxis. This could amount to an average of about 50 miles on a return trip. So fuel for only 230 miles per car traveller may be saved overall or about 66 gallons (0.27 tonnes) for 10 return passengers a day (assuming 1 gallon weighs 9 pounds). The fuel consumption figures for a Dornier 228 aircraft is 0.24 tonnes per hour at 230 knots/265mph. A typical air schedule (Option 2B) would involve a daily flight length of about 950 statute miles including six take-offs (ie. three return journeys coast to coast with additional short hops between Cardiff and Swansea) and would consume about 0.86 tonnes of aviation fuel per day. This would be about 220% more fuel than that used by 10 north-south return car trips (albeit of lower octane). However, rail passengers may also transfer and new journeys generated.

10.4 If in Option 2B for example (30 day-returns), 20 north-south return travellers per day switch modes to air from road and rail (eg 10 car and 10 rail) and 10 new return trips are generated then the overall decrease in road-fuel use would be 80 gallons, minus 43 gallons generated in airport trips by the road, rail and new passengers. In this scenario the road fuel saved would be in the region of 37 gallons (0.15 tonnes). So the air service could result in 5.7 times more fuel used than that saved by 10 exiting car travellers switching to air.

10.5 Modal shift from rail to air is unlikely to reduce the number of rail services per day and there would be an increase in emissions per traveller. Using standard DEFRA figures (Rail: 0.06 kg CO₂ per passenger km, Long haul air: 0.11 kg CO₂ per passenger km, Short haul air: 0.18 kg CO₂ per passenger km) then the short-haul aircraft emissions would be 80-115% higher for travellers who switch modes from rail to air (assuming RFI =1) between Bangor area and Cardiff/Swansea. This figure includes the extra journey length by rail through the Marches (Valley-Cardiff airport is 137 miles by air, Bangor-Cardiff centre is about 190 miles by rail and Cardiff-Swansea is 39 miles by rail). Additional to this would be the journey to and from airports (possibly in taxis) which might average 50 miles per passenger more than rail. Taking this into account the overall air journey emissions may be about 100-150% greater for journeys to Swansea and Cardiff from Bangor compared to rail.

10.6 There would be some aircraft noise impacts and increased air pollution around the airports. There would be a small reduction in north-south car travel.

11 Sustainable Development

11.1 In economic terms we consider the overall effects would be marginal and could be negative to Wales. In terms of social effects the high cost of the air fares would be very socially exclusive, for no clear economic benefit and the public subsidy would be better spent on more inclusive rail services which in turn would help promote political integration. In terms of environmental effects, the overall energy use and emissions per day would increase in significantly (possibly

around 500% depending on modal shift and trip generation) though for fairly small numbers of travellers. However, support for air services could encourage more energy intensive lifestyles in the longer term, whereas rail investment would encourage more environmentally friendly lifestyles.

12 Analysis

12.1 It is very difficult to accurately detail when and where people are setting off from and need to be for the 'day long business meetings' that form much of the rationale for the air services in this consultation. We estimate that many if not most likely origins for the most time saving journeys of any significance would be from around the airports on Anglesey or Hawarden in the north to and from the Cardiff area in the south. As regards destinations we think that many would or could be located near Cardiff centre or Cardiff Bay rather than Cardiff airport, which is several miles west of Cardiff. It is clear that the spatial location of the airports relative to the catchments and likely destinations impose significant time and cost penalties. This needs to be taken into account but does not appear to have been done so in detail.

12.2 Comparing the Anglesey and Hawarden to Cardiff airport journey times from various locations along the north Wales coast to south Wales it is certain that a service from Anglesey would reduce journeys by greater times on the longer journeys. It could be argued that the user-benefits should be higher per hour saved on such journeys. Also Anglesey would be regarded by the European Commission as being more peripheral than north east Wales in terms of 'essential' or 'lifeline' PSO criteria. So, depending on passenger numbers, a service from Anglesey would seem to have the greatest priority of all the routes considered.

12.3 However, compared with rail to Cardiff centre, although journey time reductions on a return trip would be nearly 5 hours from Holyhead and about 4 hours from Bangor, from Colwyn Bay it has dropped to about 2 hours. Even then, the afternoon journeys returning north are also hardly convenient for many day trips the last flight back being scheduled for 3pm. For many meetings other than early-start conferences it may be just as easy to arrange a late morning or afternoon start and travel by rail, returning in the early evening. The necessary public subsidy would be typically about £50 per trip for a time saving of between 1 to 2.5 hours at most.

12.4 It may be that the most valuable air service would be a morning flight that avoided the need for an overnight stay. One nights' accommodation may cost about £50 considering travel to and from a guest house, or more for a hotel. For meetings, conferences, etc starting at 9.30am in Cardiff, for example, a flight from north Wales arriving at Cardiff airport by 8.45am would be of higher value for many travellers than flights at other times of the day. The overnight

accommodation costs could just about pay for a subsidised morning flight. Whether it should be subsidised is another matter.

12.5 The question that arises is that how many potential passengers on Anglesey and the Bangor area would be willing to pay about £130 return to fly for the advantage gained, other than to avoid an overnight stay. This would be £70 to £80 more (about 125% more) than by rail. Each hour saved would cost between £16 to £20. Potential passengers from the Colwyn Bay area would save only 2 hours 10 minutes on a return trip costing £150, about £95 more than rail. The cost of time saved would rise to £44/hour. Beyond Colwyn Bay the return journey time saving is reduced to only 1 hour 30 minutes and each hour saved would cost about £65 per hour. It seems unlikely that there would be many business people in the Colwyn Bay area and certainly the Rhyl area would value the time savings to that degree. Similarly tourists, who presumably are under less time pressures than business people, would also not be overly attracted by a service even to and from Anglesey.

12.6 It may be that the best advantage may be gained by travellers taking a morning flight to avoid an overnight stay and returning by a convenient rail service. This day-return journey would cost about £67 more than rail from the Bangor area to Cardiff centre for example. The more frequent rail service would probably be much more convenient than the 3pm last flight back to Anglesey. However, even if more travellers opted for this hybrid option it would not necessarily increase passenger forecasts because rail would replace some number of return flights.

12.7 Considering these factors we think that non of the air services proposed offer a sufficiently convenient and cost-effective service to attract the passenger numbers required to establish anything like a commercial service. Each passenger would remain heavily subsidised by the taxpayer by typically £50 per trip for a time saving of 1 to 2.5 hours.

12.8 Within ten years the cumulative PSO subsidy could reach £10 to 15 million or more per aircraft which could usefully be spent upgrading the north-south railway route. Travel costs by fast coast to coast service or an express service, would be a great deal cheaper, much more frequent and would serve greater numbers of people in a far more inclusive way. As Cathays Park and the Assembly building are very close to Cardiff station the lower cost rail service would better aid wider public accessibility to political figures and activity than a higher cost air service. This is another reason why rail rather the air service investment would better assist social inclusivity and political integration.

12.9 The rail service would also encourage more environmentally lifestyles, the air service would encourage more energy intensive lifestyles though the high fare cost would probably moderate this considerably.

13 Conclusions

13.1 The idea of an Intra-Wales Air service with scheduled daily flights may be regarded by some as necessary for further advancing a developed economy. Indeed, in many countries, even developing ones, an air service may be the only practical way of getting about due to difficult surface access conditions which in some cases would necessitate sea crossings to island territories. Yet Wales is already one of the most advanced economies in world terms although it is often compared unfavourably in GDP terms with its slightly 'richer' English neighbour with which it has very close surface transport links.

13.2 The expectation that the economy of Wales would necessarily benefit by the reduction of coast to coast journey times is an assumption. Faster links would have various economic effects in a rapidly changing European Union and globalising business world, and may well result in only a marginal, or at worst a negative, overall effect on the Welsh economy. The social benefits of faster links in terms of political integration would likely be more tangible but the belief that a scheduled air service would create significantly faster links is also an assumption.

13.3 The 'head-line' time saving of two and a half hours on an otherwise five hour surface trip quoted in the Consultation sounds persuasive. Yet in Wales any significant time savings, let alone the headline time savings, would be very sensitive to where the traveler is starting from and going to, and the high fare cost would be socially exclusive even with a high public subsidy. The spatial location of airports in relation to the dispersed population centres along the coasts of Wales is a significant factor. When the travel times to and from airports and meeting places are taken into account the journey time savings over the current surface, and increasingly faster rail links, diminish considerably and the overall travel costs rise considerably. Compared to the potential for a much cheaper express north-south rail service through the many population centres any intra-Wales air service would be unattractive to most travellers except those who could avoid an overnight stay.

13.4 The most useful benefit that we can identify would be a coast to coast service that avoids travellers having to make an overnight stay. For example, if a meeting or conference commences around 9.30am. It may be that an air service, using a smaller aircraft and limited to one morning and late afternoon return coast to coast flight a day might be operated commercially without public subsidy. Such a service might fulfill a useful social and economic function with negligible environmental impacts and with some road safety benefits if it were to attract some car travellers to switch modes.

13.5 We conclude that social inclusion and political integration could be better achieved by public investment in faster rail and long-distance coach links.

Furthermore, although the aircraft's energy use and climate impacts would be relatively small and offset to some degree depending on the numbers of existing car travellers who switch modes to the air service, there remains an environmental concern. Rail passengers may also switch and new trips could be generated, so energy use and emissions per average coast to coast traveller could rise significantly. Also, encouraging tourism by air and more frequent non-essential business travel which the service would aim to do, could well result in more energy intensive lifestyles with all the associated energy and climate impacts. This would not be in the interests of sustainable development and should not be supported by the Welsh Assembly Government.

13.6 There are few clear let alone 'vital' economic, social or environmental advantages to Wales the proposed air service options in the Consultation. Even if there were more tangible benefits we think that an air service should at least make some commercial sense but it looks likely that a high public subsidy would be necessary and so could contravene European state-aid rules. Even if the aviation passenger forecasts are accurate, which is questionable, we consider that the public subsidy likely to be required would be very high, typically £50 per trip, not value for money, and could be better spent. It is for these reasons we think that the best public investment for a socially inclusive, politically integrated and environmentally friendly Wales would be in upgrading the north-south rail infrastructure and the franchising of an express rail service.

Appendix A

It states in RDC's Stage 1 Report Appendix K Welsh Train Services (page 82)

Cardiff- Anglesey

Duration by road: 4 hours 53 minutes

Equivalent Rail Journey: 5 hours 11 minutes

The 5.14pm weekday rail service from Cardiff (via Wrexham to Chester) arrives in Chester at 8pm. There is just enough time to board the 8.05 pm Virgin train which arrives in Colwyn Bay at 8.48pm, Bangor at about 9.20pm (4 hours 6 minutes) and Holyhead at 9.56 pm (4 hours 42 minutes). The Virgin service appears to be a leisurely affair with longish stops at stations, presumably built in, to avoid late running penalties. Even the Cardiff - Wrexham service calls in at several small stations and often waits in Wrexham for longer than necessary.

So the rail journey times from Cardiff to Colwyn Bay on the 5.14pm are currently :

3 hours 30 minutes to Colwyn Bay

4 hours 6 minutes to Bangor

4 hours 40 minutes to Holyhead

Appendix B

North - South Journey times could be reduced by:

* improvements to the North Wales Coast line (5 minutes could be saved off the Chester Bangor section and a few minutes off the Anglesey section). This could be achieved if TAITH apply for Objective One funding to increase line-speed (75 mph to 90 mph). Laying twin tracks on the single-line section between Wrexham and Shrewsbury and other time-savings achieved by signaling enhancements and speed upgrades between Chester and Cardiff could reduce times further.

* cutting out stops at smaller stations, there are several variations to be considered. Perhaps one or possibly two morning and evening services could run non-stop/ or one stop along the Marches between (Abergavenny and Shrewsbury) saving about 12 - 15 minutes. Such a through service might be more easily facilitated if there was a local train service operating between those destinations (serving say Hereford, Leominster, Ludlow, Craven Arms , Church Stretton). The viability of such a local Marches service would need to be investigated.

* more powerful trains with greater acceleration could further reduce times. Even a limited stop service would still call at about 12 stations requiring twelve accelerations to high speed. This might itself achieve a 5 - 10 minute journey-time reduction. On the Anglesey section with possibly several request stops a faster line speed and more powerful trains might reduce the Bangor- Holyhead journey times by 5 minutes.

Appendix C

Comparison of Journey Times from North Wales Coast to Cardiff 'Centre' (via Cardiff Airport).

Note: the RAC estimate that the cost per mile of running a car is 35 pence per mile (including tax, fuel, insurance, repairs, etc). This figure is used in the cost analysis below.

Bangor-Cardiff centre by Air

Travel times by car from the A55 Bangor junctions to the airport car park at Valley/Mona would be about a 20 minutes. Assuming a transfer time of 20 minutes, a flight time of 45 minutes and a transfer from Cardiff Airport to Cardiff centre taking 30-40 minutes, then by air it would take about 2 hours.

This compares to 4 hours by rail, plus the journey from Cardiff station to the likely meeting locations. The reduction in travel time would be about 2 hours or so, or possibly between 15 to 30 minutes less with line-speed improvements, limited stopping and more powerful trains.

Overall it appears there would be about a two hour reduction in journey time each way between air and rail from Bangor to Cardiff centre assuming modest rail improvements, reducing down to 1 hour 40 minutes with an express rail service. Compared to a Rail rover or Saver return to Cardiff centre (£45 - 55), the addition cost of return air tickets (£88+), taxi/rail links to and from Cardiff centre (£34), plus the cost of travel the 35 miles round trip to and from Valley/Mona (£12*), flying would cost at least £79 extra ($£134-55=79$) about 140% more.

The cost of time saving (return) would be 4 hours for £79 or about £20/hour, or as much as £26/hour with a faster rail service.

Anglesey-Cardiff centre by Air

Travel times by car to Valley/Mona from most parts of Anglesey would be between 5 and 20 minutes from most locations. So the journey time reduction would be a further 10-15 minutes below that from Bangor. Costs would be about £125 return by air, about 125% more than by rail.

The cost of time saving (return) would be 4 hours 25 minutes for £70 or £16/hour, or as much as £20/hour with a faster rail service.

Colwyn Bay-Cardiff centre

The travel times to Valley/Mona airfield from the A55 Colwyn Bay junctions, about 40 miles, would be about 45 minutes by road (A55) and about 50 minutes by rail (assuming optimum timings). Assuming a 20 minute transfer to aircraft, a 45 minute flight to Cardiff airport and a 30-40 minute transfer and journey to Cardiff centre then the travel time would be between 2 hours 20 mins and 2 hours 30 mins. This compares with 3 hours 30 mins Colwyn Bay-Cardiff centre or possibly between 10 to 25 minutes less with line-speed improvements, limited stopping and more powerful trains.

Overall it appears there would be about a one hour reduction in journey time each way between air and rail from Colwyn Bay to Cardiff centre assuming modest rail improvements, reducing to 50 minutes or less with an express rail service. Compared to a Rail rover or Saver return to Cardiff centre (£45 - 55), the addition cost of return air tickets (£88+), taxi/rail links to and from Cardiff centre (£34), plus the cost of travel the 80 miles to and from Valley (£28*), flying would cost at least £95 extra ($£150-55=95$) nearly 170% more.

The cost of time saving (return) would be 2 hours 10 minutes for £95 or £44/hour,

or as much as £67/hour with a faster rail service.

From Rhyl / Prestatyn

An airport at Valley/Mona would probably be of limited attraction east of Colwyn Bay. From the A55 junctions around Rhyl there is an additional 10 minute journey increase by air and a 10 minute decrease by rail. So the differential would be 20 minutes each way. That is, if Cardiff-Colwyn Bay is a 65 minute reduction over rail by air this would reduce to 40 minutes each way from Rhyl and 30 minutes from Prestatyn. Compared to a Railover or saver return to Cardiff centre (£45 - 55), the additional cost of return air tickets (£88+), taxi/rail links to and from Cardiff Airport (£34), plus the 90 -100 miles return trip Valley (£31-35), flying would cost at least £98 extra (£153-55=98) than by rail, about 180% more.

The cost of time saving (return) would be 1 hour 30 minutes for £98 or £65/hour, or as much as £115/hour with a faster rail service.

From North East Wales

Comparing times with Hawarden (should it be opened to commercial services) the air journey time reductions would be less than an air service from Anglesey. The Chester-Cardiff centre rail journey time is about 3 hours, and about 10 minutes less to Wrexham. Assuming travel to Hawarden airport and transfer time are 10 minutes more than arriving at Chester station (due to proximity of surrounding populations and accessibility), and assuming a flight time of 40 minutes and taxi travel time to Cardiff centre of 30-40 minutes, then the overall journey by air would be 1 hour 20 minutes to 1 hour 30 minutes.

So, flying would reduce journey time each way by 1 hour 20/30 minutes, or 5 to 20 minutes less with line-speed improvements, limited stopping and more powerful trains. Comparing travel costs, the flights (£88+) and return taxis to Cardiff centre (£34) would be at least £77 more (£122-45=77) than a Saver return ticket from Chester, about 170% more.

The cost of time saving (return) would be 2 hours 50 minutes for £77 or £27/hour, or as much as £35/hour with a faster rail service.
