

## Agenda – Public Accounts Committee

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Meeting Venue:	For further information contact:
Committee Room 3 – Senedd	Fay Buckle
Meeting date: Monday, 31 October 2016	Committee Clerk 0300 200 6565
Meeting time: 14.00	<a href="mailto:SeneddPAC@assembly.wales">SeneddPAC@assembly.wales</a>

**(The Committee agreed on 17 October 2016, a motion under Standing Order 17.42 to resolve to exclude the public from this meeting.)**

**1 Introductions, apologies, substitutions and declarations of interest**

(14.00)

**2 Paper(s) to note**

(14.00)

(Pages 1 – 4)

**NHS Wales Health Board’s Governance: Additional information from Healthcare Inspectorate Wales (10 October 2016)**

(Pages 5 – 6)

**Hospital Catering and Patient Nutrition: Letter from Mike Hedges AM, Chair of Petitions Committee (17 October 2016)**

(Pages 7 – 9)

**Scrutiny of Accounts: Additional information from the Welsh Government (17 October 2016)**

(Pages 10 – 23)

**Scrutiny of Accounts: Additional information from Careers Wales (19 October 2016)**

(Page 24)

**NHS Wales Health Board’s Governance: Additional information from the Welsh Government (21 October 2016)**

(Pages 25 – 26)



### **3 Rail Services: Auditor General for Wales report**

(14.05 – 14.20)

(Pages 27 – 116)

Research Briefing

PAC(5)-07-16 Paper 1 – Auditor General for Wales report

PAC(5)-07-16 Paper 2 – Welsh Government Response to the Auditor General for Wales report

### **4 Coastal flood and erosion risk management in Wales:**

#### **Correspondence**

(14.20-14.30)

(Pages 117 – 216)

PAC(5)-07-16 Paper 3 – Letter from the Chair to the Welsh Government (26 September 2016)

PAC(5)-07-16 Paper 4 – Letter from the Welsh Government to the Chair (24 October 2016)

### **5 Housing Associations: Scoping paper on possible inquiry**

(14.30-14.50)

(Pages 217 – 222)

PAC(5)-07-16 Paper 5 – Scoping paper

### **6 Implications for Wales of Britain exiting the European Union**

(14.50 – 15.20)

(Pages 223 – 231)

PAC(5)-07-16 Paper 6 – Scoping Paper

PAC(5)-07-16 Paper 7 – Correspondence with External Affairs and Additional Legislation Committee

## Concise Minutes – Public Accounts Committee

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Meeting Venue:

**Committee Room 3 – Senedd**

Meeting date: Monday, 17 October 2016

Meeting time: 14.00 – 16.54

This meeting can be viewed

on [Senedd TV](#) at:

<http://senedd.tv/en/3756>

### Attendance

Category	Names
Assembly Members:	Rhun ap Iorwerth AM Mohammad Asghar (Oscar) AM Neil Hamilton AM Mike Hedges AM Rhianon Passmore AM Lee Waters AM Andrew RT Davies AM (In place of Nick Ramsay AM)
Witnesses:	Dr Andrew Goodall, Welsh Government Anthony Hayward, Cwm Taf University Health Board Rhiannon Jones, Powys Teaching Health Board Colin Phillpott, Aneurin Bevan University Health Board Liz Waters, Aneurin Bevan University Health Board Dr Jean White, Welsh Government Lynda Williams, Cwm Taf University Health Board
Wales Audit Office:	Huw Vaughan Thomas Dave Thomas



Committee Staff:	Meriel Singleton (Second Clerk)
	Claire Griffiths (Deputy Clerk)
	Joanest Varney-Jackson (Legal Adviser)

## Transcript

View the meeting [transcript](#) (PDF 117KB) View as [HTML](#) (364KB)

### **1 Introductions, apologies, substitutions and declarations of interest**

- 1.1 Due to the advance notice of the absence of the Committee Chair, the Committee had elected Rhun ap Iorwerth as the temporary Chair for this meeting under Standing Orders 17.22 and 18.6 at the meeting on 3 October.
- 1.2 The temporary Chair welcomed Members of the Committee.
- 1.3 Apologies were received from Nick Ramsay. Andrew R T Davies substituted.
- 1.4 Lee Waters declared an interest that his wife works for Cwm Taf University Health Board.

### **2 Paper(s) to note**

2.1 The papers were noted.

**2.1 Scrutiny of Accounts: Additional information from the Assembly Commission (28 September 2016)**

### **3 Hospital Catering and Patient Nutrition: Health Boards**

3.1 The Committee scrutinised Lynda Williams, Director of Nursing, Cwm Taf University Health Board, Anthony Hayward, Assistant Director of Facilities, Cwm Taf University Health Board, Rhiannon Jones, Director of Nursing, Powys Teaching Health Board, Liz Waters, Consultation Nurse and Association Nurse Director, Aneurin Bevan University



Health Board and Colin Phillpott, Facilities Manager, Aneurin Bevan University Health Board on hospital catering and patient nutrition.

## **4 Hospital Catering and Patient Nutrition: Welsh Government**

4.1 The Committee scrutinised Dr Andrew Goodall, Director General/NHS Chief Executive and Professor Jean White, Chief Nursing Officer, Welsh Government on hospital catering and patient nutrition.

4.2 Dr Goodall agreed to write to the Committee at the end of November with further information on:

- The revised project plan for the new nurse informacist who is scheduled to take up post at the end of October; and
- The outcome of the consideration of the business case for the procurement of an IT catering system from the National Informatics Board meeting.

4.3 In addition, following earlier evidence, the Committee would be appreciative to seek clarification from the Welsh Government on who the All Wales Hospital Menu Framework Group reports to.

## **5 Motion under Standing Order 17.42 to resolve to exclude the public from the meeting for the following business:**

5.1 The motion was agreed.

## **6 Hospital Catering and Patient Nutrition: Consideration of evidence received**

6.1 Members considered the evidence received and agreed to return to the issue once all the additional information had been received.

6.2 Members agreed the draft letter subject to including a couple of additional questions.

6.3 Members suggested areas for possible recommendations for the Committee's report.

Direct Line: 0300 062 8379

E-mail: Kathryn.chamberlain@wales.gsi.gov.uk

Mr Nick Ramsay AM  
Chair  
Public Accounts Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA

10 October 2016

Dear Mr Ramsay

Thank you for your letter dated 23 September 2016 enquiring about the involvement of lay reviewers in our inspection plans. We currently have twelve voluntary lay reviewers, two of which were previously paid lay reviewers. They comprise a mixture of retired and employed individuals who come from a variety of backgrounds including health, social care, education, police and private sector. One of our reviewers is also a Champion for Carers Wales.

They have all been trained by HIW and have had the opportunity to take part in bespoke HIW mental health training sessions in preparation for this area of work. They are fully supported by our inspection managers whilst taking part in inspections and are provided with feedback to help them with their learning and development. They, in turn, are able to provide feedback on their experience whilst undertaking this role.

Voluntary lay reviewers have been part of inspection teams since April this year and to date we have had no issues with securing a voluntary lay reviewer to take part in them. They are extremely keen to be part of our activity and some have volunteered to be part of larger thematic reviews that we are undertaking. My team closely monitors the availability of voluntary lay reviewers and if we found that we had an insufficient number of voluntary lay reviewers to deliver our work programme, we would do a recruitment campaign to address this. We also continue to work closely with the Community Health Councils, as their members are taking part in our programme of GP inspections to capture patients' experiences.

Finally as HIW moved over to voluntary lay reviewers in April this year I have commissioned a short review of this change which will take place early next financial year and I am happy to provide you with an update once this is complete.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'K. Chamberlain'.

**DR KATE CHAMBERLAIN**  
Chief Executive

Nick Ramsey AM  
Chair of the Public Accounts Committee  
National Assembly for Wales  
Tŷ Hywel  
Cardiff Bay  
CF99 1NA

17 October 2016

Dear Nick

**Petition P-04-663 Food in Welsh Hospitals.**

You may be aware that the Petitions Committee have been considering the above petition, full details of which can be found at the link below:

[http://www.senedd.assembly.wales/mgIssueHistoryHome.aspx?IId=14311&O  
pt=0](http://www.senedd.assembly.wales/mgIssueHistoryHome.aspx?IId=14311&O<br/>pt=0)

We considered the petition again at our meeting on 27 September and agreed that I should write to you to ask that you take the petition into account as part of your planned inquiry into hospital catering and patient nutrition. We would be grateful if you could feedback your findings and any recommendations to the Petitions Committee in due course.

I would be grateful if you could send your response by e-mail to the Clerking Team at [SeneddPetitions@assembly.wales](mailto:SeneddPetitions@assembly.wales).

Yours sincerely



Mike Hedges AC/AM  
Cadeirydd/ Chair



## **P-04-663 Food in Welsh Hospitals**

This petition was submitted by Rachel Flint having collected 40 signatures

### **Text of the Petition**

We the undersigned call on the Welsh Government to examine the standards of food in hospitals in Wales. Each health board's provision must be investigated to ensure it is fit for purpose for patients, those with dietary needs and medical conditions, and impose standards across the whole of the Welsh NHS. Hospital food should be nutritious, fresh and be a major part of a patient's care package and road to recovery – not make things worse. Dietary needs must be catered for – such as gluten free, lactose intolerant, Celiac, vegetarian and vegan – experience shows this is not currently the case and patients are often made to feel awkward. Food tailored for medical conditions – including those who suffer from bowel conditions or have had surgery – must be standardised, to ensure patients are getting the right nutrition at all times. Currently patients on some wards are being fed all the same food regardless of their conditions, weight and dietary needs – this is not acceptable and can be upsetting and potentially damaging. Hospitals should not rely on relatives to bring in food, eat the same bland meal every day, or allow patients to waste away if they can't have any of the food on offer. Nutrition must be a key part of every patient's care package. We are not asking for Michelin Star quality, just meals that help rather than hinder.

### **Additional Information**

My experiences of food in the NHS have shown that the standards vary across wards, hospitals and departments, as well as between England and Wales. The problem is not in Wales alone – as I find providing meals for those on low res or with dietary conditions is something the NHS as a whole struggles to deal with. But my experience in Wales recently showed that the standards are not up to scratch. There were no menus (as in Chester and other English hospitals) and patients were all fed the same regardless of their condition, weight or dietary needs. On one ward people who had just had bowel surgery were offered curry, lentil soup and tuna sweetcorn sandwiches which was totally inappropriate – and potentially damaging. At times the situation was that if you couldn't eat anything on the trolley or were not at your bed, you simply didn't eat, unless a nurse made some toast. This has to change; without the right nutrition I believe people are in hospital longer.

## **Assembly Constituency and Region**

- Cardiff South and Penarth
- South Wales Central

## Agenda Item 2.3

Sir Derek Jones KCB  
Ysgrifennydd Parhaol  
Permanent Secretary



Llywodraeth Cymru  
Welsh Government

Nick Ramsay AM  
Chair of the Public Accounts Committee  
National Assembly for Wales  
Cardiff  
CF99 1NA

*Dear Nick,*

*17th* October 2016

Please pass on my thanks to the Committee for their scrutiny of the Welsh Government's Annual Accounts 2015-16. As I said briefly as I left the Committee Room, these are challenging sessions, but I do want to reemphasise my respect for the scrutiny process and how valuable and important it is to the business of Government in Wales.

The Committee has asked me some follow-up questions. In the attached annex, I have tried to answer these as clearly as possible.

I noted that the Committee focused strongly on procurement and transparency. So in addition to the responses to the questions posed, I have also described some of the work we are doing to improve procurement practices and the transparency of Government spend. I hope that the Committee will find this additional material reassuring and of use.

During the session I committed to keeping the Committee updated on possible further action related to the Fruitless Payment recorded in the 2015-16 Accounts. As the analysis work is not yet concluded, an update is not included here. I will write to the Committee on this as soon as I am able.



**BUDDSODDWYR** | **INVESTORS**  
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Rydym yn croesawu derbyn gohebiaeth yn Gymraeg. Byddwn yn ateb gohebiaeth a dderbynnir yn Gymraeg yn Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

**Pack Page 10**

We welcome receiving correspondence in Welsh. Any correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not lead to a delay in responding

I am now looking ahead to my valedictory session with the Committee in a few weeks time. I am already aware that the Committee would like to discuss implications of the European referendum result on the Welsh Government and work that has commenced to date; as I write, I have just returned from a visit to Brussels, and will be able to update the Committee on this topic. Any other insights you could provide on areas the Committee would like to cover would be very helpful.

Yours,  
Derek



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## **Response to questions from the Public Accounts Committee following its scrutiny of the Welsh Government's Annual Accounts 2015-16, on 03 October 2016**

### **Procurement**

#### **1. The extent to which local authorities are recruiting people externally with appropriate procurement expertise.**

During the scrutiny session the Committee asked about capacity within the civil service and local government to procure smartly, rather than just cheaply, and asked the above follow up question.

Procurement capacity and capability in Welsh public sector organisations, including local authorities, is assessed through the *Procurement Fitness Check Programme*, a commitment of the Wales Procurement Policy Statement. The assessment involves the application of a 'maturity model' which includes seven measures associated with the 'people' aspects of each organisation. The results of Fitness Checks made in 2014 are published on the Welsh Government's Procurement Route Planner website: <http://prp.gov.wales/toolkit/?lang=en>. The Fitness Check reports include recommended action plans.

Currently, the Welsh Government does not have access to data on local authority recruitment of external procurement expertise. However, the Fitness Check model for 2016 has been revised to include details of procurement qualifications held. The next round of the Fitness Checks will follow a self assessment approach, with organisations providing details of how many qualified (CIPS and other relevant qualifications) staff are in each organisation against the organisation's structure and spend.

#### **2. Figures capturing Welsh Government and public sector spend in Wales.**

As of 06 October 2016, the National Procurement Service (NPS), which is hosted by the Welsh Government, has 38 live Contracts/Frameworks awarded to 544 suppliers. Of the suppliers, 53% (287) are Wales based and 40% (218) are Welsh SMEs.

The Sell2Wales website is a procurement portal and information resource set up by the Welsh Government. Each year, billions of pounds of worth of contracts for public sector goods and services are advertised through this site; these contracts are offered by a wide range of public sector organisations in Wales, including the Welsh Government, Local Authorities and NHS bodies. 60% of the contracts awarded through the Sell2Wales website are awarded to Welsh suppliers.

Spend data for the financial year 2015-16 submitted to the NPS by Welsh public sector organisations involved in their collaborative spend analysis project suggests approximately 50% of spend by public sector organisations in Wales goes to Welsh suppliers. So we have made progress in this area, but with plenty more to do.

### **3. Summary of procurement practice improvement work**

In October 2015 the Welsh Government's internal audit team undertook a review of corporate contract management processes within the organisation. The review examined the controls in place to ensure that frameworks and contracts were being managed effectively and aligned with corporate requirements to deliver goods and services of the right quality, at the right time and provide value for money. Alongside identifying some areas of good practice, four key recommendations were made by the review team to strengthen existing controls: provision of a contract register for Welsh Government colleagues; an overhaul of all commercial guidance; identification of, and development for, commercial colleagues; and strengthening the lessons learned processes.

In addition to the above recommendations, lessons learned from a procurement exercise which resulted in the Fruitless Payment included in the 2015-16 Annual Accounts have also fed into the work undertaken by the Commercial Governance workstream under Preparing for the Future. This work will continue up to March 2017. The improvement work to date is summarised below:

#### **Governance**

- A Commercial Governance Delivery Group was established in October 2015. The Group reviews Welsh Government procurement spend monthly looking for trends and evidence of non-compliance with required processes.
- A corporate contract database is now in place for Welsh Government wide frameworks.
- A new delegation framework is due to be introduced in November 2016. The framework defines who can purchase and to what level.
- To accompany the framework, a new procurement assurance policy is to be introduced in November 2016.
- All major procurements are carried out through an e-tendering system which is transparent - with a fully auditable view of all evaluators scoring.
- All legal challenges during standstill period are to be referred to the Director, Procurement and Director, Legal Services.

#### **Standard processes**

- A staff engagement campaign focusing on the prompt payment of suppliers took place in summer 2016, this included:

- Internal communications
- New guidance
- New training courses
- Simplification of the purchasing process
- A new contract management toolkit is now available for staff on the intranet.

### **Standard roles**

- A questionnaire to identify all contract and framework managers in the Welsh Government was completed in January 2016.
- A procurement skills framework is now being developed.
- Standard commercial and procurement roles and job descriptions, linked to skills framework, are now being developed.

### **Learning and Development**

- Negotiation workshops were delivered in Spring 2016.
- Commercial colleagues from the Executive Band and above have participated in the UK Government Cabinet Office procurement Assessment and Development Centre – with good results.
- A Welsh Government training programme has been developed for introduction autumn 2016 including e-learning and face to face courses at various different levels.

## **4. Preparing for the Future procurement savings**

Overall procurement savings of £7m were identified for financial year 15/16. These were achieved by reducing the costs of goods or services either at point of contract award or through robust contract management. Each individual saving is supported by an audit trail providing evidence for how it was achieved. Savings are delivered against multiple Ministerial Expenditure Groups (EMGS) and not attributable to one central budget – as such they do not appear as a single item within the Annual Accounts. The savings are used, at the individual budget holder’s discretion, to deliver more for the same amount of money or to fund additional priorities.

### **Transparency**

- 5. Clarification on the variances for the Health and Social Services Group underspend of £153m as detailed in the Summary of Outturn table and the impact on the HSS Ambit underspend had two of the health bodies not overspent.**

The reason for the variation in the HSS Ambit was due to a £90m underspend in Annually Managed Expenditure (AME); arising from fewer provisions and a lower

level of impairments to assets, plus £50m of cash not needed by the health bodies. As said during the session, the underspend is not taxpayer money 'lost' to Wales. Any underspends that occurred in 2015-16 were carried forward to the following financial year.

The PAC noted that the relationship between the budget received from HM Treasury and the Ambit and, therefore, the explanation for the variances reported in the annual accounts is complicated. HM Treasury control budgets throughout the public sector on a resource basis. Budgets comprise Departmental Expenditure Limits (DELs) and Annually Managed Expenditure (AME). The Ambit represents the resources (DEL and AME) consumed by the core Welsh Government, **plus** the cash paid to other organisations such as the health bodies.

This difference immediately creates anomalies when comparing variances reported by the Welsh Government - against the Ambit, and the variances reported by organisations within the wider group - whose accounts do not report Ambit, but reflect the resource position only.

The cash portion of the HSS underspend in 2015-16 is completely independent of the resource overspend reported by some health bodies. The overspend reported by health bodies would not have been altered had the AME underspend been different.

The future budgeting project is seeking to align the budgeting and accounting processes in order to remove these anomalies.

## **6. Direct the Committee to links for further information (previous correspondence) on the Welsh risk pool.**

NHS Wales operates a risk pooling scheme which allows Health Boards and Trusts to seek reimbursement for amounts paid out in respect of negligence claims. A £25,000 excess is applied to each claim. The scheme is operated by the Welsh Risk Pool Service (WRPS) which is part of NHS Wales Shared Service Partnership, hosted by Velindre NHS Trust. Further to scrutiny of the 2014/15 Welsh Government Consolidated Resource Accounts, the Provisions disclosure (note 12 on page 68 of the accounts for 2015-16) has been enhanced to provide specific disclosure in respect of the Welsh Risk Pool. Further details of the NHS risk pool are included in the Annual Accounts of individual health boards for their individual liabilities, and in the accounts of the WRPS host entity Velindre NHS Trust.

The Welsh Risk Pool Provision as at 31 March 2016 was £682m. This is an increase of £8m from 31 March 2015 when the balance was £674m. This relatively small increase of 1.2% reflects a stabilisation in the growth of this provision compared to previous years, for example growth of £80m in 2014/15. It is considered that this slowing of growth is due to a slight 'levelling off' in the volume of claims being dealt

with from the start to the end of the financial year as the volumes remain high but largely stable, combined with an increase in the churn of cases settled in volume terms to more or less equate to cases opened. However due to the nature of the claims which can vary year to year, the provision for future liabilities remains a volatile financial balance, which is reflected in its budgetary treatment as Annually Managed Expenditure for which budget is secured annually from HM Treasury.

The Welsh Risk Pool fully utilised its Revenue budget allocation for claims settlements made in year of £75m in 2015/16. Details of the WRP provisions are shown in note 24.3 of the Velindre NHS Trust accounts.

Please find attached previous correspondence with the Committee on the Welsh Risk Pool.

#### **7. How restricted and unquantified potential liabilities are accounted for in terms of clarity.**

Unquantified or contingent liabilities represent potential future liabilities where there is uncertainty over the nature, timing and value. As such they are not accounted for against the budget but simply noted in the accounts in the same way as an organisation discloses details of guarantees. These potential liabilities are actively managed:

- New projects are appraised and any financial implications, including future contingent liabilities, are considered and advice provided as appropriate.
- Where liabilities are identified through the initial approval process, these will be monitored within individual business areas.
- Business areas also monitor for any additional unanticipated liabilities arising after the approval process, although the frequency with which these occur is low.
- Any changes to liabilities and new liabilities, and their impacts, are communicated to finance support teams who will maintain these records for future reporting, including year-end account.
- Potentially, any significant liabilities may be identified as risks and reported as part of the Risk Register reporting to the Welsh Government's Audit and Risk Committees (ARCs).

For the financial year 2015-16, no significant issues related to potential liabilities were reported to the Central Finance Team.

We propose that, in future years, the Welsh Government writes to the Committee in confidence with details of any potential liabilities when we are preparing the Annual Accounts.

## **8. Confirm plans for the online presentation of the Accounts.**

The online version of the 2015-16 annual accounts will be published on the Welsh Government website later this month. The online version will include an appendix with links to other relevant sites such as the accounts for local health bodies and local government. This is in response to a suggestion arising from discussion with the previous PAC concerning the ability of the reader to 'follow the money'. The appendix will also provide a link to a document that provides further details on staff numbers and salary costs within the Welsh Government, following consideration of the question of senior pay transparency in the public sector in Wales. This information goes beyond the disclosure requirements of the Financial Reporting Manual.

## **9. Publication of expenditure details for Welsh Procurement Card (WPC) transactions and invoice spend over £25k.**

Details of all invoiced costs in excess of £25,000 are published monthly on the Welsh Government web site. In addition, the Welsh Government has released details of all Welsh Procurement Card transactions (WPC) for the last 5 years - also available on the web site. We are in discussion with Ministers over the proactive, regular release of WPC data in the future.

## **10. Adding a further table to the Accounts on outturn in section one.**

The Permanent Secretary will recommend to his successor that the introduction to the Annual Accounts provides more information on the outturn position and variances.



Sir Derek Jones KCB  
Ysgrifennydd Parhaol  
Permanent Secretary



Llywodraeth Cymru  
Welsh Government

Darren Millar AM  
Chair of the Public Accounts Committee  
National Assembly for Wales  
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CF99 1NA

*Dear Darren,*

06 October 2014

**ACTION POINTS FROM THE PUBLIC ACCOUNTS COMMITTEE ON  
22 SEPTEMBER 2014  
WELSH GOVERNMENT ACCOUNTS 2013-14**

I hope that you and Committee members found the session on the 2013-14 Annual Accounts to be helpful. I promised to write on a number of points, covered below.

**A. Severance Packages and Increase in Staff Numbers**

Severance Packages. During 2013-14 there were 4 members of staff that received severance packages in excess of £100,000. The table below provides details of the total severance, annual pay and payback period for each individual.

	Severance £	Salary £	Payback Period
FY13-14	129,000	88,176	17 months
	138,000	94,606	17 months
	119,000	81,780	17 months
	162,000	111,615	17 months

I am satisfied that, with payback periods of this kind, the departures represent good value for money.



Staff Numbers. The table below details those areas of the business that have seen the main increase in staff numbers over the period 2012-13 and 2013-14 (286 additional staff).

<b>Reason for increase in staff numbers</b>	<b>Total</b>
Transfers into the Welsh Government following the creation of the Welsh Language Commission and Natural Resources Wales.	75
Rural development; introduction of Glas Tir scheme	32
Increase in overall number of secondees within Departments	31
Legal services; including the Office of the Legislative Counsel and the Counsel General	29
Creation of the National Procurement Service	29
European Funding area (WEFO); including staff for the new Energy Team (Horizon 2020)	24
Planning Division; legislation and casework	17
Cabinet Division including staff to support additional Ministers	13
Care Standards Inspectorate for Wales	11

The increase in overall staff numbers also reflects the ongoing commitment to our Apprenticeship Programme. Over the past two years, some 158 young people have completed, or are still engaged in, the programme although this commitment to young people has impacted total staff numbers within the Welsh Government. As many as 72 of the apprentices have successfully gained employment with the Welsh Government.

## **B. The Welsh Risk Pool**

NHS Wales operates a risk pooling scheme which allows Health Boards and Trusts to seek reimbursement for amounts paid out in respect of negligence claims. A £25,000 excess is applied to each claim. The scheme is operated by the Welsh Risk Pool Service (WRPS) which is part of NHS Wales Shared Service Partnership. In order to better align the governance and financial management arrangements, the budget for the Welsh Risk Pool reimbursement of claims transferred as of 1 April 2014 from the Welsh



Government to NHS Wales Shared Services Partnership (hosted by Velindre NHS Trust).

In recent years, and in common with other nations, NHS Wales has experienced a growth in the number of legal claims. For example in 2012/13 the NHS Litigation Authority in England reported a 10.8% increase in clinical negligence claims from 2011/12. The reasons for the increase in claims are multifactorial and it is not possible to say with any certainty what the primary driver for the increase is. It is known that there has been a general upward trend in claims over recent years both in terms of number and value.

Recent changes to funding rules for legal claims which came into effect on 1<sup>st</sup> April 2013 are considered to have had an impact on the registration of claims before this date and, therefore, upon the subsequent submitted case volumes being experienced in 2013/14. It is also considered that increased public awareness of clinical redress options is contributing to claim volumes.

The cost of claims has also increased, especially for settlements involving long term care packages. The reason for this increase is that care needs are becoming more complex and it is necessary to ensure that any care packages are fully compliant with applicable legislation such as Health and Safety and Working Time Directives.

NHS Wales takes a pro-active approach to learning from claims to reduce the risk of recurrence. Before reimbursement is made by the WRPS, Health Boards and Trusts are required to outline the key weaknesses which gave rise to the claim and outline the steps taken to reduce the risk of recurrence. Claims are reviewed internally within the WRPS for efficacy of action and then considered by an All Wales Executive Level multidisciplinary group with representation from Medical Directors, Directors of Nursing, Chief Executives, Directors of Finance, Chairman of a Health Board, Directors of Governance and the Welsh Government. Where there is evidence of risks which may be relevant to other NHS bodies, or evidence of good practice, a more detailed claim review can be requested.

Where all Wales issues are evident from claims, the WRPS undertakes themed work. This involves the clinical assessment of high risk areas including those of maternity, emergency departments and the surgical pathway. The findings of the reviews are



shared with the individual Health Boards with a composite report being shared with the Welsh Government and Chief Executives. In addition, specific themed work has been undertaken to further consider specific risks associated with claims.

### **C. Renewable/Non Renewable Energy**

The Annual Accounts report a reduction in the amount of renewable energy consumed by the Welsh Government since 2012-13. Information on the proportion of electricity derived from renewable sources is provided by our electricity supply companies. For 2013-14 they advised consumers, including the Welsh Government, that the basis for calculating the renewable proportion had changed in line with DEFRA guidelines. This means that the proportion for 2013-14 can not be compared to previous years.

Nevertheless, the Welsh Government is implementing a carbon reduction programme across the whole of our administrative estate and, as a result, a 27% reduction in carbon emissions has been achieved since 2010-11. This puts us well on course to meet the Government's overarching target of a 30% reduction by 2020.

### **D. Business Travel and CRC and Energy Expenditure**

Business travel. The Welsh Government is unable to provide a total cost for business travel without a significant amount of manual investigation by departments. Although the financial systems record hire car charges and accommodation separately, the majority of the travel costs continue to be booked to a single travel and subsistence cost code. It is also possible to charge travel costs to a Welsh Procurement Card (WPC). As a result, we would have to scrutinise many hundreds of individual claims and Welsh Procurement Card (WPC) transactions as well as the invoices paid to travel related suppliers such as Eurocar and Arriva Wales in order to extract the correct total cost for business travel only. We will consult with the Financial Reporting advisory board (FRab) to determine whether other departments are able to comply.

CRC allowance. The CRC allowances total for 2013-14 was 0.191.

Energy expenditure. Total energy expenditure for the Welsh Government administrative estate for 2013-14 was £2.17m.



Unfortunately the 2013-14 information for CRC allowances and energy expenditure (detailed above) was not available in time for the preparation of the accounts. The online Accounts for 2013-14 will be amended.

#### **E. Breakdown of Expenditure for Travel, Subsistence and Hospitality**

The table detailed below provides a breakdown by cost category (used within the Welsh Government financial systems) for travel, subsistence and hospitality for 2013-14. Due to the reasons outlined in D above, it has not been possible to compile a total for travel and a separate total for subsistence.

	2013-14 £K
Travel & Subsistence	3,439
Travel	892
Accommodation	359
Car Hire	295
Hospitality	16
Total as detailed in the accounts	5,001

#### **F. Non cash overspend in DfES**

The supplementary budget process enables departments to submit and agree adjustments to in-year budgets with HM Treasury. Any requests; typically for non cash and AME, must be submitted at the end of November each year. During 2013-14, the Welsh Government successfully negotiated an increase in non cash (£326m) to reflect the impact of changing the student loans model used by DfES. The change in model followed a similar decision by BIS for student loans in England. However, unfortunately the subsequent error in the new model (£26m) was not identified until after the supplementary budget deadline and, therefore, we were unable to request further changes. Nevertheless, on this occasion, the Welsh Government was able to absorb the increase within the overall Ambit and given that the error impacted non cash, it had no bearing on the cash resources available to be spent on policy delivery.



A lessons learned exercise was conducted and a copy of the report presented to the DfES Corporate Governance Committee is attached.

Yours,  
Derek



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## Public Accounts Committee

PAC(5)-07-16 31 October 2016

Scrutiny of Accounts 2015-16

### Additional Information from Careers Wales

Careers Wales have submitted additional evidence following their evidence session on 26 September 2016.

#### **Clarification on why the former West Glamorgan County Council is not included in the list following the historical merger of the regional careers companies.**

When the West Glamorgan Careers Company and Dyfed Careers Company merged in April 2001 to become Careers Wales West, the company was able to merge the staff into one pension scheme based on the lowest employer contribution rate. This resulted in the West Glamorgan staff joining the Dyfed Pension Fund from the Swansea Pension Fund.

#### **The number of contacts made through the medium of Welsh and also the number of contacts made through non-English and non-Welsh languages.**

Data for the period 1/4/2015 – 31/3/2016:

- Careers Wales Connect (telephone service) - Welsh calls received = 1,694
- Webchats started in Welsh through our bilingual website careerswales.com = 177
- Individual interaction, group and/or written service in Welsh = 2,448.

Careers Wales do not currently collect data on requests for services to be delivered in other languages but confirm, however, that they have an annual licence with Language Line which provides the service to support clients through other languages by phone.

**Careers Wales**

**19 October 2016**



Nick Ramsay, AM  
Chair  
Public Accounts Committee

Our Ref: AG/JM/SB

21 October 2016

Dear Mr Ramsay AM

**Wider issues emanating from the governance review of Betsi Cadwaladr University Health Board**

Thank-you for your letter dated 23 September raising the Committee queries and concerns with regard to the Welsh Government response to the previous Committee's report on 'Wider issues emanating from the governance review of Betsi Cadwaladr University Health Board'.

With regard to recommendation four, Welsh Government has now issued the reminder to health boards about sharing outcomes with us of all work commissioned as a result of serious concerns arising from complaints. We will also commit to sharing the outcomes where appropriate with other health boards to promote learning within the NHS. We will also provide the committee with (six monthly) progress reports on the review of Putting Things Right guidance and will forward the first update week commencing 28 November, 2016.

On your request in relation to recommendation 25, I understand that Dr Chamberlain has responded to you directly on the current involvement of lay reviewers in HIW inspection plans. HIW has commissioned a review of the change to take place early next financial year and we will be seeking an update from HIW, following completion of this review, that the benefits of closer working and moving to voluntary lay assessors are being realised including widening the pool and sustainability.

I look forward to attending the Committee on 7 November to discuss progress on the Welsh Government accepted recommendations and other health related matters you wish to discuss.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Andrew Goodall', written in a cursive style.

Dr Andrew Goodall

Document is Restricted



Archwilydd Cyffredinol Cymru  
Auditor General for Wales

# Welsh Government investment in rail services and infrastructure



WALES AUDIT OFFICE  
SWYDDFA ARCHWILIO CYMRU





I have prepared and published this report in accordance with the Government of Wales Act 2006.

The Wales Audit Office study team that assisted me in preparing this report consisted of Emma Giles, Gareth Jones, Jeremy Morgan, Nigel Blewitt and Andy Phillips under the direction of Matthew Mortlock.

**Huw Vaughan Thomas**  
**Auditor General for Wales**  
**Wales Audit Office**  
**24 Cathedral Road**  
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**CF11 9LJ**

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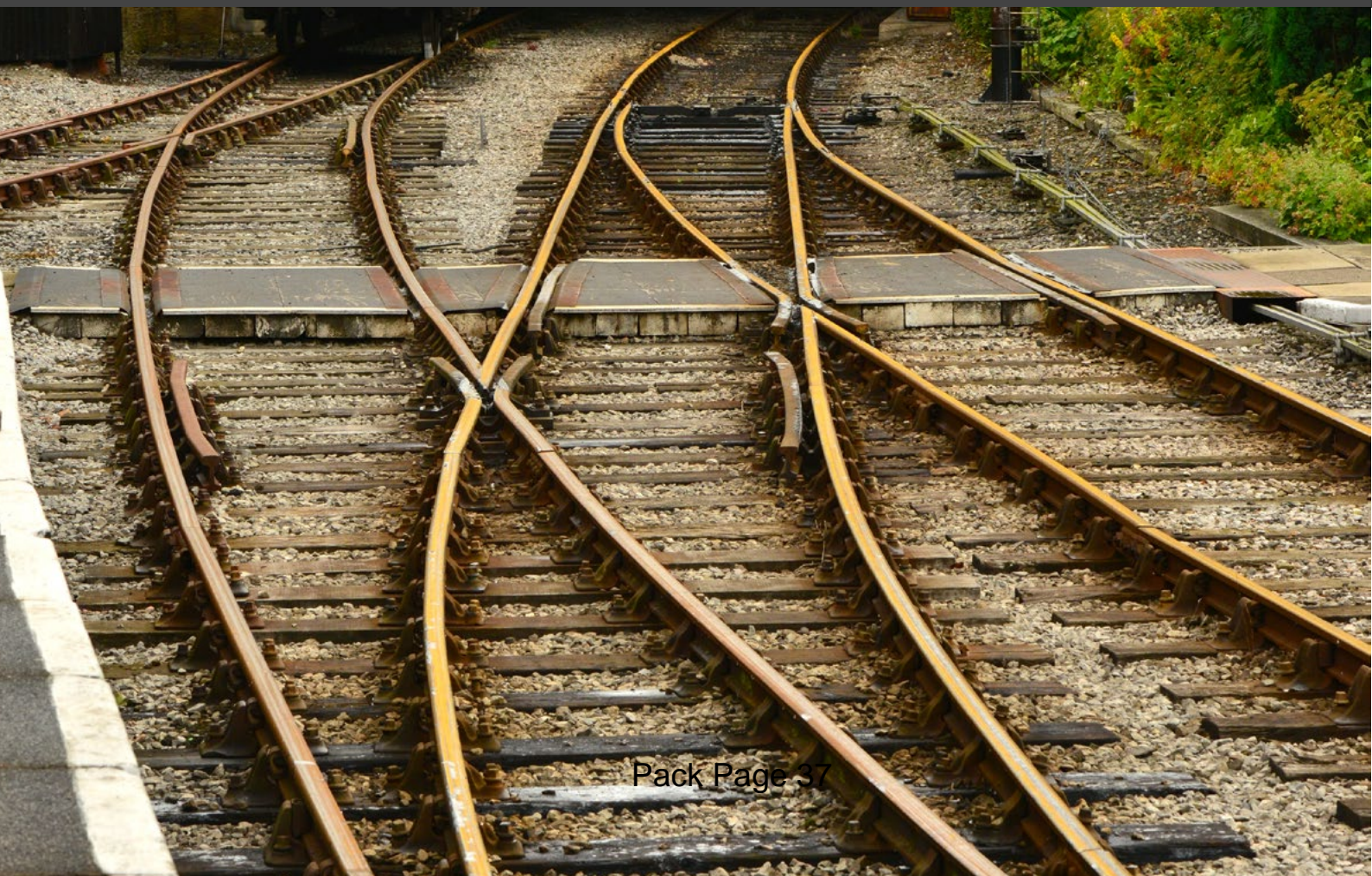
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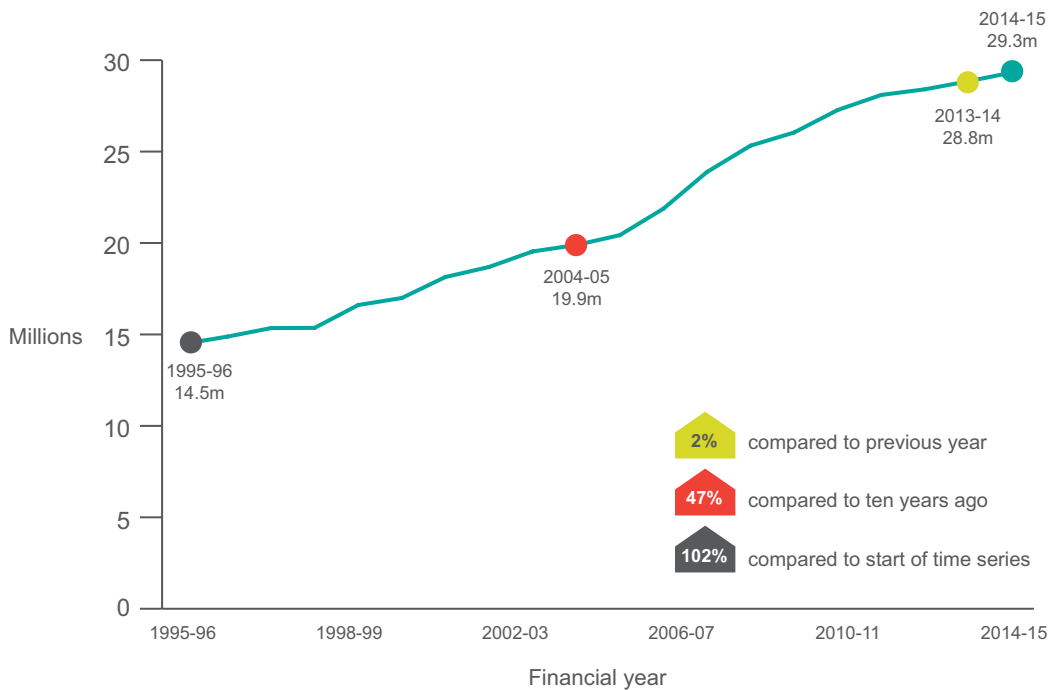
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# Summary



- 1 The passenger rail network in Wales encompasses around 1,700 kilometres of railway and 221 stations. A number of different metrics demonstrate the increasing popularity of rail travel. For example, the total number of journeys for Wales has more than doubled since 1995-96 and reached 29.3 million in 2014-15 (Figure 1)<sup>1</sup>.

Figure 1 – Rail passenger journeys in Wales, 1995-96 to 2014-15



Note: Passenger journeys are defined as, 'A passenger journey ... is based on the origin and destination named on the ticket. For example, a journey from London to Halifax would be classed as one journey despite the need to change trains.'

Source: Office of Rail and Road, **Regional Rail Usage (Passenger Journeys) 2014-15 Annual Statistical Release**, January 2016

- 2 In what are in practice a complicated set of arrangements, a number of organisations share responsibilities for rail services in Wales, including the UK Government, Network Rail, the Office of Rail and Road as the independent regulator, and relevant train operating companies (Figure 2)<sup>2</sup>. The Railways Act 2005 gives the Welsh Government some, albeit limited, powers over the Wales and Borders rail franchise and rail infrastructure. The Wales and Borders franchise includes commuter routes into major cities and towns, more rural routes, and a north-south link via the Marches line on the border between Wales and England (Appendix 2). The current 15-year franchise agreement, with Arriva Trains Wales, runs to 2018.

<sup>1</sup> The Office of Rail and Road also collates estimates of the number of passengers travelling to and from each station (entries and exits). That data shows that passenger use in Wales has increased every year since 2005-06 with an estimated 49 million station entries and exits in 2014-15.

<sup>2</sup> Greater detail on the roles and responsibilities of Network Rail can be found in the National Audit Office's **A short guide to Network Rail**, July 2015. Information on the roles and responsibilities of Network Rail and others in planning, such as the Department for Transport, can be found in the National Audit Office's **Planning and delivery of the 2014-2019 rail investment programme**, September 2015.



Figure 2 – Summary of organisational responsibilities for planning, funding and delivering rail services and infrastructure projects

<p>UK Government Department for Transport</p>	<p>Oversees the strategic direction of rail services, and funds most of the infrastructure projects, across the rail network in England and Wales.</p> <p>In the ‘High Level Output Specification’, the Secretary of State for Transport sets out the railway investment priorities for a five-year ‘control period’. In July 2012, the Department for Transport published the current High Level Output Specification covering England and Wales for the control period from 1 April 2014 to 31 March 2019. In the ‘Statement of Funds Available’, the Secretary of State for Transport identifies the public funds likely to be available to secure delivery of these projects. While the Department for Transport is ultimately responsible for producing the High Level Output Specification, others, such as the Office of Rail and Road, are also involved in its development.</p>
<p>Network Rail</p>	<p>Network Rail owns, maintains and develops Britain’s railway network, including track, signalling, bridges, tunnels and 18 key stations. Network Rail is funded through grants from the Department for Transport and Transport Scotland, from commercial property income and from track access charges from train and freight operating companies.</p> <p>Legally, Network Rail is the statutory undertaker for the rail network and only it has legal rights to carry out certain works and asset-protection services.</p> <p>In November 2011, Network Rail Wales was created to manage the rail infrastructure in Wales; enable Network Rail to be more responsive to the needs of Wales and ensure greater local accountability.</p>
<p>Office of Rail and Road</p>	<p>The Office of Rail and Road is the independent safety and economic regulator for Britain’s railways. The organisation ensures that the network operates safely, reliably and provides value for taxpayers and customers, holds Network Rail to account and makes sure that train and freight operating companies have fair access to the rail network, and that the market is competitive and fair.</p>



<p>Welsh Government</p>	<p>Prior to the Welsh Government taking over management of the Wales and Borders franchise in 2006, the Welsh Government and the Department for Transport signed a Joint Parties Agreement which included definitions of Wales-only, Welsh and English services. A Welsh service is a service that begins, ends or makes at least one scheduled stop in Wales. The Joint Parties Agreement lists four routes as being English services: Hereford to Shrewsbury; Shrewsbury to Crewe; Birmingham New Street to Shrewsbury; and, Crewe to Chester. The Department for Transport pays a subsidy to Arriva Trains Wales for the English services.</p> <p>From its block grant provided by the UK Treasury, the Welsh Government pays a subsidy to Arriva Trains Wales for the Wales-only and Welsh services. The Department for Transport transferred additional funding to the Welsh Government in 2006-07 and 2007-08, after which point this funding was consolidated into the annual block grant.</p> <p>For all franchise services, including the English services, the Welsh Government is also responsible for making any eligible performance incentive payments. When it transferred additional funding to the Welsh Government in 2006-07, the Department for Transport did not make provision for any level of performance incentive payments.</p> <p>The Welsh Government is also able to modify the Wales and Borders franchise agreement to provide services over and above the franchise specification at its own cost.</p> <p>In November 2014, the Welsh and UK governments reached an agreement in principle for executive rail franchising functions to be devolved to the Welsh Government effective from January 2017. However, the original target date has been replaced by agreement to transfer franchising functions later in 2017. The two governments are working together to enable the Welsh Government to achieve the successful procurement of the next Wales and Borders franchise from October 2018.</p> <p>Under the Railways Act 2005, the Welsh Government can contribute funding to support the delivery of planned Network Rail projects and it can commission its own projects for delivery by Network Rail or potentially by other contractors.</p>
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<p>Train Operating Companies</p>	<p>As well as Arriva Trains Wales, which operates the Wales and Borders franchise, three other train operating companies operate franchises with routes in Wales (in addition to their services in England):</p> <ul style="list-style-type: none"> <li>• Great Western Railway (London Paddington to Swansea and Carmarthen, Cardiff to South West England);</li> <li>• Virgin (London Euston to Holyhead, Shrewsbury and Wrexham); and</li> <li>• CrossCountry (Nottingham to Cardiff via Birmingham).</li> </ul> <p>These franchises include Welsh services and, as such, the Secretary of State for Transport must consult the Welsh Government regarding these franchise agreements. The Welsh Government does not have any other formal role in the franchises covering these routes. All powers and responsibilities remain with the Department for Transport. However, the Welsh Government can commission infrastructure work to support improved services on the Welsh elements of these routes which also service the Wales and Borders franchise. For example, the Welsh Government is funding improvements to north Wales stations served by the Virgin London Euston to Holyhead route (Flint, Llandudno Junction and Rhyl), and Port Talbot Parkway station served by the First Great Western London Paddington to Swansea route.</p>
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Source: Wales Audit Office

- 3 The Welsh Government has issued a number of documents setting out how it intends to improve rail services, infrastructure and delivery arrangements to implement the aims set out in its 2008 transport strategy<sup>3</sup>. Most recently, the July 2015 **National Transport Finance Plan** set out the Welsh Government's investment plans for all modes of transport for the five-year period from 2015, and it includes a range of interventions to improve rail services across Wales. In some cases, the delivery timescale extends beyond the plan period.
- 4 Within the overall framework set by the 2008 strategy, the Welsh Government's rail priorities have changed over time. The recent policy focus has been to promote connectivity between various key locations to stimulate the economy and to create jobs. Previously, there had been a focus on east-west links and, before that, north-south links. In March 2016, the National Assembly's Enterprise and Business Committee published a report on **Priorities for the future of Welsh Rail Infrastructure**. The report set out the Committee's views on priorities for future investment, with a view to influencing future decision-making.

3 Welsh Government, **One Wales: Connecting the Nation – the Wales Transport Strategy**, May 2008.

- 5 On behalf of the Auditor General, Wales Audit Office staff have examined whether the Welsh Government has put in place effective arrangements to support the development and delivery of rail infrastructure and services in Wales. This report considers issues relating to the Welsh Government's powers and wider influence in respect of rail infrastructure and services, and related Welsh Government investment. The report also considers the performance of services on the Wales and Borders franchise and plans for the procurement of Wales and Borders services from 2018. [Appendix 1](#) provides more detail about the scope of our work and our audit methods.
- 6 **We concluded that within the constraints of its limited powers, the Welsh Government has been proactive in seeking to influence funding decisions by others and has made a significant investment to improve rail infrastructure and services over recent years. The Welsh Government believes that the additional powers it expects to gain in 2017 to procure the next Wales and Borders franchise will help it to ensure that the next franchise meets its priorities and delivers further improvements in service performance. However, the procurement presents a number of risks, challenges and opportunities for the Welsh Government with some key decisions still to be made.** The following paragraphs provide a brief overview of our key findings.
- 7 **The Welsh Government has been seeking to extend its limited powers and strategic influence over rail services in Wales.** Ahead of the next franchise commencing in 2018, during 2017 the Welsh Government expects to gain powers to procure the next Wales and Borders franchise, which it expects will help it to ensure that the franchise meets the long-term needs of Wales. The Welsh Government is looking for the new franchise to deliver a range of positive outcomes for passengers, the economy and the environment.
- 8 The Welsh Government has sought, but does not currently have, the same powers to determine rail-infrastructure projects as the UK and Scottish governments. Nevertheless, the Welsh Government is actively involved in the planning process for the next round of infrastructure investment across England and Wales from 2019-2024.
- 9 The Welsh Government also has less power over Network Rail than the UK and Scottish governments as regards the action that it can take in the event of problems with project delivery. Nonetheless, the Welsh Government could have acted sooner to strengthen its oversight and contractual arrangements for the projects it funds, although the establishment of a joint Network Rail and Welsh Government Project and Programme Management Board has been a positive development. The Welsh Government has funded two infrastructure projects using contractors other than Network Rail but is looking to apply this approach more widely, particularly to deliver the South Wales Metro infrastructure work.

- 10 **Between April 2011 and March 2016, the Welsh Government contributed around £362 million to wider public-sector spending on Welsh railways, and did not do enough to evaluate the benefits of its investment.** In this period, the Welsh Government invested £109 million in enhanced services over and above the core Wales and Borders franchise cost of £617 million. The Welsh Government has been required to pay £27 million to Arriva Trains Wales in contractual performance-incentive payments, net of penalty payments.
- 11 The Welsh Government also invested £226 million in rail-infrastructure enhancement projects, including funding from the European Union's structural funds. Not including this Welsh Government and European funding, Network Rail invested £1.4 billion on rail infrastructure in Wales between April 2011 and March 2016. Network Rail mainly invested this funding in renewals to existing infrastructure (£882 million) and maintenance (£301 million), with £235 million invested on enhancements. The Welsh Government has built on planned work by Network Rail to help to deliver further infrastructure and service improvements.
- 12 The Welsh Government had not adopted a systematic approach to evaluate the value for money of its investment in rail services. A number of previous reviews have highlighted opportunities to strengthen monitoring and evaluation and the Welsh Government is in the process of strengthening these arrangements.
- 13 As set out in the **National Transport Finance Plan**, the Welsh Government currently intends to focus its own future medium-term rail-infrastructure investment on the South Wales Metro Phase 2 projects. Welsh Government officials stressed to us that the Plan is a 'live' document and will be updated periodically. The Metro Phase 2 scheme builds on the Valley Lines Electrification scheme and has a total estimated cost of around £734 million. The Welsh Government intends to bid for £125 million of European Union funding available through the European Regional Development Fund to support its own investment, which it has been estimated will cost around £609 million at 2018 prices on top of the UK government contribution of £125 million. Since the referendum result on membership of the European Union, the First Minister has sought confirmation that Wales should continue to be able to access this funding, or be able to access equivalent funding from the UK Government.
- 14 **Since 2006, the performance of the Wales and Borders franchise has improved, although comparisons with other UK rail services show a mixed performance.** Arriva Trains Wales received the third-highest subsidy of any UK train operating company to operate the current Wales and Borders franchise between 2011-12 and 2014-15, although a high subsidy is not uncommon for regional franchises that provide rural services. Arriva Trains Wales has largely met the annual performance targets set under the franchise agreement, even as the target has become more demanding. Passenger satisfaction with Arriva Trains Wales has improved in some respects. However, comparisons with other UK rail services show a mixed performance.

- 15 **The procurement of the Wales and Borders services from 2018 presents new risks, challenges and opportunities for the Welsh Government with some key decisions still to be made.** The Welsh Government aims to let an integrated Wales and Borders and Metro contract in 2017 with an estimated value of £3.5 billion. Once procured, this will be the first such integrated contract in the UK. The Welsh Government considers that procuring an integrated contract should offer it the opportunity to manage better interdependencies between rolling stock procurement, infrastructure works and service provision under the franchise. Its view is also that an integrated contract will deliver a step change in quality, including faster journey times, improved reliability and less overcrowding. However, the recent example of the InterCity West Coast franchise in England highlights some of the inherent risks in the procurement process for the new Wales and Borders services. The length of the franchise – likely to be 15 years – makes it particularly important that the Welsh Government gets the specification of the contract right.
- 16 The Welsh Government has established the Transport for Wales company and a strategic advisory board to manage and advise on the procurement. The competitive dialogue approach by the Welsh Government means that it has not specified the solution up-front, rather it is working with the industry to design a feasible, fit-for-purpose, solution. The Welsh Government has not yet determined the operating model for the new services.
- 17 The Welsh and UK governments have yet to agree some details of the financial settlement for the next Wales and Borders franchise and wider budget constraints will inevitably be a consideration in decisions about the affordability and overall prioritisation of enhanced services in the medium-term. The approach to managing and acquiring rolling stock will be decided as part of the competitive dialogue process for the franchise procurement. Rolling stock is a particular issue because of regulations, widely known as the Persons with Reduced Mobility Regulations, which mean that all trains must be accessible by 1 January 2020.

## Recommendations

In response to previous reviews, the Welsh Government is already taking action to address weaknesses in its arrangements for evaluating the impact of its investment in rail services and infrastructure. In March 2015, the Welsh Government issued a protocol for the post-project evaluation of its rail and Metro investment programme. In framing our own recommendations, we have also taken account of the recommendations made by the National Assembly's Enterprise and Business Committee in its previous reports on rail-related matters.

- R1 The Welsh Government's contractual relations with Network Rail have some limitations, as they are based on template contracts designed principally to manage the relationship between Network Rail and private-sector funders. However, the Welsh Government can give greater assurance about the financing of its contracts than a private-sector investor can (paragraphs 1.33-1.39). **We recommend that where the Welsh Government wishes Network Rail to deliver a project it is funding, it should seek to develop bespoke contracts. Bespoke contracts should better protect the Welsh Government's interest by recognising the greater assurance that it can give about the financing of contracts as well as reflecting the circumstances and risks of individual projects.**
- R2 The Welsh Government is keen to deliver more projects through contractors other than Network Rail as it believes this approach will enable it to secure better value for money in particular taking forward its plans for the South Wales Metro. The Welsh Government has recently established a Memorandum of Understanding with Network Rail to help to deliver the procurement of the new Wales and Borders franchise and Metro (paragraphs 1.40-1.47). **We recommend that as the procurement progresses the Welsh Government review the effectiveness of the Memorandum of Understanding and ensure that any lessons are applied to its ongoing relationship with Network Rail.**
- R3 South Wales Metro Phase 2 builds on the Valley Lines Electrification scheme and currently has a total estimated cost of around £734 million at 2018 prices (paragraphs 2.32-2.37). **Consistent with the recommendations in the Auditor General's January 2011 Major Transport Projects report, we recommend that the Welsh Government:**
- a **record information to track the performance of the Metro phase 2 projects at key stages of their delivery;**
  - b **incorporate the information needed to facilitate benchmarking project performance against projects in other parts of the UK;**
  - c **record all changes in project costs that occur through the lifecycle of the project; and**
  - d **record and share the reasons for any cost increases and delays to inform other Welsh Government transport projects.**

- R4 In 2017, the Welsh Government aims to let an integrated contract for the Wales and Borders franchise and Metro with an estimated value of £3.5 billion. The Welsh Government has established the Transport for Wales company to specify and procure the integrated contract. The recent example of the InterCity West Coast franchise in England highlights some of the inherent risks in the procurement process (paragraphs 4.4 to 4.5). **We recommend that:**
- a **The relevant Welsh Government Audit and Risk Committee scrutinises the governance of the Transport Company and its progress in procuring the integrated Wales and Borders and Metro infrastructure contract and the related development of the approach to managing and acquiring rolling stock to enable it to comply with the requirement to make all trains accessible to persons with reduced mobility by 2020. To include the Audit and Risk Committee assuring itself that the Welsh Government is addressing in a timely manner the recommendations of the March 2016 Gateway review.**
  - b **The Welsh Government should ensure that its project and risk management arrangements for the procurement have taken full account of relevant lessons and recommendations from recent National Audit Office reports on rail franchising and rail-infrastructure programmes, and related reports by the UK Parliament’s Public Accounts Committee.**
  - c **The Welsh Government should also actively engage with Department for Transport officials to implement the lessons from both successful franchise procurements and those that have been more challenging.**
  - d **Alongside the procurement process, the Welsh Government should develop a mechanism which enables it to demonstrate the value for money of the franchise component of the new contract, when compared with the current and other franchises.**
- R5 In its December 2013 report on the **Future of the Wales and Borders Rail Franchise**, the National Assembly for Wales’ Enterprise and Business Committee made a number of recommendations about the franchising process. In its response to a number of the recommendations, the Welsh Government noted that it was not the franchising authority (paragraph 4.28). With the Welsh Government expecting to gain powers to procure the next Wales and Borders franchise during 2017, **we recommend that the Welsh Government’s planning for the franchise takes into account the recommendations made by the Enterprise and Business Committee’s 2013 inquiry into the Future of the Wales and Borders Rail Franchise.**



## Part 1

The Welsh Government has been seeking to extend its limited powers and strategic influence over rail services in Wales












- 1.1 In this part of the report, we outline the new powers that the Welsh Government is expecting to gain over the Wales and Borders rail franchise, ahead of the next franchise commencing in 2018. We also consider the Welsh Government's role in the delivery of rail-infrastructure investment.

### During 2017, the Welsh Government is expecting to gain powers to procure the next Wales and Borders franchise which it expects will help ensure that the franchise meets the long-term needs of Wales

- 1.2 In April 2006, under the terms of an agreement with the Department for Transport, the Welsh Government became responsible for the day-to-day management of the franchise. The Welsh Government has responsibility for the financial and performance management of passenger services covered by the franchise agreement.
- 1.3 In June 2011, the Welsh Government's **Programme for Government** contained a commitment to seeking further devolution of powers for railways. In November 2014, the UK and Welsh governments agreed in principle to devolve executive rail-franchising functions from January 2017, enabling the Welsh Government to have full responsibility for specifying and procuring future Wales and Borders rail franchises. To help meet the legislative timescale, the Welsh Government and the UK Government began to develop a Transfer of Functions order to transfer statutory powers and duties for relevant rail services to the Welsh Ministers.
- 1.4 More recently, the two governments have agreed that the transfer of functions will happen later in 2017. The transfer is dependent upon the two governments first agreeing an approach to dealing with cross border services, that is, whether these services remain within the Wales and Borders franchise or become part of other franchises (see also [paragraph 4.26](#)). The two governments are working together to reach agreement and enable the Welsh Government to achieve the successful procurement of the next Wales and Borders franchise from October 2018.
- 1.5 The Welsh Government intends to sign the contract for the new franchise during 2017, with the franchise becoming operational in October 2018, subject to a successful competition. We set out further details about the timescale for the procurement in [Part 4](#) of this report.

1.6 The Welsh Government considers that it is the most appropriate body to specify a franchise that will deliver its objectives and meet the long-term needs of Wales. The Welsh Government has identified the required outcomes that the new franchise must deliver:

-  Faster journeys/  
reduced  
generalised  
journey times
-  Increased  
public-  
transport  
use
-  Higher  
quality of  
service
-  Reduced  
operating and  
maintenance  
costs
-  Improved  
reliability
-  Capacity  
to meet  
demand
-  Accessibility  
improvements
-  Reduced CO<sub>2</sub>  
equivalent  
emissions
-  Direct services  
to economic  
centres

## The Welsh Government does not have the same powers to determine rail-infrastructure projects as the UK and Scottish governments

- 1.7 The Department for Transport determines the high-level objectives for rail and the large-scale infrastructure projects needed to deliver these objectives by producing a 'High Level Output Specification' covering England and Wales. The High Level Output Specification sets out railway-investment priorities for a five-year 'control period' and the public funds likely to be available to secure delivery of these projects. The UK Government's Secretary of State for Transport makes the final decision about what to include within the High Level Output Specification.
- 1.8 Unlike the Scottish Government, the Welsh Government does not have the powers to produce its own High Level Output Specification through which it could impose its priorities on Network Rail. The current arrangements mean that the Welsh Government can only seek to influence the Department for Transport to include projects in its High Level Output Specification. The Welsh Government considers that without its own High Level Output Specification, it is constrained in its efforts to deliver its high-level strategic rail and wider transport priorities<sup>4</sup>.
- 1.9 The current High Level Output Specification includes two projects in Wales, both of which are the result of joint working between the Welsh and UK governments:
- a Great Western Mainline Electrification (London Paddington to Swansea)<sup>5</sup>; and
  - b Valley Lines Electrification, which has since been incorporated into the Welsh Government's South Wales Metro project (Box 1 on page 41)<sup>6</sup>.
- 1.10 The Welsh Government developed a Wales Improved Station Accessibility Programme as a candidate project for inclusion in the 2014-2019 High Level Output Specification, but the Department for Transport took the decision not to include the project. The Welsh Government has taken forwards these station improvements as part of its Wales Station Improvement Programme. Appendix 4 identifies the stations covered by the Wales Station Improvement Programme and the different funding sources – Welsh Government (including European Union funding) and Network Rail – for this programme<sup>7</sup>.
- 1.11 In March 2016, the then Minister for Economy, Science and Transport wrote to the UK Secretary of State for Transport expressing the Welsh Government's concerns about the level of Network Rail investment in enhancing the railway infrastructure in Wales. The Welsh Government has estimated that since 2011 the Wales Route has received one per cent of the funding spent by Network Rail on enhancing the rail infrastructure in England and Wales. In its view, this level of funding is inadequate for a number of reasons, for example, the Wales Route accounts for approximately 11 per cent of the total rail network in England and Wales.

<sup>4</sup> Details about the Welsh Government's priorities are set out in its **National Transport Plan**, March 2010 and **National Transport Finance Plan 2015**, July 2015.

<sup>5</sup> Electrification to Cardiff remains planned for completion within control period 5. However, electrification from Cardiff to Swansea has been rescheduled for completion in control period 6 (2019-2024) at the earliest.

<sup>6</sup> The previous High Level Output Specification for England and Wales for the control period 1 April 2009 to 31 March 2014 led to one major project in Wales – the ongoing Cardiff Area Signalling Renewal scheme discussed in Case Study 3 on page 36.

<sup>7</sup> The Department for Transport has funded some station improvements in Wales through its Access for All programme. Station improvements carried out under Access for All also include an element of Welsh Government funding (Appendix 4).



- 1.12 In the same letter, the Welsh Government also stated that were the Barnett formula to be applied to the total amount of enhancement funding available, the Wales Route would receive five per cent of the available funding, but in its view there were strong arguments for the Wales route to receive a considerably greater proportion of the funding than five per cent (for example, the reliability of the Wales route). The nature of the Barnett formula means that it does not apply in this respect. However, the Welsh Government has emphasised to us that it was making a point about the appropriate percentage of total Network Rail expenditure if calculated per head of population.
- 1.13 The Welsh Government called upon the Secretary of State to establish a ring fenced fund to take forward infrastructure enhancements on the Wales Route. The Secretary of State for Transport has yet to respond to the points raised by the Welsh Government. However, Department for Transport officials have emphasised to us that the most efficient way to allocate funds for the enhancement of the strategic rail network is to focus investment on stress points on the network where demand is forecast to exceed capacity, rather than to allocate funding on a pro-rata basis.
- 1.14 In March 2014, the Commission on Devolution in Wales<sup>8</sup> recommended that the UK Government devolve funding of Network Rail in relation to the Wales network. As there was no UK-level cross-party consensus, the transfer of powers over rail infrastructure was not included within the 2015 'St David's Day Agreement' between the UK and Welsh governments. In evidence to the National Assembly's Enterprise and Business Committee in September 2015, the UK Government's Department for Transport stated that there was no intention on its behalf to re-open discussions about devolution of funding of Network Rail.

8 Commission on Devolution in Wales, **Empowerment and Responsibility: Legislative Powers to Strengthen Wales**, March 2014.

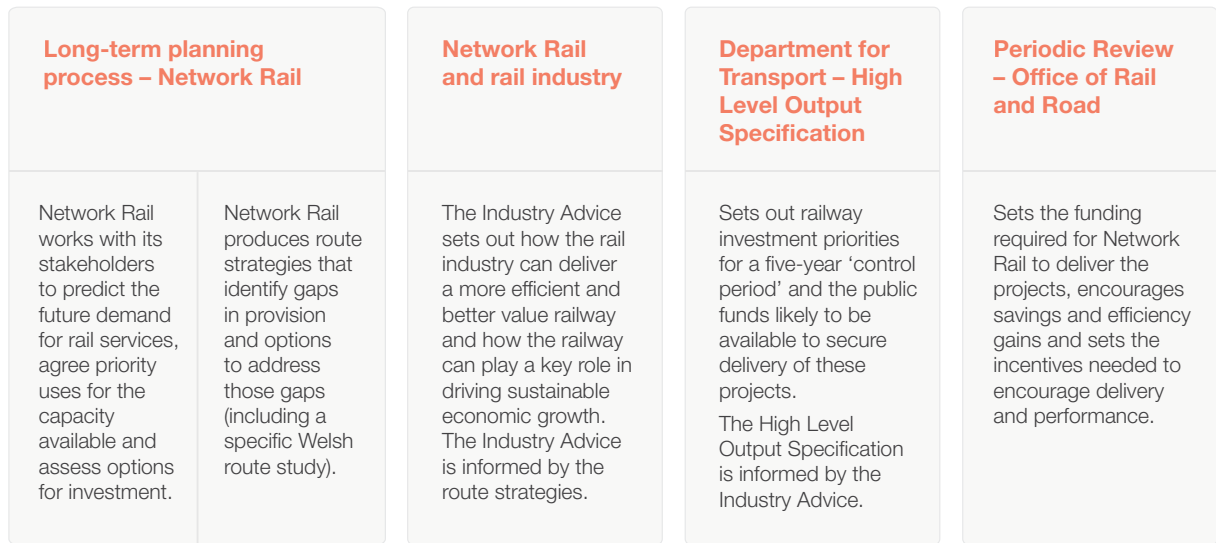


The Welsh Government is taking appropriate steps to influence decision-making on rail-infrastructure investment, although it could have acted sooner to strengthen its oversight and contractual arrangements for projects it funds

The Welsh Government is actively involved in the complex planning process for the next round of infrastructure investment across England and Wales from 2019-2024

1.15 Rail-infrastructure investment planning in England and Wales is a complex process<sup>9</sup>. Two main elements support publication of the High Level Output Specification: Network Rail's 'Long Term Planning Process'; and the Office of Rail and Road's five-yearly 'Periodic Review' (Figure 3). The Long Term Planning Process informs the Periodic Review.

Figure 3 – Key components of the rail-infrastructure investment planning process for England and Wales



**Note**  
 To reflect the recommendations of the November 2015 **Report of the Bowe Review into the planning of Network Rail's enhancements programme 2014-2019** (Appendix 1), the Secretary of State for Transport has announced some changes to the details of the investment planning process.  
 Source: Wales Audit Office

<sup>9</sup> For more detailed information about some of the planning arrangements for rail-infrastructure investment, see National Audit Office, **Planning and delivery of the 2014-2019 rail investment programme**, September 2015.

- 1.16 A Rail Industry Planning Group has overall responsibility for governance of the Long Term Planning Process. The Welsh Government attends this group and was also a member of a working group that produced the consultation document for the Welsh Route Study. Network Rail published the final **Welsh Route Study** in March 2016 setting out 14 options to address gaps in current provision. The Study includes options to meet additional demand for travel within Wales, and between Wales and key English cities. For example, the Study includes an option to modernise the North Wales Coast Main Line to improve north Wales connectivity to London, Manchester, Liverpool and Chester.
- 1.17 Despite its involvement in the Rail Industry Planning Group, the Welsh Government's view is that that the strategy planning process is limited and does not fully take into account its aspirations for rail services. The strategy planning process only considers how to respond to current and future demand on the network as it currently exists. The Welsh Government wants Network Rail to plan for 'more transformative change' and to consider developing new lines and stations where there is a strong rationale. Network Rail's current Welsh Route Strategy focuses primarily on how to meet expected increases in demand with 'the existing network'. However, Network Rail emphasised to us its commitment to working with funders to support the delivery of new lines, for example, a new branch line to Abertillery<sup>10</sup>.
- 1.18 Department for Transport officials have told us that the UK Government encourages the pursuit of economic growth through improved rail capacity, but expects beneficiaries to fund the changes, since the money it has available to fund the High Level Output Specification is limited and must necessarily be focussed on enhancing capacity at 'pinch points' on the network where demand outstrips capacity.
- 1.19 The Welsh Government is working with the Rail Delivery Group's<sup>11</sup> 'Planning Oversight Group', which is responsible for producing the Initial Industry Plan for England and Wales, drawing on the route strategies.
- 1.20 As part of its efforts to influence the 2019-2024 High Level Output Specification, the Welsh Government is also engaging directly with the Office of Rail and Road. This direct engagement began in November 2014, and included discussion on further devolution of rail powers, greater involvement in long-term planning of rail infrastructure, and the Welsh Government's contractual relationship with Network Rail. Since November 2014, the Welsh Government has negotiated a number of commitments to help to ensure Welsh rail-service priorities are fully represented in the Periodic Review. These commitments include the Welsh Government's involvement in arrangements to review the financing of Network Rail.

<sup>10</sup> Network Rail is undertaking resignalling work on the Ebbw Vale line to make suitable provision for a future extension of that line to Abertillery, to reflect the Welsh Government's planning aspirations.

<sup>11</sup> The Rail Delivery Group was set up in 2011 and brings together the owners of Britain's passenger train operating companies, freight operators and Network Rail.

- 1.21 The Welsh Government also seeks to influence the Department for Transport to include specific projects within its High Level Output Specification. For example, in developing a business case for electrification of the North Wales mainline for inclusion within the High Level Output Specification (2019-2024). In evidence to the National Assembly's Enterprise and Business Committee in September 2015, the Department for Transport stated that by, for example, 'developing the business case for the priority schemes that they wish for', the Welsh Government is 'already engaged in the right way' with the Department for Transport.
- 1.22 The National Assembly for Wales' Enterprise and Business Committee has carried out an inquiry into the priorities for the future of rail infrastructure in Wales<sup>12</sup>. Its report is intended to influence decisions about the Welsh rail-infrastructure projects to be included in the next High Level Output Specification, for the period 2019 to 2024.

**Although the Welsh Government has less power over Network Rail than the UK and Scottish Governments, it could have taken earlier action to strengthen its oversight of project delivery**

- 1.23 Since November 2014, the Welsh Government has operated a Joint Network Rail and Welsh Government Project and Programme Management Board. Arriva Trains Wales attends the meetings as an observer. The Board was set up to more actively scrutinise the delivery of rail capital projects.
- 1.24 The Welsh Government acknowledges that the effectiveness of the Project and Programme Management Board is limited by the contractual and legal position of the Welsh Government. Nevertheless, the Welsh Government views the Board as an opportunity to improve its working relationship and to engage more strategically with Network Rail.
- 1.25 During 2014, the Welsh Government's Internal Audit Services reviewed the Welsh Government's management of rail capital contracts. Internal Audit Services identified a number of positive features about the governance of the Joint Project and Programme Management Board. Before each meeting, Network Rail issues a detailed project summary against each existing Network Rail project. Each project summary includes: current stage of the project; project manager details; date of the legal agreement; dates of various stages of the project; financial data; a commentary on progress and issues and risks.
- 1.26 Since November 2014, the Welsh Government has also operated an internal Rail Board to bring together a range of rail project and policy officials to discuss current and future rail projects. Officials at these meetings undertake a high-level review of rail capital schemes and consider whether contracts are proceeding on time and to budget and are delivering the identified requirements.

<sup>12</sup> National Assembly for Wales Enterprise and Business Committee, *Priorities for the future of Welsh Rail Infrastructure*, March 2016.

- 1.27 Infrastructure improvements set out in the High Level Output Specifications are categorised as ‘regulated outputs’. If Network Rail is likely to fail, or fails to deliver a regulated output, the Office of Rail and Road can decide if the failure amounts to a licence breach and may take action against Network Rail.
- 1.28 The Railways Act 2005 gives the Welsh Government powers to fund improvements to rail services and infrastructure. However, any work undertaken by Network Rail on the Welsh Government’s behalf is not governed by the same regulatory relationship which exists between Network Rail, the Office of Rail and Road and the Scottish and UK governments. Instead, the Welsh Government’s relationship with Network Rail is established through individual contracts signed with Network Rail. The limitations of these contractual relationships are discussed below (paragraphs 1.33-1.39).
- 1.29 The Welsh Government can ask the Office of Road and Rail to investigate on its behalf a formal complaint against Network Rail. The Welsh Government has asked the Office of Rail and Road to consider cost increases on Network Rail’s delivery of the project to reduce journey time and enhance capacity on the north-south line. In response to this request, the Office of Rail and Road considered if Network Rail’s work on the contract was indicative of systemic issues which could constitute a potential breach of its network licence<sup>13</sup>. The Office of Rail and Road told us that its review found various shortcomings in planning and delivery of the project. However, given that Network Rail had put in place and was delivering an improvement plan to tackle these issues, the Office of Rail and Road felt no useful purpose would be served by considering a further licence breach.
- 1.30 The Welsh Government has told us that it does not consider the cost overruns to be a result of its actions, and that Network Rail is now considering a claim for these costs against the industry risk and fee fund (paragraph 1.35).
- 1.31 Due to widely reported concerns, the performance of Network Rail has been the subject of three recent reviews (Appendix 1). In addition, on 31 March 2015 the Office of Rail and Road gave Network Rail formal notice that it was to investigate whether Network Rail is doing everything that is ‘reasonably practicable’ to meet its obligations to deliver enhancement projects. In October 2015, the Office of Rail and Road notified Network Rail of its view that Network Rail has breached its network licence due to its ‘... failure to adequately plan and deliver its enhancements programme to the greatest extent reasonably practicable’.
- 1.32 The Welsh Government’s recent discussions with the Office of Rail and Road (paragraph 1.20) have included dialogue about how the Welsh Government can hold Network Rail to account given the Welsh Government’s status. As a result, the Office of Rail and Road and the Welsh Government met for the first time in September 2015 specifically to review the performance of Network Rail. The Office of Rail and Road and the Scottish Government hold similar meetings with Network Rail to review performance. The relatively short timescale for giving the Welsh Government some of the same opportunities to oversee Network Rail as the Scottish Government suggests that the Welsh Government could potentially have achieved this outcome earlier.

<sup>13</sup> Network Rail operates under a network licence, which contains a set of conditions under which Network Rail must operate. The network licence is the mechanism through which the Office of Rail and Road holds Network Rail to account.

## The Welsh Government has only recently taken steps to address the limitations of its contractual relationships with Network Rail

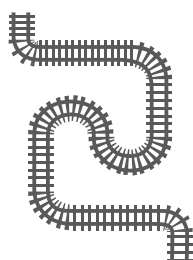
- 1.33 In working with funders other than the Scottish and UK governments – private-sector funders or other public-sector funders – Network Rail enters into contracts based on standardised Office of Rail and Road templates. There are four main types of agreement covering different works. The Office of Rail and Road developed these template contracts to reduce the transaction time and cost for investors compared to negotiating a contract from scratch. Template contracts also aim to manage the relationship between Network Rail and private-sector funders. However, the Welsh Government can give greater assurance about the financing of its contracts than a private-sector investor.
- 1.34 Some template contracts are ‘cost emerging contracts’, meaning that the Welsh Government, rather than Network Rail, pays all additional costs over and above the estimated cost. All template contracts require the addition of a contingency which varies according to the project, and is based on Network Rail’s risk assessment which the Welsh Government is not always party to. Occasionally, and as it is allowed to do, Network Rail spends the project contingency without notifying the Welsh Government ([Case Study 1](#)).
- 1.35 In common with all other funders, except the UK and Scottish governments, the Welsh Government is required to pay a two per cent premium per project into Network Rail’s ‘Rail Industry Risk Fund’. This fund operates in a similar way to insurance, with funders potentially able to benefit from the fund to meet certain unforeseen costs, such as any costs resulting from a change of law affecting the way the industry works. Network Rail determines where unforeseen costs should be met from the fund. The Office of Rail and Road will become involved if there is a dispute between Network Rail and the funder about whether the fund should meet the claim. The Welsh Government is awaiting a decision from Network Rail about a claim for unforeseen costs incurred by the north/south journey-time improvement project ([Case Study 1](#)). This would be the first such claim made by the Welsh Government. However, the fund has been used by Network Rail to meet additional unforeseen costs of £0.23 million on work at Pontypridd station ([Appendix 4](#)).
- 1.36 Not all template contracts include the right for the funder to terminate the agreement. However, where the funder has the right to terminate the contract, the contract is weighted in favour of Network Rail with regard to payment of costs. For example, the template contract states that in the event that a contract is terminated, the funder shall not be entitled to any payment or compensation or other rights or remedies in respect of loss of profits, revenue or goodwill. The Welsh Government has not terminated any of its contracts with Network Rail.
- 1.37 There is no obligation upon either Network Rail or the Welsh Government to use the Office of Rail and Road’s template contracts if they were not felt to be suitable. The Office of Rail and Road’s policy and guidelines on the use of template contracts<sup>14</sup> states that investors ‘may choose’ to use the template contracts as the basis for contracts to deliver enhancements. The guidance also states that due to

14 Office of Rail and Road, [Investment framework consolidated policy and guidelines](#), October 2010.



particular concerns and risks for individual projects, the contractual parties may be 'open to negotiation of alternative provisions that suit individual circumstances'. In 2015, Network Rail ran two workshops with the Welsh Government to discuss alternative ways of contracting.

### Case Study 1 – Use of contingency by Network Rail on the Rossett and Saltney Junction improvements



The Welsh Government is currently funding the whole cost of a project to improve journey times and frequency on the key north-south Wales route. The work includes doubling 5.5 miles of track between Rossett and Saltney Junction, altering and upgrading level crossings and improving signalling.

The project should reduce journey times between Cardiff and Holyhead by 16 minutes and provide the capacity to run an extra train between Cardiff and Holyhead every two hours in both directions.

Network Rail has used the entire contingency of £6.7 million within the £49 million project. The Welsh Government had already reduced the size of the project because of budget constraints, but Network Rail found cables under the current track that it needed to move to allow for the installation of a second, parallel track. Network Rail eventually encased the cables in concrete to prevent their theft, additional work that led to unexpected spending totalling £800,000 from contingency and without notifying the Welsh Government. The Welsh Government now has to fund this additional work late in the project delivery timetable when there are fewer opportunities to offset the cost with other savings. The project was due for completion in November 2015, but there have been further problems, with the Welsh Government attributing delays to Network Rail, publicly stating that the 'delays are unacceptable', and requesting urgent action on the matter. Network Rail has now set a new commissioning date of spring 2017.

Source: Wales Audit Office

- 1.38 The Welsh Government is in the early stages of proposing a contracting process whereby it would only allocate a small amount of contingency up front to Network Rail to allow it to deal with emerging risks. The Welsh Government proposes to gain more control over the use of contingency funding by holding the remaining funding at programme level, with Network Rail needing their approval to access any more contingency. Network Rail will consider these proposals when finalised. This approach would not alter that, under emerging cost contracts, the Welsh Government is responsible for all project costs. However, the proposed approach will give the Welsh Government greater visibility at an earlier stage over any increases to project costs and a better opportunity to balance any cost increases against potential savings in other areas of its rail-infrastructure programme. Network Rail has emphasised to us that there are fixed-price template contracts, but these will inevitably include a premium for it carrying the risk, as Network Rail does not have reserves and is not funded to take risks.

- 1.39 Given the potential benefits of using bespoke contracts in terms of value for money, in our view, the Welsh Government could have identified the opportunity to renegotiate its contractual relationship with Network Rail at an earlier stage. The Welsh Government has met with the Office of Rail and Road on two occasions (November 2014 and July 2015) to discuss its use of template contracts.

**The Welsh Government has funded two infrastructure projects using contractors other than Network Rail but is looking to apply this approach more widely**

- 1.40 The Welsh Government is keen to deliver more projects through contractors other than Network Rail. The Welsh Government believes that this approach will enable it to secure better value for money, although it is no guarantee of successful project delivery.
- 1.41 Our January 2011 report on **Major Transport Projects** commented on the project to reopen the Ebbw Valley railway line in 2008. Network Rail did not undertake the design and construction work although it was a key stakeholder in the project. Blaenau Gwent County Borough Council procured and managed the contractual arrangements and the Welsh Government funded the project. The project costs almost doubled to £48 million, although our report noted that the early estimate did not include any allowance for the eventual £5.12 million combined cost of land, compensation and fees. The report also noted that there had been a dispute between the Council, the Welsh Government and the contractor about responsibility for the cost of remedial works needed. The remedial works were required to satisfy Network Rail that the line met a design that they could sign off as the ultimate owner of the asset.
- 1.42 On a much smaller scale, the Welsh Government did not contract with Network Rail on the recently completed station at Pye Corner, Newport. Network Rail was unable to deliver the project within the timeframe needed to access Department for Transport funding for the work. The project took 40 weeks to deliver which, in the Welsh Government's view, represented a highly satisfactory timescale for delivery. The contractor completed the project in December 2014 at a total project cost of £3.4<sup>15</sup> million, and the Welsh Government has estimated that the construction work cost some 15 to 20 per cent less than had Network Rail delivered the contract. The Welsh Government based this estimate on comparisons between its project-management costs and Network Rail's project-management charges. We have not reviewed the detail underpinning the Welsh Government's estimate.
- 1.43 The Welsh Government has provided information about the costs of the Pye Corner project to the Office of Rail and Road. The Welsh Government told us that the Office of Rail and Road is to include the Pye Corner project within a piece of work it is doing to benchmark Network Rail costs across a range of projects.

<sup>15</sup> The construction of Pye Corner station was funded by the Welsh Government (£1.3 million) and the Department for Transport (£2.1 million).

- 1.44 Network Rail acknowledges that the Welsh Government delivered the Pye Corner project effectively, but it found a number of issues during the construction phase. Network Rail is accountable for safety issues on the rail network and had concerns that led it to reallocate a member of Network Rail staff to work full time on the project for eight months. This member of staff worked closely with the contractor to ensure compliance with legal and safety standards.
- 1.45 The Welsh Government is considering contracting with suppliers other than Network Rail on a number of other schemes, including its large-scale Metro public transport initiative for south Wales. Metro Phase 2 has a currently estimated total project cost of £734 million at 2018 prices (paragraph 2.33).
- 1.46 Network Rail is comfortable with the Welsh Government's proposed approach to using other contractors from the private sector to deliver capital projects, but with some provisos based on its previous experience. They include:
- a the need to involve Network Rail at an early stage of the development of projects; and
  - b the need for private-sector contractors to work closely with Network Rail as the owner and operator of the infrastructure.
- 1.47 In January 2016, the Welsh Government and Network Rail agreed a Memorandum of Understanding which set out the principles and the arrangements for the two parties to work together to deliver the South Wales Metro and the next Wales and Borders franchise. Agreed actions include developing a joint plan including timescales, establishing governance arrangements and setting up a joint delivery team.

## Part 2

Between April 2011 and March 2016, the Welsh Government contributed around £362 million to wider public sector spending on Welsh railways, and did not do enough to evaluate the benefits of its investment





2.1 This part of the report sets out capital expenditure by Network Rail to maintain, renew and enhance the railway infrastructure in Wales between April 2011 and March 2016. It also quantifies capital and revenue expenditure by the Welsh Government to improve rail services in line with its strategic rail priorities and considers the Welsh Government's plans for future capital investment. Finally, it considers the effectiveness of the Welsh Government's approach to evaluating the impacts of its investment.

## Network Rail invested £1.4 billion on rail infrastructure in Wales between April 2011 and March 2016

2.2 Between 1 April 2011, when data for Wales first became available, and 31 March 2016, Network Rail invested around £1.4 billion to maintain, renew and enhance rail infrastructure in Wales. Network Rail mainly invested this funding in renewals to existing infrastructure (£882 million) and maintenance (£301 million), with £235 million invested on enhancements (Figure 4). As noted in paragraphs 1.11-13, it is the Welsh Government's view that Network Rail should have spent more since 2011 enhancing the rail infrastructure in Wales.

Figure 4 – Network Rail capital expenditure in Wales 2011-2016

	2011-12 £m	2012-13 £m	2013-14 £m	2014-15 £m	2015-16 £m	Total £m
Maintenance <sup>1</sup>	50	50	62	67	72	301
Renewals to existing rail infrastructure <sup>2</sup>	161	211	203	135	172	882
Enhancements to the rail network <sup>3,4</sup>	15	46	47	44	83	235
<b>Total<sup>5</sup></b>	<b>226</b>	<b>307</b>	<b>312</b>	<b>246</b>	<b>327</b>	<b>1,418</b>

### Notes

1 Maintenance costs include inspection and repair of the infrastructure.

2 Renewals are where the existing infrastructure, such as the track, is replaced, without changing or enhancing its performance.

3 Enhancements are projects that improve the railway.

4 Figures exclude Welsh Government funded enhancements and Welsh Government contributions to larger Network Rail projects, such as Cardiff Area Signalling Renewal.

5 This capital expenditure excludes operating costs of £334 million, such as staff costs, including pensions and incentive payments, British Transport Police costs and accommodation expenses. Nor does it include £46 million of compensation payments to train operating companies for planned and unplanned disruptions.

Source: Network Rail Regulatory Financial Statements



## Between April 2011 and March 2016, the Welsh Government invested £109 million in enhanced services over and above the core Wales and Borders franchise, and was required to pay out £27 million in contractual performance incentive payments, net of penalty payments

- 2.3 Between 1 April 2011 and 31 March 2015, the costs to the Welsh Government of subsidising the core Wales and Borders franchise services for Wales-only and Welsh services stood at £617 million. For Wales-only and Welsh services, the Welsh Government is able to modify the franchise agreement to respond to additional demand by providing 'service enhancements'. These enhancements could include additional services and frequency of trains and increased capacity by providing extra carriages.
- 2.4 Changes to the franchise agreement are based around the principle that they should not result in a net financial loss or net gain to the franchise operator. Consequently, if the Welsh Government requires a service enhancement that increases Arriva Train Wales' operating costs, it has to pay a subsidy as the enhancement will almost inevitably put the operator at a loss.
- 2.5 Between 1 April 2011 and 31 March 2016, the Welsh Government invested £109 million to provide 10 enhanced services (Appendix 3). Between April 2006, when it took over day-to-day management of the franchise, and the end of the franchise in 2018, the Welsh Government estimates that it will have invested more than £250 million on enhanced services<sup>16</sup>.
- 2.6 In 2014, the Welsh Government's Internal Audit Services reviewed a number of aspects of the Welsh Government's management of the rail franchise, including whether the Welsh Government had complied with the process for developing service enhancements<sup>17</sup>. The audit found that for the introduction of the Merthyr half-hourly service in 2009, the Welsh Government could not provide the required documentation to demonstrate that it had complied with the agreed process. However, the auditors noted that the more recent service enhancements sampled – the North South Premier Service (2012) and Fishguard services (2011) – had complied with the agreed process. And, overall, Internal Audit Services were able to give full assurance on the controls in place over the rail franchise.
- 2.7 In common with all other UK rail franchises, Arriva Trains Wales is eligible for incentive payments if it meets targets for its performance over each four-week period. Between 1 April 2011 and 31 March 2016, Arriva Trains Wales received just over £27.5 million in incentive payments from the Welsh Government. Failure to meet the performance target requires Arriva Trains Wales to make a penalty payment to the Welsh Government. For the same period, Arriva Trains Wales made penalty payments totalling £0.66 million (paragraphs 3.5-3.7 give further details about the performance incentive regime and costs).

<sup>16</sup> The exact figure remains uncertain, as the costs are linked to inflation. Welsh Government investment in two services (Cardiff to Holyhead and Heart of Wales (Sundays)) predated 2006. The additional cost of these two services between 2004 and 2006 is around £2.2 million.

<sup>17</sup> Under the franchise agreement, Arriva Trains Wales must submit a 'development proposal' with an estimate of costs to the Welsh Government for review prior to Ministerial approval. The Internal Audit Services did not find relevant evidence, other than a development proposal dating from 2006.

## Between 2011 and 2016, the Welsh Government invested £226 million in rail-infrastructure enhancement projects

2.8 Between April 2011 and March 2016, the Welsh Government invested around £226 million in rail capital projects, including funding it secured from the European Union's structural funds (Figure 5). The Welsh Government has emphasised to us that it made this investment to address its concerns about underinvestment in the Welsh network by Network Rail (paragraphs 1.11-1.13).

Figure 5 – Welsh Government investment in rail capital projects 2011-2016 (£ million including European funding)



Source: Welsh Government

2.9 During approximately the same period (that is, between January 2011 and May 2016), there were 11<sup>18</sup> completed infrastructure projects in Wales that had some Welsh Government funding (Appendix 4). These projects had a total cost, including expenditure in advance of April 2011, of £137 million, comprising:

- a Welsh Government funding of £101 million, which includes European funding of £46 million;
- b Network Rail funding of £27 million;
- c Department for Transport funding of £6 million; and
- d contributions from various other sources of just over £3 million.

2.10 As part of its 2014 review of rail capital contracts (paragraph 1.25), the Welsh Government's Internal Audit Services concluded that the way in which the Welsh Government identified and prioritised rail capital projects was satisfactory. Internal Audit found that its chosen sample of projects:

- a arose from key transport planning documents, for example, the National Transport Plan 2010 and the 2011 prioritised National Transport Plan;
- b were supported by a robust business case which set out a rationale for undertaking the scheme; and
- c were, as required, approved by the Welsh Ministers.

<sup>18</sup> A number of schemes have been quantified as one project under the Wales Station Improvement Programme. In addition, a number of schemes have been quantified as one project under the Access for All programme and similarly for the Cardiff Area Signalling Renewal.

- 2.11 Our January 2011 report on **Major Transport Projects** recommended that for major transport projects – which we classified as projects costing over £5 million – the Welsh Government should record information to track the performance of the projects at key stages of their delivery and record changes in project costs. While the focus of that report was on trunk-road projects, the report included a commentary on two rail projects and its recommendations are equally applicable to rail projects.
- 2.12 Network Rail’s Guide to Railway Investment Projects (GRIP) process has eight stages from initially establishing the scope of the investment, through detailed design to project completion. We asked the Welsh Government to provide data with which to compare any changes in estimated costs between these different stages of project delivery for projects completed since January 2011. We recognise that some of the projects were substantially progressed in advance of the publication of our 2011 report and that several cost less than £5 million. In addition, some of these projects, such as the Newport Station Modernisation completed in 2011, comprised a fixed Welsh Government contribution to a Network Rail funded project<sup>19</sup>.
- 2.13 The Welsh Government was able to provide us with some relevant data with which to compare costs at specific GRIP stages but not on a consistent basis across all projects. The highest value of these projects in terms of the Welsh Government’s contribution was the modernisation of Gowerton station and redoubling of the line between Gowerton and Loughor (£27.4 million cost split between core Welsh Government funding and European Union structural funds). The Welsh Government has reported to us that the estimated project cost reduced by £0.2 million between GRIP stage 5 – detailed design – and completion. In another example, the new station at Energlyn on the Rhymney Valley line cost a total of £5.5 million (again split between core Welsh Government funding and European Union structural funds). The estimated cost at GRIP stage 5 was £5.2 million, although the project was completed in October 2013 compared with the December 2013 estimate at GRIP stage 5.
- 2.14 As at May 2016, rail projects underway that had some Welsh Government funding have a total estimated cost at completion of £156 million. Some of the projects are pieces of design work (**Appendix 4**). These projects are scheduled to finish before the end of 2017-18. They include reducing the journey time between north and south Wales, through various upgrades to the network, at an estimated cost of £49 million (**Case Study 1** on page 26). They also include elements of Metro Phases 1 and 2 (**Box 1** on page 41) and various station improvements under the Access for All programme (**Case Study 2**).

<sup>19</sup> The Welsh Government contributed £7.7 million towards the project, with Network Rail meeting the remaining costs of £20.2 million.

## Case Study 2 – Access for All



Access for All is a major UK Government programme improving accessibility at train stations nationwide by installing lifts and ramps.

Following improvements at other stations in Wales in earlier stages of the programme, in early 2014 Network Rail announced £12 million of investment, including a £7 million Welsh Government contribution, to improve Chirk, Llandaf, Machynlleth, Radyr and Ystrad Mynach stations.

In a separate announcement in April 2014, a further four stations (Barry Town, Cathays, Llanelli and Treforest) were added to the programme. The Welsh Government has offered up to £5 million for these four stations, to match fund a contribution from the Department for Transport. Treherbert and Taffs Well stations were then added to the programme in late 2014, with the Welsh Government again contributing to the cost of this work.

An industry group, which includes the Welsh Government, selects the stations for improvement through a range of criteria, including how busy the stations are and the incidence of disability as reported in a local area by the census. It also considers other factors such as proximity to hospitals and to schools for disabled children.

Source: Wales Audit Office

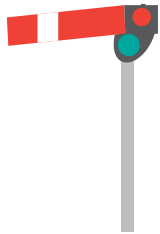
- 2.15 The Department for Transport welcomed the willingness of the Welsh Government to provide match funding for the Access for All stations programme. For the stations announced for improvement in April 2014, the Welsh Government's match funding has enabled improvements at four stations, rather than two, as originally planned by the Department for Transport.
- 2.16 Network Rail was also positive about the way in which the Welsh Government has 'levered in' European funding for rail projects, for example, £5.7 million of European funding for the Cardiff Area Signalling Renewal project ([Case Study 3](#)). Network Rail highlighted another project where additional funding from the Welsh Government had enhanced their original plans. Network Rail had only planned to renew the lifts at Pontypridd Station, but the Welsh Government committed £2.5 million of additional funding to deliver further improvements to the station forecourt, entrance and platforms.

## The Welsh Government has built on planned work by Network Rail to help to deliver further infrastructure and service improvements

- 2.17 The Welsh Government took advantage of Network Rail renewing the unstable viaduct between Gowerton and Loughor to fund the redoubling of almost six miles of the line and re-instate the disused platform at Gowerton, at a cost of £27.4 million. Network Rail delivered the two projects at the same time, resulting in efficiencies and minimising disruption. The new viaduct and line doubling has removed a bottleneck and provides additional capacity to increase the number of trains running per hour from two to three, subject to available funding for additional rolling stock. The additional services are commercially viable and do not require Welsh Government funding.
- 2.18 The Welsh Government is contributing £16.6 million, including £5.7 million of European funding, to Network Rail's £245 million Cardiff Area Signalling Renewal (CASR) project ([Case Study 3](#)) which is due for completion in 2017.
- 2.19 The Welsh Government contributed £8 million, matched by £5 million from Network Rail, to improve infrastructure on the Cambrian mainline with additional passing loops, an improved level crossing and by raising a section of the track. These improvements were required to support additional services between the following stations: Aberystwyth and Shrewsbury; Aberystwyth and Pwllheli; Llandoverly and Gowerton/Swansea, and Llandrindod Wells and Shrewsbury/Crewe.
- 2.20 The infrastructure work was completed in 2010. The infrastructure work was progressed in tandem with a larger circa £60 million Network Rail resignalling project. Progressing the resignalling and infrastructure works together took advantage of economies of scale, and the Welsh Government has estimated a £2 million benefit. In 2014, the then Minister for Business, Enterprise, Technology and Science approved revenue funding for additional services. The additional services were introduced on a three-year trial basis from May 2015.



### Case Study 3 – Cardiff Area Signalling Renewal project



The Cardiff Area Signalling Renewal (CASR) is a joint project with the Welsh Government, Network Rail and Department for Transport to improve and upgrade the standard of services available on the Valley Lines. The project includes work on the Barry – Cardiff Queen Street corridor to:

- improve the accessibility of Cardiff Queen Street station;
- upgrade and renew signalling at a number of locations;
- construct new platforms at Barry and Cardiff Central (platform 8); and
- renew and remodel sections of track.

CASR also includes three Welsh Government funded components at Tir Phil, Caerphilly and Barry (Appendix 4) which provide capacity to enable an increase in the frequency of future services. For example, constructing a passing loop at Tir Phil will enable a half-hourly service to operate to Rhymney. The Welsh Government expects the specification for the next Wales and Borders franchise to reflect the additional capacity it has funded across the whole network.

When complete, CASR is expected to remove the bottleneck between Cardiff Central and Queen Street, creating the potential to run 16 passenger trains through the area per hour, a 25 per cent increase on current levels.

CASR is subject to escalating costs and delays. As of October 2015, total project costs had escalated from £220 million to £245 million and scheduled completion has been extended from 2015 to January 2017. The Welsh Government's contribution will remain fixed.

The project forms part of the wider £450 million south Wales re-signalling scheme; between 2007 and 2018, Network Rail is installing new signalling technology across the south Wales network; Vale of Glamorgan; Rhymney Valley line; Barry; east of Cardiff; Cardiff central and west and east of Port Talbot from Baglan to Llanelli.

Source: Wales Audit Office

## The Welsh Government had not adopted a systematic approach to evaluate the value for money of its investment in rail services and is in the process of strengthening these arrangements

- 2.21 In April 2013, consultants Arup carried out a **Rail Services Efficiencies Review** for the Welsh Government. The review was critical of the Welsh Government's approach to post-project monitoring and evaluation of service enhancements under the Wales and Borders franchise. It concluded that: 'there is no evidence of a systematic approach to reviewing the impact of new services once they are introduced'. Arup also concluded that for none of the three service contracts examined as part of the review<sup>20</sup>, had the Welsh Government 'undertaken a review to establish the degree to which [it] has secured value for money'.
- 2.22 Arup's review suggested that the Welsh Government 'should employ a more formal review process following the introduction of a new service to understand the impact of the service and determine whether value for money has been achieved'. It also suggested that the Welsh Government consider introducing services on a pilot basis. In addition, that after six months, the Welsh Government carry out separate reviews of all aspects of the service to see if an adjustment to the assumptions under the service agreement is required. However, this suggestion of introducing services on a pilot basis was not included in the report's 13 recommendations.
- 2.23 The Welsh Government has introduced two new services since Arup reported in April 2013. In May 2015, the Welsh Government introduced additional Heart of Wales and Cambrian line services on a three-year trial basis, and will review them at the end of this period.
- 2.24 To date, many of the Welsh Government's investments to enhance rail services and to improve rail infrastructure stem from the 2010 **National Transport Plan**. In May 2014, the Welsh Government published an interim evaluation report that found that there was only limited data on the impact of investments made under the National Transport Plan<sup>21</sup>. The evaluation recommended that the Welsh Government set up a central database to hold the monitoring and evaluation data for each scheme, including the post-project review and the outturn costs of delivering each project. The Welsh Government has not yet implemented this recommendation.
- 2.25 In January 2014, the Welsh Government's Internal Audit Services reviewed the extent to which monitoring and evaluation of rail capital projects are effective, timely and address benefits realisation. The report identified a need for the Welsh Government to undertake routine post-project evaluation<sup>22</sup>. The report made a number of recommendations, which the Welsh Government accepted, and it has since:

<sup>20</sup> Fishguard services, additional North-South services and Ebbw Valley line services.

<sup>21</sup> Welsh Government, **Interim Evaluation Report on National and Regional Transport Plan**, May 2014. The evaluation reviewed both the 2010 National Transport Plan and the four regional transport plans produced by the Regional Transport Consortia.

<sup>22</sup> In our January 2011 report on **Major Transport Projects**, we recommended that the Welsh Government undertake benefits realisation reviews on all major transport projects and that these should commence within 12 to 18 months of the completion of the main construction works. That report focused on trunk-road projects but also referenced two significant rail projects. We defined major projects as those costing more than £5 million.

- a finalised its draft evaluation process and commenced implementation across the wider programme;
  - b commissioned evaluation reviews where these remain outstanding; and
  - c used lessons learned to inform future projects as a matter of course.
- 2.26 The National Audit Office has reported previously on similar weaknesses in respect of the UK Government. In October 2014<sup>23</sup>, the National Audit Office reported that the Department for Transport did not systematically evaluate its major rail programmes to determine whether outcomes had achieved the benefits set out in the business case.
- 2.27 The Welsh Government has recently started to evaluate the benefits of its investment in additional services, even though it introduced some of these services as long ago as 2004. These evaluations were largely triggered by external factors, notably the need to comply with the conditions of European grant funding and Welsh Government preparations for devolution of responsibility for specifying and procuring the next set of Wales and Borders services. All projects in receipt of European grant funding have complied with the requirement for an independent evaluation covering both the effectiveness of the delivery of the projects (including value for money) and their expected impact in terms of improving journeys and the wider economic impact. Some examples of such evaluations are the evaluation of the European grant funded Valleys Line Strengthening service enhancement which is currently awaiting Ministerial sign-off before being published.
- 2.28 The Welsh Government has recently taken a number of other actions to strengthen its evaluation arrangements:
- a In March 2015, the Welsh Government issued a protocol for post project evaluation of its rail and Metro investment programme. The protocol sets out options for delivering the evaluation (in-house expertise or commissioned research) and establishes timescales for carrying out evaluations. It also identifies a series of questions that all evaluations should address. For example, whether the project delivered to time and budget; how well the Welsh Government managed change and risks within the project and whether the project delivered its expected outcomes, for example, targets for creating additional public-transport journeys.
  - b The Welsh Government is developing a database, which will enable it to evaluate more effectively the impacts of investments in public transport. It is currently setting up a system to enable it to monitor journey times on public transport between key destinations on a three-monthly basis. This data will form a baseline against which to evaluate the impacts of future investments in public-transport interventions.

<sup>23</sup> National Audit Office, *Lessons from major rail infrastructure programmes*, October 2014.

- 2.29 The few evaluations carried out to date provide some indication of benefits realised. For example, the evaluation of the new station at Energlyn found that the increase in passenger kilometres travelled has fallen far short of that anticipated<sup>24</sup>. This is due to a range of factors, including average journeys being shorter than forecast and fewer people than anticipated transferring from their cars and buses to rail. The evaluation of the impacts of additional platforms at Pontypridd and Caerphilly stations found that the expected benefits were yet to be delivered, due to delays on the related Cardiff Area Signalling Renewal scheme (Case Study 3). However, as trains are already held at the new platforms, the evaluation concluded that the improvements were adding resilience to the network.
- 2.30 Other evaluations lack some detail:
- a The evaluation of the Swansea High Street Station concluded that the scheme has delivered its intended benefit of reducing crime in and around the station. However, the evaluation does not give any detail on the extent to which crime has reduced with reference to baseline data, or show that the reduction in crime is directly attributable to the project.
  - b The evaluation of the Merthyr half-hourly rail service does not quantify the impact of the service on car use, merely stating that ‘since its introduction in 2009 the half-hourly rail service has attracted a number of car drivers onto rail services helping to reduce the congestion on this key road link into Cardiff’.

<sup>24</sup> The evaluation reported an outturn net increase in passenger kilometres of 0.76 million compared with the forecast 4.25 million.

## As set out in the National Transport Finance Plan, the Welsh Government currently intends to focus its own medium-term rail-infrastructure investment on the South Wales Metro Phase 2 projects

- 2.31 The **National Transport Finance Plan 2015** sets out the Welsh Government's level of investment in transport infrastructure and services between 2015 and 2020, although the delivery timescale for some of the projects extends beyond the plan period. In addition to it providing upfront funding for rail-infrastructure projects, the Plan commits the Welsh Government to continue to seek to maximise the opportunities from other sources of rail funding, in particular from the UK Government. As part of meeting this commitment, the Welsh Government funded the development of the business case for electrification of the North Wales coast main line by 2024<sup>25</sup>. The Welsh Government also told us that it is to start work on developing plans for a North Wales Metro system.
- 2.32 The National Transport Finance Plan identifies specific schemes, delivery timescales, anticipated costs and likely sources of funding. The Welsh Government told us that the Plan is a 'live' document which it will review periodically, and also further transport schemes may emerge through the competitive dialogue process it is to use to procure the next Wales and Borders franchise and the Metro. The Plan identifies three main rail schemes in which the Welsh Government will invest, which encompass some but not all of the projects referred to in **Appendix 4**. The three schemes are:
- a Wales Station Improvement Programme to improve stations and their integration with other transport modes, which had an indicative total project cost of £24 million and an estimated physical and operational completion date of November 2015;
  - b South Wales Metro Phase 1 (**Box 1**), which had an indicative total project cost of £77 million and an estimated physical and operational completion date of November 2017; and
  - c South Wales Metro Phase 2 (**Box 1**), which had an indicative total project cost of £580 million (excluding VAT and inflation) and estimated completion, in several stages, between 2019 and 2023.

<sup>25</sup> On 31 March 2016, the then Minister for Economy, Science and Transport submitted the outline business case for electrification of the line from Holyhead and Llandudno to Warrington and Crewe, to the UK Secretary of State for Transport.



## Box 1 – South Wales Metro Phases 1 and 2

The Welsh Government's overall vision for the package of Metro projects is of 'a multi-modal rapid transit network integrating all transport modes, offering the passenger a single ticket, turn up and go experience'.

The Welsh Government is taking forward its Metro vision in two phases:

Metro Phase 1 comprises:

- extension of the rail line to Ebbw Vale town and a new station – also including line speed and capacity improvements;
- new station at Pye Corner;
- rail and bus-station improvements;
- bus-priority scheme focussed on the A470 corridor between Cardiff and Rhondda Cynon Taff;
- active travel; and
- park and ride schemes.

Some Metro Phase 1 projects are complete (for example, Pye Corner and Ebbw Vale Town stations, others are ongoing (for example, the A470 bus priority scheme). The Welsh Government is currently developing an application for European funding to meet some of the costs of Metro Phase 1, otherwise it will meet the total estimated costs of £77 million.

The Welsh Government has incorporated the Valley Lines Electrification programme into Metro Phase 2. As well as electrification, Metro Phase 2 includes dualling of track on a number of lines, constructing passing loops on a number of lines, additional platforms and station improvements.

Metro Phase 2 is included within the wider Cardiff Capital Region City Deal signed between the Welsh and UK governments and 10 Welsh local authorities on 15 March 2016. Key to the deal is £1.2 billion of investment in the Cardiff Capital Region's infrastructure through a 20-year Investment Fund (Figure 6). Metro Phase 2 will be the initial priority for the Investment Fund.

No decisions have yet been made about further schemes to be supported by the Investment Fund. However, they are 'likely to include further transport schemes, building on the next phase of the metro, investment to unlock housing and employment sites and development of research and innovation facilities.'

The Investment Fund aims to deliver up to 25,000 new jobs and lever in at least £4 billion of additional investment from local partners and the private sector by 2036.

Source: Welsh Government, **A Cardiff Capital Region Metro Update report**, August 2014; Welsh Government, **National Transport Finance Plan 2015**, June 2015; Welsh Government, **Oral Statement-City Deal**, 16 March 2016

Figure 6 – Investors to the Cardiff Capital Region Investment fund

Investor	Agreed investment £ millions
Welsh Government	500
UK Government	500
10 local authorities (collective minimum contribution)	120
European Union funding	100

Source: Cardiff Capital City Region Deal, March 2016

- 2.33 Since publishing the National Transport Finance Plan, the estimated costs of Metro Phase 2 have increased to £734 million at 2018 prices, as reported in the City Deal agreement of March 2016. The revised estimate reflects construction cost inflation and a different VAT position to that originally anticipated. The costs of Metro Phase 2 are predominantly the costs of the electrification programme. In November 2014, the most recent reported estimate for the cost of the Valley Lines Electrification Programme was approximately £555 million. The Welsh Government is keeping this estimate under review, but has not published a more up-to-date estimate so as not to prejudice its commercial negotiations.
- 2.34 After lengthy negotiations between the Welsh Government and UK Government over funding for the costs of the electrification and modernisation scheme, the two parties reached a final settlement in November 2014. The UK Government will contribute £125 million towards the costs of electrification and modernisation within Metro Phase 2.
- 2.35 The Welsh Government is liable for any remaining cost for the electrification and modernisation programme within Metro Phase 2. The Welsh Government intends to bid for £125 million of European Union funding available through the European Regional Development Fund to support its own investment. The Welsh Government plans to submit a 'major project notification' to the European Commission in the latter part of 2016<sup>26</sup>. Since the referendum result on membership of the European Union, the First Minister has sought confirmation that Wales should continue to be able to access this funding, or be able to access equivalent funding from the UK Government. Under European funding rules the

<sup>26</sup> Where total public funding for a project is above €50 million, the European Commission must approve the project, whereas projects below this value are, in the case of Wales, approved by the Welsh European Funding Office.

Welsh Government must be able to demonstrate that electrification has delivered the intended benefits by 2023 or it may be liable to repay any European funding that it secures.

- 2.36 Should the Welsh Government secure European funding, it will still be left to meet from its own funds the remaining cost Metro Phase 2, currently estimated at £484 million. Previously, the Welsh Government envisaged recouping its initial investment in the electrification programme, and so incurring no net cost itself for the project.
- 2.37 That assessment was based on the assumption that modernisation of the Valley Lines took the form of heavy rail electrification and that the services required fewer subsidies because electric trains carry more passengers and are more efficient as set out in the June 2012 outline business case. Since then the Welsh Government has decided to explore other technical solutions for delivering electrification and modernisation of the Valley Lines as part of the South Wales Metro. The Welsh Government has emphasised to us that the assumption that electrification could be delivered at no-net-cost is no longer valid, since the South Wales Metro is a different project with different delivery assumptions and outputs to those used in the Valley Lines electrification business case.



## Part 3

Since 2006, services on the Wales and Borders franchise have improved, although comparisons with other UK rail services show a mixed performance



- 3.1 This part of the report provides a high-level overview of the performance of the Wales and Borders franchise – run by Arriva Trains Wales. It relies on data on the punctuality and reliability of services, the value of incentive and penalty payments and passenger satisfaction.

**Arriva Trains Wales received the third-highest subsidy per passenger kilometre of any UK train operating company between 2011-12 and 2014-15, although a high subsidy is not uncommon for regional franchises that provide rural services**

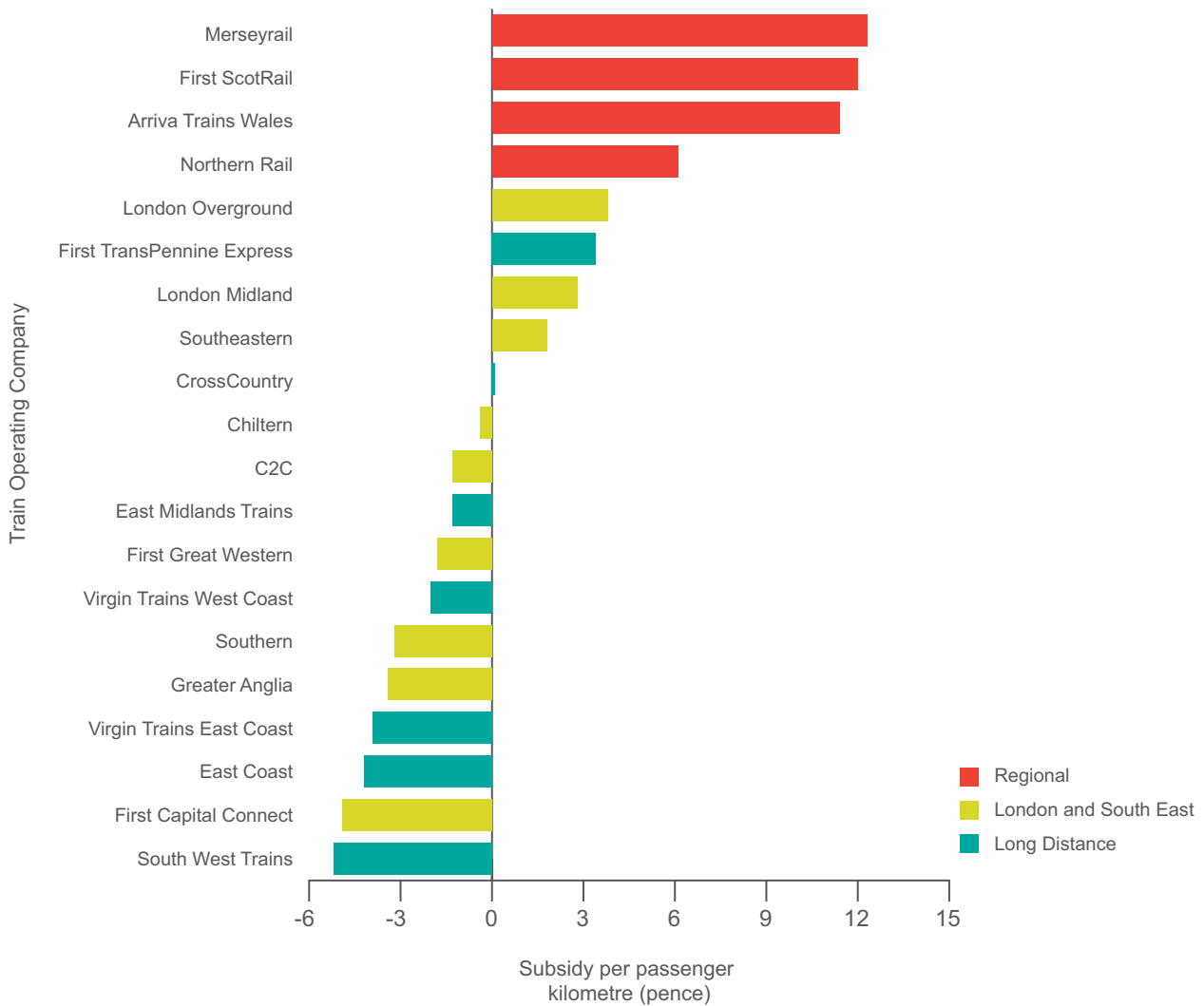
- 3.2 Between 1 April 2011 and 31 March 2015, the cost to the Welsh Government for the subsidy of the core franchise was £617 million, an average of around £154 million per year<sup>27</sup>. Over the lifetime of the franchise (2003 to 2018), based on Welsh Government data, we estimate the total cost to be around £2.5 billion. Arriva Trains Wales has received the third-highest subsidy of all UK train operating companies per passenger kilometre since 2011-12 (Figure 7).
- 3.3 To make comparisons more meaningful, Transport Focus<sup>28</sup> categorises the various franchises and train operating companies in the UK into peer groups. The Wales and Borders franchise has been categorised as one of four ‘regional operating companies,’ along with Merseyrail, First ScotRail and Northern Rail. The other categories are ‘London and South East’ and ‘Long Distance operators’. Although Transport Focus does not measure the subsidy per passenger kilometre, we applied the same principle in comparing Arriva Trains Wales’ subsidy with the other regional train operating companies.
- 3.4 Figure 7 shows that in the period from 2011-12 to 2014-15, each of the regional operating companies received substantially larger subsidies per passenger kilometre than the other train operating companies did. The relatively high subsidies required by regional train operators are because they cover predominantly rural areas.

<sup>27</sup> This does not include other Department for Transport expenditure in relation to the franchise which sits outside of the Welsh Government’s management responsibilities or control. For example, the Department for Transport pays compensation to Arriva Trains Wales for changes made to its operations to accommodate the new Virgin franchise (which has services in Wales) when it was let in 2008. Neither does it include payments made by the Department for Transport to Arriva Trains Wales for English services.

<sup>28</sup> In July 2015, Passenger Focus was renamed Transport Focus when its remit was extended beyond rail and bus passengers to include road users. Transport Focus is an independent Passenger Watchdog for rail, road and bus travellers. Transport Focus consults with more than 50,000 passengers a year to produce the National Rail Passenger Survey – a network-wide picture of passengers’ satisfaction with rail travel. Passenger opinions of train services are collected twice a year from a representative sample of journeys.



Figure 7 – Average government subsidy per passenger kilometre for UK Train Operating Companies 2011-12 to 2014-15



**Note**  
 Negative figures reflect where train operators were paying a premium to the Department for Transport for the right to deliver the services, rather than receiving a subsidy.

Source: Office of Rail and Road

## Arriva Trains Wales has largely met the performance targets set under the Wales and Borders franchise agreement

- 3.5 Under the terms of the franchise agreement and in common with all other rail franchises in the UK, the Welsh Government uses a ‘public-performance measure’ which is set in the franchise agreement (Box 2). If Arriva Trains Wales meets or exceeds the public-performance measure in a four-week period, the Welsh Government pays Arriva Trains Wales a performance-incentive payment. If Arriva Trains Wales does not meet this target, it is liable to make a penalty payment to the Welsh Government. Analysis using the four-week period data shows that, since the Welsh Government took over the day-to-day running of the franchise in 2006, Arriva Trains Wales has exceeded, with only a few exceptions, the service performance target, even as the target has become more demanding (Figure 8).

### Box 2 – Train operating company public-performance measure

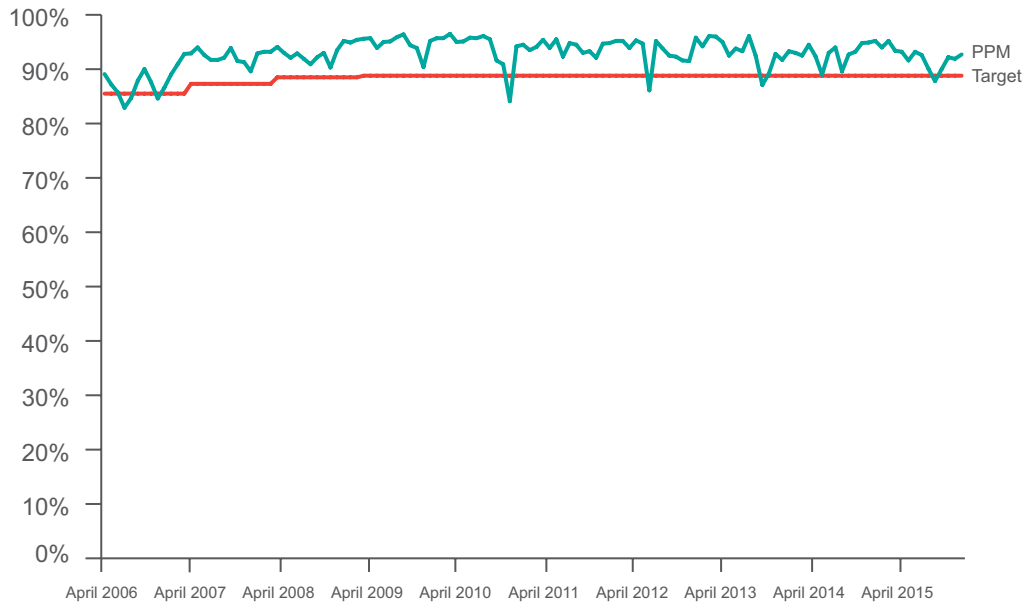
The public-performance measure shows the percentage of trains which arrive at their terminating station on time. This measure defines a train as ‘on time’ if it arrives at the destination within five minutes of its scheduled time for commuter services and within 10 minutes for long-distance services (which tend to be intercity services). In line with the franchise agreement, for the purposes of calculating whether Arriva Trains Wales has met the public performance measure a service is defined as on time if it arrives within five minutes.

The public-performance measure combines figures for punctuality and reliability into a single performance measure. The public performance measure is the industry standard measurement of performance that Network Rail routinely uses and reports on in each of 13 four-weekly periods per year.

Network Rail also collects ‘right-time’ performance data, which measures the percentage of trains arriving at their terminating station early or within 59 seconds of schedule. Although it collects this data, Network Rail itself states that right-time data is ‘an unreliable measure of performance and particularly does not represent the results and experience of passengers serviced by long-distance operators who enjoy some of the very best passenger satisfaction levels in the industry’. The reason given by Network Rail for this unreliability is that the ‘process for gathering data of this accuracy is currently not 100 per cent reliable and the industry is working on improving the quality of this information to make right-time data more reliable’. Nevertheless, this data is used by Network Rail to assess performance. The most recent available right-time moving annual average figures show that Arriva Trains Wales outperformed the three other regional train operating companies.

Source: Wales Audit Office

Figure 8 – Arriva Trains Wales performance against the public-performance measure, 2006-07 to 2015-16



Source: Welsh Government

- 3.6 Between April 2006 and March 2016, Arriva Trains Wales has only been required to make a penalty payment to the Welsh Government in eight of the 130 four-week reporting periods. As of April 2016, penalty payments paid by Arriva Trains Wales to the Welsh Government since 2006-07, totalled £2.2 million (Figure 9). There were no required penalty payments in 2014-15 or 2015-16. Between 2006-07 and 2015-16, the Welsh Government made performance related incentive payments to Arriva Trains Wales of just under £50 million<sup>29</sup>.
- 3.7 With the approval of the Department for Transport, the Welsh Government can amend the public-performance measure within the lifetime of the current franchise if this reflects an improvement reasonably expected from a specified major project. However, as noted by Arup in its 2013 **Rail Services Efficiencies Review** for the Welsh Government (paragraph 2.21), any change would probably have to go through a potentially costly dispute resolution process with Arriva Trains Wales. The Welsh Government has also sought legal advice on the scope to change the current public performance measure, which supported the position set out in the Arup report. Given the Arup and legal advice, the Welsh Government considers it unlikely that it will be able to re-calculate retrospectively the public-performance measure, but it has not completely ruled this out.

<sup>29</sup> Incentive payments were set out in the franchise when it was procured in 2003, and are calculated in the following way. The fixed bonus rate is multiplied by the difference between the benchmark public performance measure (88.8 per cent) and the public performance figure achieved by Arriva Trains Wales for each four-week period. The bonus rate is uprated by the Retail Price Index (RPI) each year. The UK Office for Budget Responsibility defines RPI as an average 'measure of the prices of goods and services, based on the cost of a basket of goods and services.'

Figure 9 – Levels of incentive and penalty payments for the Wales and Borders franchise 2006-07 to 2015-16

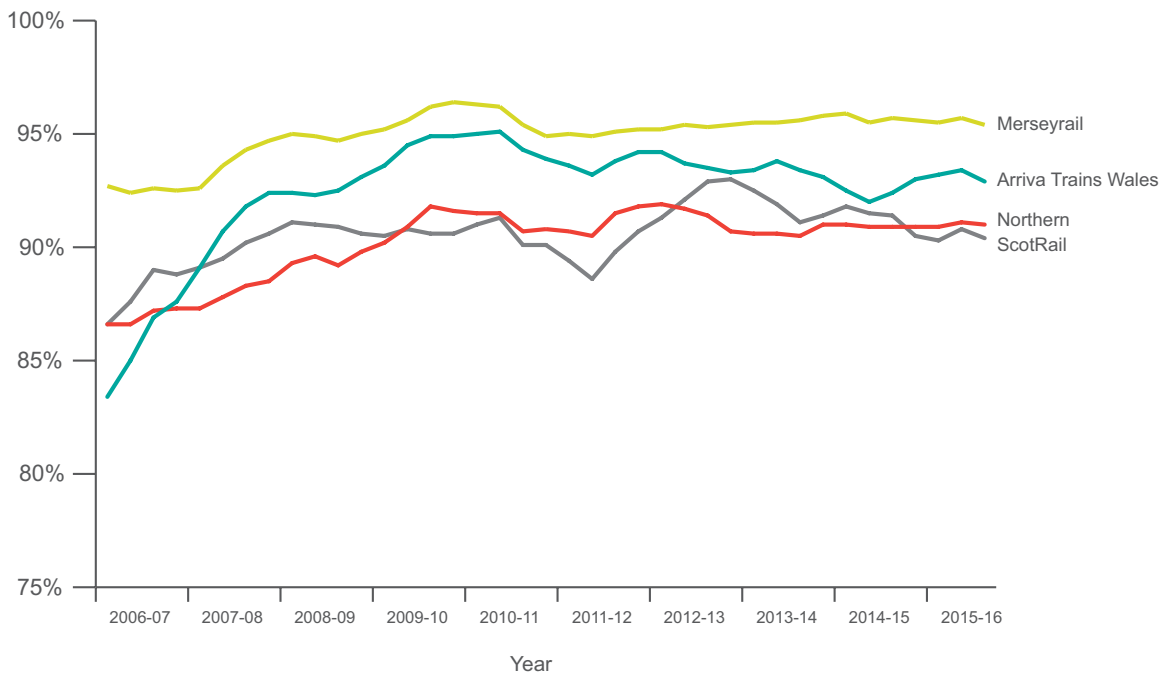
Year	Penalty payments by Arriva Trains Wales (£ million)	Incentive payments by the Welsh Government (£ million)	Net position of Welsh Government (£ million)
2006-07	0.489	0	0.489
2007-08	0	5.422	-5.422
2008-09	0	4.786	-4.786
2009-10	0	7.042	-7.042
2010-11	1.015	4.744	-3.792
2011-12	0	6.303	-6.303
2012-13	0.411	5.548	-5.137
2013-14	0.245	5.533	-5.288
2014-15	0	5.690	-5.690
2015-16	0	4.457	-4.457
<b>Total</b>	<b>2.160</b>	<b>49.525</b>	<b>-47.365</b>

Source: Welsh Government

- 3.8 The Arup report concluded that the improvement in achieving the public performance measure since 2006-07 resulted from:
- a a revised timetable that simplified operations, for example, by introducing trains that run every 15 or 30 minutes on certain peak routes; and
  - b fleet improvement initiatives initiated by Arriva Trains Wales such as improved maintenance standards.
- 3.9 As part of its preparations for the next Wales and Borders franchise, the Welsh Government is reviewing the performance regime it wishes to put in place. The Welsh Government's review will examine whether continued use of the public-performance measure is the most appropriate way to measure the performance of the franchisee.

- 3.10 To enable us to make long-term comparisons with the other regional train operating companies the analysis below uses a metric known as the ‘public performance measure moving annual average’. For each quarter, the moving average is the average of the value for the particular quarter and the previous three quarters. This approach smoothes out the quarter-to-quarter variations in the underlying data (due to seasonal or temporary factors), and means that longer-term trends in the data are easier to see.
- 3.11 In April 2006, Arriva Trains Wales’ moving annual average public-performance measure was 81.3 per cent. Since then, Arriva Trains Wales has seen the largest overall improvement when compared with the other regional train operating companies (Figure 10). Performance has declined slightly since 2009-10 but has remained above the UK national public-performance target of 90.7 per cent set by the Office of Rail and Road. At the end of quarter three of 2015-16, the moving annual average shows performance using this measure at 92.9 per cent, which was the seventh highest of all UK train-operating companies.

Figure 10 – Public-performance measure moving annual average, 2006-07 to quarter three of 2015-16



Source: Office of Rail and Road



## Passenger satisfaction with Arriva Trains Wales has improved in some respects, but comparisons with other train operating companies show a mixed performance

- 3.12 In December 2013, the Campaign for Better Transport<sup>30</sup> published a report comparing rail services across the nine former Government Office Regions in England, as well as Scotland and Wales. The analysis considered services across a broad range of different criteria. The report ranked Wales as 10th of 11 regions and concluded that Welsh rail services performed less well than all other regions, with the exception of East of England, in terms of usage, accessibility and satisfaction. The Campaign for Better Transport's view was that in Wales 'the rail network underperforms compared to the level of funding it receives, demonstrating it needs greater support to ensure that maximum return on investment is achieved'.
- 3.13 However, data collected and analysed by Transport Focus from its biannual National Rail Passenger Survey (Box 3) shows that, in some of the main areas of passenger experience, there has been an improvement since data was first collected or from when the Welsh Government took over the day-to-day management of the franchise in 2006 (Figure 11)<sup>31</sup>. For example, increasing satisfaction with the overall station environment since 2006. The main exceptions are that passengers are now less satisfied than they were in spring 2010 with the value for money for the price of the ticket. There has also been a slight decrease since spring 2010 in satisfaction with trains and their punctuality and reliability, which may be a reflection of Arriva Trains Wales' ageing rolling stock. Data collected through the National Rail Passenger Survey is the accepted industry standard and is used formally in managing franchise agreements, including the Wales and Borders franchise<sup>32</sup>.
- 3.14 We compared the passenger satisfaction data for Arriva Trains Wales in spring and autumn 2015 with the other train operating companies in the UK. The most up-to-date available data (autumn 2015) shows that passengers travelling with Arriva Trains Wales were less satisfied across all the six main categories of passenger satisfaction (Figure 12). However, passenger satisfaction fluctuates. For example, the spring 2015 data shows that passengers travelling with Arriva Trains Wales were more satisfied with the overall journey experience, the train and the punctuality and reliability of the service, but Arriva Trains Wales ranked the lowest for satisfaction with the overall station environment.
- 3.15 In February 2016, 'Which' magazine undertook a survey where passengers ranked Arriva Trains Wales as having the fewest delays to services out of 22 train operating companies. 'Which' also found that for overall passenger satisfaction Arriva Trains Wales ranked 18 of 22 rail operating companies.

30 The Campaign for Better Transport is an independent charity and pressure group providing research and solutions to transport problems, and in December 2013 it published **The Effectiveness of the Rail Network Across Great Britain – a comparative analysis**.

31 The industry practice is to report customer satisfaction with the performance of the train operating companies, such as Arriva Trains Wales. However, passenger satisfaction is likely to reflect some factors outside the control of Arriva Trains Wales. For example, the actions of Network Rail to maintain, renew and enhance infrastructure will affect the punctuality and reliability of trains.

32 For a series of measures (for example train cleanliness), the franchise agreement sets out a target satisfaction score. Where Arriva Trains Wales misses the target, it is required to submit an action plan which sets out how it plans to improve performance.

### Box 3 – National Rail Passenger Survey

In spring and autumn each year, Transport Focus carry out the National Rail Passenger Survey which it describes as ‘a network-wide picture of passengers’ satisfaction with rail travel in Great Britain’. Nationally, each survey round covers approximately 30,000 people, with the autumn 2015 survey sampling 1,109 Arriva Trains Wales passengers.

Transport Focus asks passengers for their views about the specific journey they are undertaking at the point they are surveyed. Passengers are asked to rate their overall satisfaction with their journey, with the station at which they boarded and with the train on which they travelled. Passengers are also asked a series of 33 satisfaction questions about more specific aspects of the station at which they boarded and the train on which they travelled.

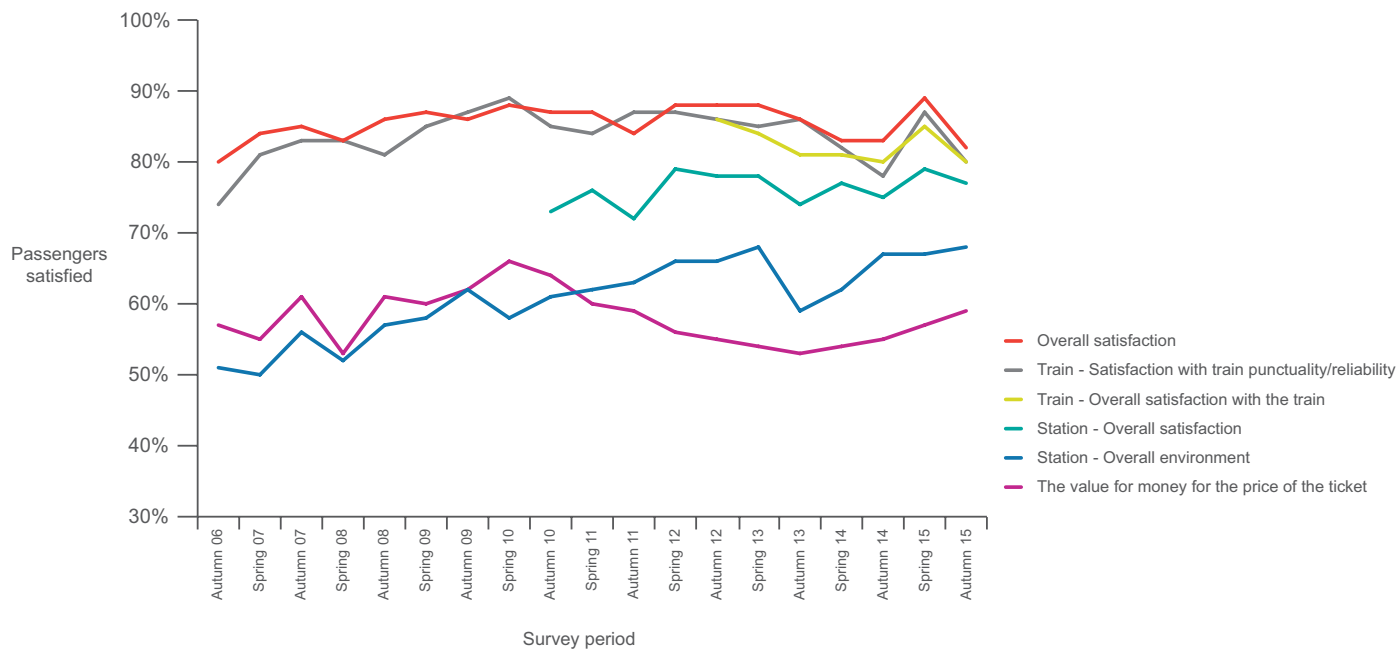
Transport Focus produces a wide range of analysis using information collected during the survey, including analysing satisfaction data at three levels: UK, train operating company and routes. The route-level data includes routes that come into Wales but are not part of the Wales and Borders franchise.

Further information on the survey is available on the Transport Focus website.

Source: Wales Audit Office

- 3.16 For each train operating company, Transport Focus produces a report which identifies the main on-train and station factors influencing overall satisfaction scores. Its most recent analysis (autumn 2015) shows that for Arriva Trains Wales, 12 of the 33 measures are influencing overall satisfaction levels. The two measures with the biggest impact on overall satisfaction are on-train factors, namely the cleanliness of the inside of the train followed by the comfort of the seating area. For Arriva Trains Wales passengers, the punctuality and reliability of the train are of less importance than the previous two factors in explaining overall satisfaction levels. In contrast, at a national level the punctuality and reliability of the train is the most important factor influencing passengers’ overall satisfaction with the journey.
- 3.17 Also, Transport Focus compares passenger satisfaction with punctuality against the actual punctuality of each train company, using measures including the public performance measure (moving annual average) discussed above. Its analysis appears to show that for Arriva Trains Wales as punctuality improves so does passenger satisfaction and vice versa.

Figure 11 – Passenger satisfaction with Arriva Trains Wales, autumn 2006 to autumn 2015

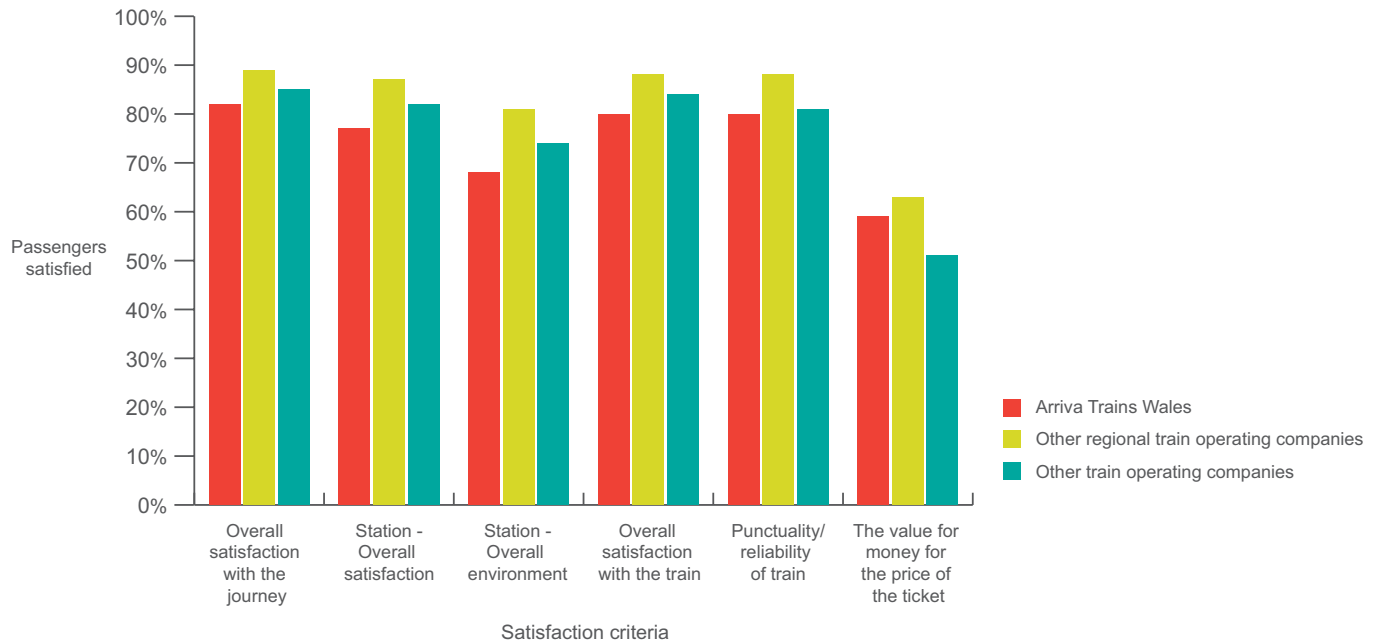


**Note**

The percentage of passengers defined as satisfied comprises the numbers of passengers responding 'fairly satisfied' and 'very satisfied'. This report does not examine rates of and reasons for dissatisfaction. However, Transport Focus reports in a number of ways on dissatisfaction. For example, for each train operating company it considers the main factors influencing passenger dissatisfaction. 'Dissatisfaction' is also a composite of passengers responding 'fairly dissatisfied' and 'very dissatisfied'. For each satisfaction question, passengers are also given the option to respond 'neither satisfied nor dissatisfied' and 'don't know/no opinion'.

Source: Transport Focus National Rail Passenger Survey data

Figure 12 – Arriva Trains Wales passenger satisfaction compared with other UK train operating companies, autumn 2015



Note

This figure includes data for all of the four 'regional operating companies', Arriva Trains Wales, Merseyrail, First ScotRail and Northern Rail.

Source: Transport Focus National Rail Passenger Survey data



## Part 4

The procurement of the Wales and Borders services from 2018 presents new risks, challenges and opportunities for the Welsh Government with some key decisions still to be made





- 4.1 The final part of this report considers the Welsh Government's plans for procuring Wales and Borders services from 2018. The Welsh Government's Deputy Permanent Secretary for Economy, Skills and Natural Resources is the 'Senior Responsible Owner' for the procurement project.
- 4.2 We have not undertaken a detailed review of the Welsh Government's project management arrangements for specifying and procuring the services. However, the Welsh Government has undertaken its own initial Gateway review of the joint procurement of the Wales and Borders services and Metro infrastructure.
- 4.3 The Gateway review found that delivery of the procurement within the required timescales 'appears feasible but significant issues already exist requiring management attention. These appear resolvable at this stage and, if addressed promptly, should not present a cost/schedule overrun'. Issues include: clarity of governance arrangements; the need for an overarching Master programme for the procurement and beyond which includes resourcing, key dependencies and critical path; and the need for greater clarity on the desired outcomes of an integrated contract and the minimum requirements which must be delivered through the procurement.

### The recent example of the InterCity West Coast franchise in England highlights some of the inherent risks in the procurement process for the new Wales and Borders services

- 4.4 The UK Government's Department for Transport is currently responsible for managing and letting the 16 rail franchises across England and Wales. This responsibility has rested with the Department for Transport since 1994, and it awarded the first franchises in December 1995.
- 4.5 On 3 October 2012, problems with the procurement led the Department for Transport to rescind its provisional decision to award the InterCity West Coast franchise to First Group, and to temporarily suspend its entire franchising programme. The National Audit Office examined the background to the suspension of the procurement and identified a number of lessons to safeguard against poor decision making on major projects in the future (Box 4).

#### Box 4 – Lessons from the cancellation of the InterCity West Coast franchise in England

The National Audit Office identified five essential safeguards against poor decision making on major projects, and concluded that none of these safeguards operated effectively in the case of the InterCity West Coast competition:

- 'Clarity of objectives helps decision makers to form appropriate judgements by being a touchstone to refer back to throughout the decision-making process.
- Strong project and programme management brings together and co-ordinates the different streams of work, identifies interdependencies and the sequence of events – the critical path – a programme needs to follow.
- Senior oversight acts as a sense check.
- Effective engagement with stakeholders, such as suppliers, helps by contributing their knowledge, signalling problems and brings them into the process.
- Internal and external assurance provides a sense check and can identify any areas of concern to management'.

Source: National Audit Office, **Lessons from cancelling the InterCity West Coast franchise competition**, December 2012

### The Welsh Government has established a transport company and a strategic advisory board to increase its capacity to procure the new Wales and Borders services

- 4.6 In December 2014, the Welsh Government established a new Strategic Advisory Board<sup>33</sup> to guide the development of integrated transport in Wales, including the South Wales Metro, and the specification and procurement of the new Wales and Borders services. The Welsh Government has also appointed a new Rail Programme Director to co-ordinate various major projects.
- 4.7 The Welsh Government has also formed a not-for-dividend transport company – Transport for Wales. The relationship between the Welsh Government and the company is governed by a number of key documents (Box 5). The current role of the company is to provide advice and support on the procurement of the next Wales and Borders franchise and Metro infrastructure. The main contracts for the rail franchise and delivery of infrastructure will be between the Welsh Government and the provider(s), with Transport for Wales providing advice and expert services. The Welsh Government considers that the company will increase its capacity and capability to deliver its ambitions for rail at the same time as reducing its costs<sup>34</sup>. The Welsh Government anticipates that the company will enable it to:

<sup>33</sup> The Strategic Advisory Board comprises the chief risk officer of Admiral Group (replaced the chief executive officer of Admiral Group who attended previously), a former managing director of South West Trains and First Group (who is now chief executive of the Civil Aviation Authority), and the former managing director of Virgin Trains and Arriva Trains Wales (who is now a non-executive director of Network Rail).

<sup>34</sup> In October 2014, the National Audit Office reported that the UK Government's Department for Transport needed to develop its capacity and skills to deliver major rail-infrastructure projects. The report noted that arm's length arrangements, such as Crossrail Limited can make it easier to recruit experienced, capable people. However, the report also emphasised that the supply of skills could become more difficult given the number of large infrastructure projects in progress and planned (National Audit Office, **Lessons from major rail infrastructure programmes**, October 2014).

- a Better scale up or scale down its resources to meet changing demand. The Welsh Government believes that establishing the Company to recruit appropriately skilled and expert staff will help to develop its credibility in the eyes of suppliers and contractors.
- b Reduce its reliance on external consultants. The Welsh Government has concerns that consultancy costs could increase as the scale of its rail-related activities expands.

### Box 5 – Governance arrangements Transport for Wales

The company board currently comprises eight directors, (including the chair):

- five non-executive directors, drawing in wider experience and expertise in areas such as HR, finance, infrastructure delivery and governance, all of whom are Welsh Government employees; and
- three executive directors with expertise specific to their area of responsibility<sup>35</sup>.

The relationship between the Welsh Government and the company is governed by the following key documents:

- A delegation letter issued by the Permanent Secretary gives the Deputy Permanent Secretary for Economy, Skills and Natural Resources additional accounting officer responsibilities which he is to discharge through his appointment as Chair of the company.
- A Management Agreement between the Welsh Government and the company outlines the purpose of the company, its accountabilities and responsibilities. The Management Agreement will be reviewed periodically to ensure it remains fit for purpose.
- A remit letter from the Welsh Government outlines the key objectives and outputs the company is expected to deliver.
- A business plan, produced by the company, that sets out how the company will deliver the objectives and outputs outlined in the remit letter. The November 2015 business plan identifies the deliverables and critical success factors which must be in place to complete the procurement of the integrated contract on time.

Source: Wales Audit Office

<sup>35</sup> Two Executive Directors are currently on secondment from the Welsh Government. The third, the Managing Director, is not a Welsh Government employee.

## The Welsh Government wants a different operating model for the next franchise, but has not yet established what that operating model is

- 4.8 Current legislation<sup>36</sup>, which will not be amended prior to the procurement of the next franchise, means the remit of Transport for Wales cannot extend to operating services. The Welsh Government's current thinking is that it will use the competitive dialogue process to construct an agreement that matches its objectives. It has considered how the operating model for the next franchise needs to reflect the particular circumstances in Wales and specific Welsh Government policy objectives, but has yet to confirm its position.
- 4.9 The Welsh Government had previously considered moving from a 'franchise' model to a 'concession' model, with envisaged benefits including the ability to reinvest in services as revenue increases. However, the Welsh Government's current thinking is that it will use the procurement process to confirm the operating model. The Welsh Government has also yet to confirm the details of its approach to incentivising the operator of the franchise and maximising reinvestment in railway services.
- 4.10 The nature of the services provided by the Wales and Borders franchise (which is a mix of rural services, a commuter network in south-east Wales and a number of interurban services), and the likelihood that services will require subsidising into the future mean that the Welsh Government needs to develop a clear position on the following issues:
- a The level of control over service specification and delivery that sits with the Welsh Government. Commonly, franchises where high levels of control rest with the authority are referred to as 'management contracts' or 'concessions', whilst those where control is largely or totally with the operator are referred to as 'commercial franchises'.
  - b Its approach to the allocation of a range of risks, such as revenue risk allocation. In a commercial franchise, revenue risk tends to sit largely or totally with the operator who also has the opportunity to increase profits if it can grow its revenue. Whereas in a management contract the revenue risk sits largely or totally with the authority. The Welsh Government must also determine an approach to the allocation of risks, such as fuel cost variation. In a commercial franchise the operator often includes the risk of fuel cost variation in its operating cost calculations, whereas in a management contract the risk of fuel cost variation may sit largely or totally with the authority.

<sup>36</sup> Section 25 of the Railways Act 1993 prevents 'public sector operators' from running rail franchise in Britain. However, the Scotland Act (Amendment) Bill 2015-16, which is currently being considered by the UK Parliament, proposes to devolve to the Scottish Government the power to allow public sector operators to bid for rail franchises funded and specified by Scottish Ministers. The UK government has agreed to consider whether to give Wales the same powers in this respect.

- 4.11 As part of developing a different approach to operating Wales and Borders services, the Welsh Government has met the Scottish Government to discuss its approach to awarding the ScotRail franchise. The new ScotRail franchise includes a 'deep alliance' between the franchisee – Abellio<sup>37</sup> – and Network Rail as the owner and operator of the infrastructure. Network Rail say that a 'deep alliance' is an alliance in which they and a train operator 'share upside or downside risk against an agreed baseline for all and most of their activities'. In a 'deep alliance', there should be an integrated management team and a single Managing Director who is accountable to both companies. The Welsh Government discussed the potential benefits of an alliance model at a briefing it held with the rail industry in June 2015.

### The Welsh Government aims to let an integrated Wales and Borders and Metro contract in 2017 worth an estimated £3.5 billion, through a competitive dialogue process

- 4.12 In 2017, the Welsh Government aims to let an integrated contract for the Wales and Borders franchise and Metro. Its view is that combining the procurement of the Metro with the Wales and Borders franchise will give a step change in quality, including faster journey times, improved reliability and less overcrowding.
- 4.13 The Welsh Government has estimated the value of the integrated contract at £3.5 billion. The estimated value reflects an assumption based on a 15-year franchise, although a final determination on the length of the franchise will emerge during the procurement process. The length of the franchise makes it particularly important that the Welsh Government gets the contract specification right. The lack of provision for passenger growth is a widely acknowledged limitation of the current franchise<sup>38</sup>.
- 4.14 In November 2015, the National Audit Office published its review of the UK Government Department for Transport's approach to passenger rail franchising since the collapse of the InterCity West Coast competition<sup>39</sup>. The report identified a number of risks to achieving value for money in the refranchising programme, including the 'challenging interdependencies' between major infrastructure works, rolling stock and franchises. Transport Scotland has sought to manage these interdependencies through the 'deep alliance' model. The Welsh Government considers that procuring an integrated contract should offer the opportunity to manage such interdependencies better.
- 4.15 The Welsh Government has chosen to adopt a competitive dialogue process to procure the integrated contract. The competitive dialogue approach should allow the Welsh Government to design a feasible, fit-for-purpose, solution to achieve the Welsh Government's objectives rather than specifying this up front<sup>40</sup>.

<sup>37</sup> In October 2014, the Scottish Government awarded the ScotRail franchise to Abellio, a subsidiary of the Dutch national operator. The contract runs for a minimum of seven years from 1 April 2015 with an option to extend the term to 10 years by mutual consent after five years.

<sup>38</sup> For a discussion of the strengths and weaknesses of the current franchise which was procured by the Department for Transport in 2003, see, National Assembly for Wales Enterprise and Business Committee, **The Future of the Wales and Borders franchise**, December 2013.

<sup>39</sup> National Audit Office, **Reform of the rail franchising programme**, November 2015.

<sup>40</sup> The Auditor General's May 2015 report on **Welsh Government investment in next generation broadband infrastructure** notes that the Welsh Government adopted the competitive dialogue process for its procurement of its Superfast Cymru contract with BT.



4.16 The current timetable is as follows:



- 4.17 The Welsh Government had previously envisaged completing the specification phase by early 2016. However, it has taken longer than originally estimated to negotiate an arrangement to deliver its preferred approach with the Department for Transport and Network Rail. This delay has had a knock-on effect on the procurement phase, which was originally due to be completed by late 2016. The Welsh Government told us that early planning timescales were indicative and allowed for delays. The Welsh Government is confident that the revised timescale will still enable the new franchise to start in autumn 2018. In May 2016, Transport for Wales appointed consultancy firm Mott MacDonald to act in an advisory role and provide expertise during the procurement process.
- 4.18 The Welsh Government is engaging with key stakeholders to develop its plans for specifying and procuring the franchise and for delivering its Metro Phase 2 infrastructure projects. The Welsh Government held a number of consultation events during 2015 and, in January 2016, issued a consultation document **Setting the Direction for Wales and the Borders Rail**. Issues covered by the consultation include: station improvements; the future performance management regime for the next Wales and Borders franchise; the appropriateness of current Wales and Borders services (for example, the current frequency of services) and ticketing (for example, views on replacing the current paper-based ticketing system).
- 4.19 In May 2016, Transport for Wales, on behalf of the Welsh Government, held a Wales and Borders and Metro procurement event to provide detail to prospective bidders and the immediate supply chain (such as rolling-stock manufacturers, rolling-stock companies and major infrastructure contractors).
- 4.20 The Welsh Government will need to manage a series of risks when working with the industry to deliver the integrated contract within the required timescales. In a 12 July 2016 statement to the National Assembly for Wales on priorities for his government, the First Minister raised the possibility that due to the result of the referendum on membership of the European Union, the South Wales Metro project could take longer to deliver than originally anticipated. Uncertainties around timescales may impact upon the level of interest within the industry in delivering the project. Should the procurement not be completed by the end of the current franchise then, for the franchise element, the Welsh Government has the ability to make a Direct Award or extend the existing franchise.
- 4.21 Transport for Wales has identified and assessed the risks to the successful procurement of an integrated Wales and Borders franchise and Metro procurement. These risks are reported to the company board.

## The Welsh and UK governments have yet to agree some details of the financial settlement for the next Wales and Borders franchise

- 4.22 On 17 September 2015, the Department for Transport told the Enterprise and Business Committee that it had agreed with the Welsh Government that a key principle of the future financial settlement for the next Wales and Borders franchise between it and the Welsh Government was that ‘the block grant would be unaffected’<sup>41</sup>. This agreement between the two governments comes with a number of implications and risks.
- 4.23 The future financial settlement will not include any additional funding to cover the costs of the enhanced services, which the Welsh Government has funded to date (paragraph 2.5 and Appendix 3). To continue to run the additional services from 2018, the Welsh Government will continue to have to fund these services at a cost of approximately £20 million annually (based on the current franchise). The Welsh Government told us that it expects these services to be delivered at less cost under the new franchise, as they will be competitively procured and benefit from potential integration with other services.
- 4.24 The **National Transport Plan 2010** identifies a number of additional services that the Welsh Government aspired to, but is yet to deliver. One such example is the introduction of half-hourly peak services between Caerphilly and Pontypridd, via Cardiff. The Welsh Government has estimated the total costs of the as yet undelivered aspirations within the National Transport Plan to be approximately £13 million per annum.
- 4.25 The **National Transport Finance Plan 2015** commits the Welsh Government to reviewing its proposals for service enhancement. Budget constraints resulting from the ongoing real-terms reductions in the Welsh Government’s block grant from the UK Government will inevitably be a consideration in decisions about the affordability and overall prioritisation of enhanced services in the medium term.
- 4.26 The Welsh and UK governments are yet to agree the extent to which the next Wales and Borders franchise will include the more lucrative cross-border services, such as Cardiff to Manchester, which currently subsidise the less commercially viable services. The Department for Transport has committed to the Welsh Government being no better, no worse off as a result of any remapping from 2018. However, as acknowledged by the Department for Transport, quantifying exactly what this means in terms of a final funding package is, in practice, quite difficult.

<sup>41</sup> This agreement covered a number of other issues, for example, the Department for Transport contributing £125 million at 2014 prices to the costs of Valley Lines electrification.

4.27 Also, in October 2014, the then Director General for Economy, Science and Transport told the National Assembly's Enterprise and Business Committee that there had been a failure to index link the funding provided to the Welsh Government, when it took over responsibility for the franchise in 2006. He said that this failure will have added 'about £60 million to £70 million to the cost' of the franchise by time it ends in 2018. The Welsh Government remains concerned about this issue. However, Department for Transport officials told us that it is for the Welsh Government to manage this financial risk as part of procuring the next franchise.

### The Welsh Government's approach to managing and acquiring rolling stock will be decided as part of the competitive dialogue process for the franchise procurement

4.28 The National Assembly Enterprise and Business Committee's December 2013 report on **The Future of the Wales and Borders Franchise** recommended that the Welsh Government 'develop and publish a rolling stock strategy as a matter of urgency'. The Welsh Government accepted this recommendation in principle, but also noted in its response to this and a number of the other Committee recommendations that it was not at that time the franchising authority.

4.29 Rolling stock is a particular issue because of regulations, widely known as the Persons with Reduced Mobility Regulations, which mean that all trains must be by 1 January 2020<sup>42</sup>. As part of the competitive dialogue process for the franchise procurement, the Welsh Government is looking to Transport for Wales to identify the most appropriate option, for example, lease from rolling-stock operating companies or Welsh Government ownership, and establish a delivery programme. Decisions about rolling stock cannot be made until the Welsh Government decides upon the technical solution to deliver the South Wales Metro, for example, light rail or heavy rail. There are consequently certain risks in terms of the lead-in times for delivering the required rolling stock that the Welsh Government will need to manage.

<sup>42</sup> Rail Vehicle Accessibility (Non Interoperable Rail System) Regulations 2010 (RVAR 10) applies to mainline trains built from 1999 to 2009 and non-mainline rail vehicles. Technical specification for interoperability for persons with reduced mobility (PRM TSI) applies to mainline trains built from 2010 onwards. However, as of January 2020, trains built before 1999 will also be required to be accessible. The Office of Rail and Road is responsible for enforcing RVAR 2010 and PRM TSI.



# Appendices





# Appendix 1 - Methods

## Scope of our work

Our examination focused on whether the Welsh Government has put in place effective arrangements to support the development and delivery of rail infrastructure and services in Wales. As part of our examination, we have set out public-sector investment in rail services and infrastructure since April 2011. We took this as the starting point for our analysis because this is when Network Rail started recording Wales-level data. Prior to this date, expenditure data from Network Rail was only available on a UK-wide basis.

We have also analysed the performance of, and passenger satisfaction with, the services operated by Arriva Trains Wales under the Wales and Borders franchise. Since 2006, the Welsh Government has been responsible for the day-to-day management of the Wales and Borders franchise and can choose to fund additional services to the core franchise. However, the Welsh Government does not have similar responsibilities and powers over the franchises operated by Virgin, First Great Western and CrossCountry which all include routes that come into Wales.

This study was not an audit of the operations and effectiveness of Network Rail. From September 2014, reflecting new European Union reporting rules, the Office for National Statistics reclassified Network Rail as a public body, rather than a private non-financial corporation. Subsequently, under the September 2014 Framework Agreement between Network Rail and the Department for Transport, the Comptroller and Auditor General became Network Rail's appointed auditor and gained powers to carry out value-for-money studies under the National Audit Act 1983 examining the economy, efficiency and effectiveness with which Network Rail has used its resources in discharging its functions.

In October 2015, the National Audit Office published a memorandum for the Westminster Public Accounts Committee. This memorandum covers: the processes for determining spending on rail infrastructure; the scale and scope of Network Rail's current investment programme and how this differs from previous investment programmes; how issues have become known with the delivery of the current programme and the UK government's response to the emerging issues<sup>43</sup>.

The delivery by Network Rail of its enhancement programme has been reviewed by Sir Peter Hendy and Dame Colette Bowe. Other aspects of Network Rail's performance have been reviewed by Nicola Shaw (Box 6).

<sup>43</sup> National Audit Office, **Planning and delivery of the 2014–2019 rail investment programme**, October 2015.

## Box 6 – Recent reviews of Network Rail

### **Bowe review of the planning of Network Rail’s enhancements programme, 2014 to 2019**

The UK Government asked Dame Colette Bowe, Non-Executive Director Department for Transport, to identify:

- the causes of the increases against cost estimates and delays to projects within the Control Period 5 (2015-2019) enhancements programme, including looking at the treatment of schemes in an early stage of development;
- the extent to which Network Rail’s plans include the creation of capability and skills in the company and its supply chain to deliver the programme;
- lessons to be learnt from different delivery models for rail infrastructure enhancements (for example, the Thameslink Programme); and
- changes to process and practice that will lead to improved outcomes for Control Period 6 (2019-2024).

Dame Bowe’s report was published in November 2015. Her review concluded that there was no single reason to explain the increasing costs and delays, which if remedied would prevent similar problems occurring in 2019-2024. Instead, she found a number of reasons, including:

- planning processes which were inadequate to deliver projects of the scale and the complexity of those scheduled for delivery during Control Period 5, in particular to deliver a programme of electrification the scale of which was previously unseen within the UK;
- unclear roles and responsibilities between the Department for Transport, the Office of Rail and Road and Network Rail;
- poor scope definition and ongoing ‘scope creep’ which led to increasing costs;
- changing internal structures and responsibilities within Network Rail, which obscured lines of accountability and hampered project and programme management; and
- early cost errors, unanticipated interdependencies and machinery which did not deliver as expected, which slowed the rate of electrification.

### **Hendy review of the replanning of Network Rail’s investment programme**

Reflecting concerns about delays and cost overruns in Network Rail’s £11.8 billion five-year programme of UK-wide enhancements, on 15 September 2015, the Secretary of State for Transport commissioned Sir Peter Hendy, the then recently appointed Chair of Network Rail to ‘re-plan’ the enhancement programme. The Hendy review’s terms of reference are to ensure that enhancements are re-planned so that:

- ‘the work planned is deliverable within the resources available to Network Rail and its supply chain in any given financial year;
- maximum value is gained through finding the most efficient means of delivery;

- work that cannot be afforded, or is not deliverable, between 2014 and 2019 is profiled for delivery beyond 2019, pending availability of funding;
- work is prioritised taking particular account of interfaces with other infrastructure programmes and the need to deliver the required passenger and freight benefits, franchise or rolling stock commitments’;
- Network Rail was scheduled to deliver two major infrastructure projects in Wales in Control Period 5: Great Western Electrification (London Paddington to Swansea) and Valley Lines Electrification.

The Hendy review was published in November 2015. The review found the two main reasons for the cost and delivery problems were inadequate planning and scope definition of some projects and poor cost estimation. The review described how Network Rail and the Department for Transport have worked together to identify additional funding to deliver Network Rail’s enhancements programme (sale of assets and increased borrowing). However, while this approach is sufficient to fund the vast majority of enhancement projects scheduled for Control Period 5, it is not sufficient to fund all projects and a number have been identified for completion in Control Period 6.

As part of its overall review of Network Rail’s enhancement programme, the Hendy review reassessed and replanned the Great Western Mainline electrification programme which includes electrification of the line from London Paddington to Swansea. Under the new programme, completion of electrification to Cardiff is still planned to be completed in Control Period 5 within the estimated total cost of £2.8 billion (in 2012-13 prices), although at the time the Hendy review was published, cost and delivery milestones were still subject to final review. However, electrification beyond Cardiff to Swansea is now expected to be completed in Control Period 6 at the earliest.

### **Shaw review of the future shape and financing of Network Rail**

On 8 July 2015, the UK Government announced that it had asked Nicola Shaw, Chief Executive of High Speed 1, to ‘develop recommendations for the longer-term future shape and financing of Network Rail’. In November 2015, Ms Shaw published a ‘scoping document’ which included: her approach to conducting the review; some background issues, such as the way in which Network Rail operates and is funded, and identified some of the implementation issues which would be further explored in her final report.

The final report identified four main problems with the way in which infrastructure services are delivered by Network Rail and made seven recommendations to address these problems.

Sources: Department for Transport, **Report of the Bowe Review into the planning of Network Rail’s Enhancements Programme 2014-2019**, November 2015; Network Rail, **Report from Sir Peter Hendy to the Secretary of State for Transport on the replanning of Network Rail’s Investment Programme**, November 2015; Department for Transport, **The future shape and financing of Network Rail**, March 2016.

## Review of literature, data and statistics

We reviewed a wide range of documents and data, including:

- a Welsh Government policy documents; including the **National Transport Plan 2010** and the **National Transport Finance Plan 2015**.
- b Welsh Government Ministerial statements about rail services and responses to National Assembly for Wales' reports on rail services.
- c Welsh Government published data, including those used to monitor the National Transport Plan.
- d Welsh Government financial data, including spending on the current franchise, additional services, infrastructure improvements and forecast expenditure on rail projects.
- e Data from the Office of Rail and Road on passenger numbers, the Public Performance Measure and train operating company subsidies since 2011.
- f Data from Transport [formerly Passenger] Focus on national rail passenger surveys since 2011.
- g Data from the Department for Transport about Access for All funding in Wales.
- h Network Rail data on rail expenditure in Wales since 2011.
- i Other audit reviews, scrutiny reports and research papers, including:
  - National Assembly for Wales Enterprise and Business Committee, **The Future of the Wales and Borders Rail Franchise**, December 2013.
  - National Assembly for Wales Enterprise and Business Committee, **Priorities for the future of Welsh Rail Investment**, March 2016.
  - National Assembly for Wales Research Service:
    - **Quick Guide to the Operation of the railways in Wales**, May 2011;
    - **Rail Infrastructure Planning in Wales – a quick guide**, July 2016;
    - **Rail franchising in Wales**, July 2016.
  - Welsh Government Internal Audit Services reviews of the Rail Franchise and Rail Capital Contracts both conducted in 2014.
  - A **Rail Services Efficiencies Review** conducted by Arup for the Welsh Government in 2013.

- National Audit Office:
  - **Lessons from cancelling the InterCity West Coast franchise competition**, December 2012;
  - **Lessons from major rail infrastructure programmes**, October 2014;
  - **A short guide to Network Rail**, July 2015;
  - **Planning and delivery of the 2014-2019 rail investment programme**, September 2015; and
  - **Reform of the rail franchising programme**, November 2015.
- Credo Business Consulting LLP in association with the Campaign for Better Transport, **The Effectiveness of the Rail Network Across Great Britain – a comparative analysis**, December 2013.

### Interviews with the Welsh Government, Network Rail, Arriva Trains Wales and other organisations

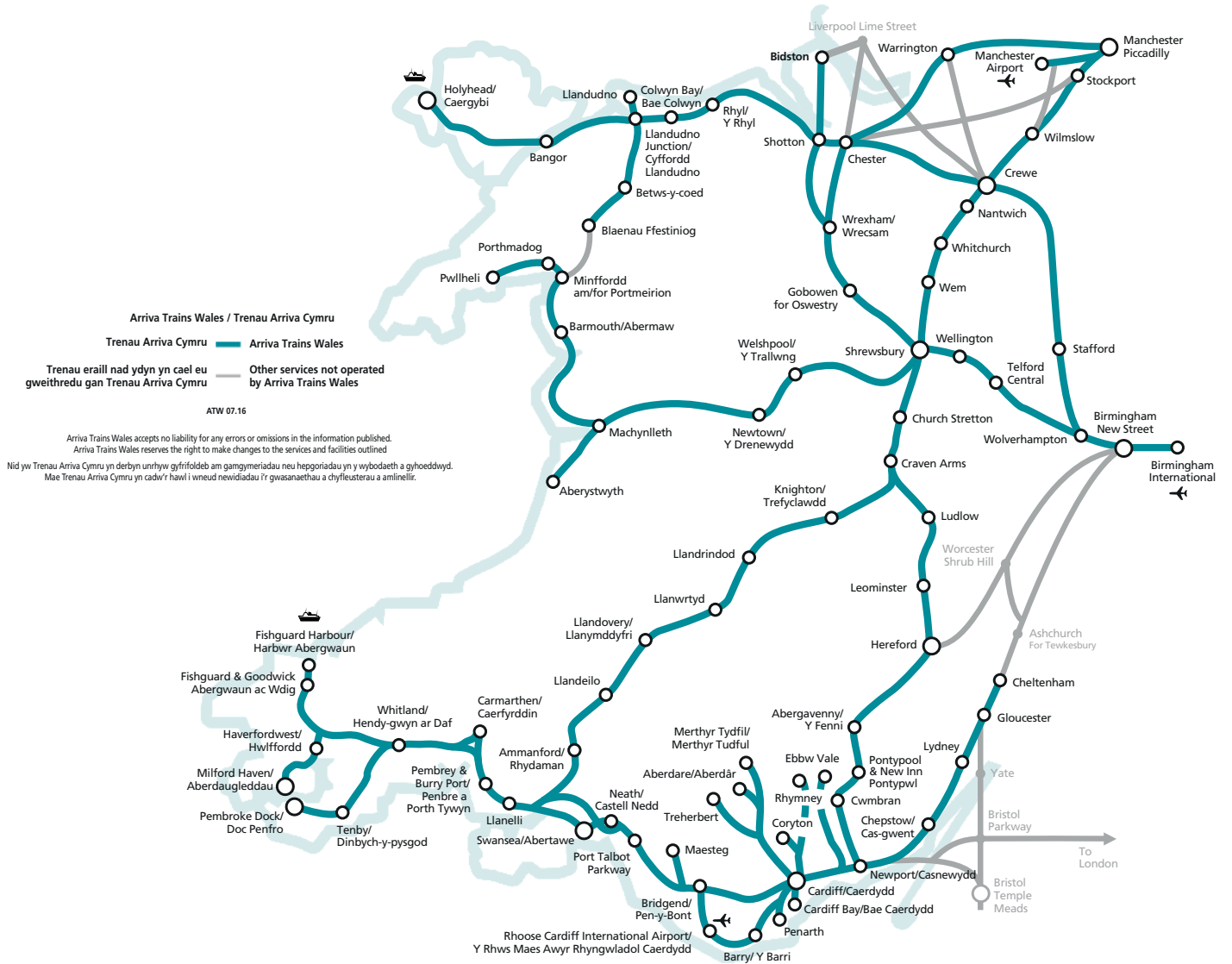
We interviewed a range of Welsh Government officials with responsibilities for: developing rail policy; overseeing the operation by Arriva Trains Wales of the current Wales and Borders franchise and leading the specification and procurement of the next franchise; planning and managing the delivery of rail capital projects and monitoring and evaluating the impacts of Welsh Government investment in rail. We also interviewed officials at the Department for Transport and the Office of Rail and Road.

We spoke to key officials at Network Rail in Wales as well as key officials at Arriva Trains Wales. We also interviewed representatives of Transport Focus in Wales and Disability Wales.

We also observed one meeting of the Network Rail/Welsh Government Programme Management Board.



# Appendix 2 - Map of Wales and Borders franchise routes



Source: Arriva Trains Wales

## Appendix 3 - Welsh Government investment in enhanced services 2011-12 to 2015-16

Service enhancement	Start date	Details	Total Cost 2011-12 to 2015-16 (£ million)
Valley Lines Strengthening	2007	Provision of longer trains on key morning and evening commuter services on the Valley Lines network to address passenger growth/crowding.	34.397
Ebbw Valley line services <sup>1</sup>	2008	Introduction of hourly services, following re-opening of the line to passenger services.	21.733
North-South premier express service	2008	Fast weekday return service between Holyhead and Cardiff.	14.695
Cambrian line strengthening	2007	Funding of additional carriages to address passenger growth/crowding issues on services between Aberystwyth and Birmingham.	9.733
Cardiff to Holyhead two-hourly service	2004	Introduction of additional services to create a timetable with direct Holyhead-to-Cardiff services every two hours.	4.957
Merthyr half-hourly service	2009	Increase of service frequency between Merthyr and Cardiff during the day from hourly to half-hourly.	6.739
Fishguard services	2011	Provision of an additional five return services per day to Fishguard Harbour.	6.447
Vale of Glamorgan	2005	Introduction of hourly services, following re-opening of the line to passenger services.	6.726
Wrexham to Bidston Sunday service and strengthening	2006	Funding of provision of six return services on Sunday plus provision of longer trains on all services.	3.434
Heart of Wales Sunday service	2004	Provision of a second service (in each direction) on Sundays to allow return journeys.	0.241
<b>Total</b>			<b>109.102</b>

### Note

<sup>1</sup> Between 2011-12 and 2015-16, under a profit share arrangement with Arriva Train Wales, the Welsh Government received an income of £6 million from the Ebbw Valley line. We have presented the full cost of enhanced services above without netting off this income. The total estimated profit-share income to the end of the franchise in 2018 is £12 million. The total estimated costs of delivering services on the Ebbw Valley line to the end of the franchise in 2018 is £41 million.

Source: Welsh Government

## Appendix 4 - Recently completed and ongoing rail-infrastructure projects supported in part by Welsh Government funding

Figures 13 and 14 set out the recently completed and ongoing rail-infrastructure projects which include an element of Welsh Government funding. Neither table includes projects in Wales which were funded by the UK government through Network Rail but which did not include a Welsh Government contribution. For example, non-Welsh Government funded components of the Cardiff Area Signalling Renewal (Case Study 3 on page 36), which is itself part of a wider south Wales area re-signalling programme.

Figure 13 – Completed rail-infrastructure projects in Wales supported in part by Welsh Government funding, between January 2011 and May 2016

Project	Funding sources (£ million)				Total cost
	Welsh Government	European Union	UK Government Department for Transport	Network Rail	
Gowerton Station modernisation and redoubling <sup>1</sup> of the line between Gowerton and Loughor (completed 2013) <sup>2</sup>	14.4	13			27.4
Energlyn new station, Rhymney Valley line (completed 2013)	2.7	2.8			5.5
Swansea High Street station modernisation (completed 2012)	3.5		1.7	2.8	8
Newport station modernisation (completed 2011)	7.7			20.2	27.9
Gaer Junction upgrade (completed 2011)	2.9				2.9
Rhymney Valley stations park and ride (completed 2011)	3.6	3.1			6.7

Funding sources (£ million)

Project	Welsh Government	European Union	UK Government Department for Transport	Network Rail	Total cost
Pye Corner new station and park and ride (completed 2014)	1.3		2.1		3.4
Pontypridd station reinstatement of bay platform for potential additional frequencies (completed 2014)	2.6	3.3			5.9 <sup>3</sup>
Cardiff Area Signalling Renewal <sup>4</sup> :	<b>6.1</b>	<b>2.8</b>			<b>8.9</b>
• Caerphilly station –reinstatement of bay platform for potential additional frequencies (completed 2013)	2	2.8			4.8
• Barry turnback – reinstatement of bay platform and signalling for potential additional frequencies and replacement footbridge (completed 2014)	4.1				4.1

Funding sources (£ million)

Project	Welsh Government	European Union	UK Government Department for Transport	Network Rail	Total cost
Wales Station Improvement Programme	7.6	21.4		3.8	36.2
• Aberystwyth	1.4	1.5		0.1	3
• Humps	0.2	1.5			1.7
• Llandudno		2.0		3.0	6.6 <sup>5</sup>
• Pontypridd	1.2	3.8		0.2	5.6 <sup>6</sup>
• Rhyl	0.6	1.0		0.5	2.1
• Ystrad Mynach	0.7	0.9			1.6
• Porthmadog Harbour		0.6			1.0 <sup>7</sup>
• SWWITCH station access programme <sup>8</sup>		0.9			0.9
• Carmarthen	0.1				0.4 <sup>9</sup>
• Customer Information System/Shelters	0.4				0.4
• Port Talbot Parkway	3	9.2			12.9 <sup>10</sup>

(all completed by May 2016)



### Funding sources (£ million)

Project	Welsh Government	European Union	UK Government Department for Transport	Network Rail	Total cost
Access for All programme (replacement of footbridges with lifts and ramps)	1.82		2		3.82
• Ystrad Mynach	0.88		1		1.88
• Chirk	0.94		1		1.94
(completed by July 2015 and October 2015 respectively)					
<b>Totals</b>	<b>54.22</b>	<b>46.4</b>	<b>5.8</b>	<b>26.8</b>	<b>136.6</b>

#### Notes

- 1 A double-track railway which usually involves running one track in each direction, compared to a single-track railway where trains in both directions share the same track.
- 2 Alongside this Welsh Government-led project, Network Rail replaced the Loughor Railway Bridge over which the new double track could run at a cost to it of £20.3 million.
- 3 Does not include unforeseen costs of £0.23 million met from Network Rail's 'Rail Industry Risk Fund' (see paragraph 1.35).
- 4 Within the Cardiff Area Resignalling Scheme the Welsh Government is also funding improvements at Tir Phil but this work is not yet fully complete (see Figure 14).
- 5 The Llandudno station improvement scheme also received funding from Taith (£1.4 million) and the Railway Heritage Trust (£0.15 million)
- 6 Includes Arriva Trains Wales investment of £0.4 million.
- 7 Includes £0.4 million match funding from Ffestiniog Railway Trust.
- 8 A programme of minor access improvements to a number of stations in the SWWITCH area (Pembrokeshire, Swansea, Neath Port Talbot and Carmarthenshire). Swansea City and County Council co-ordinated scheme delivery on behalf of the Welsh Government.
- 9 Includes local-authority investment of £0.27 million and Arriva Trains Wales investment of £0.09 million.
- 10 Total includes a contribution of £0.7 million from Neath Port Talbot County Borough Council.

Source: Welsh Government

Figure 14 – Ongoing rail-infrastructure projects in Wales supported in part by Welsh Government funding, as of May 2016<sup>1</sup>

Scheme	Indicative cost £ million	Estimated completion date
North – South journey time reduction/ capacity enhancement (partial redoubling of single line between Wrexham to Chester, signalling and upgrading four level crossings).	49	Physical works by March 2017, commissioning by December 2017.
Ebbw Vale Town new station and line extension from Ebbw Vale Parkway, including line speed enhancements.	11.5	Station/extension operational by May 2015, line speed improvements completion date to be agreed.
Design of Maesteg branch frequency enhancement to enable potential half-hourly service to/from Cardiff (currently hourly).	0.9	By April 2017.
Rhymney Valley line – passing loop and new platform and signalling at Tir Phil to enable potential half-hourly service Bargoed to Caerphilly (currently hourly).	7.7 (Welsh Government with European Union funding)	Complete, except minor platform works at Tir Phil station that were delayed and are scheduled for completion in December 2016.
Ebbw Vale Frequency Enhancements (redoubling Crosskeys to Aberbeeg plus additional platforms at Llanhilleth and Newbridge to enable additional services).	39 (Welsh Government with European Union funding)	Completion 2017-18.
Access All projects – Barry, Treforest, Taffs Well, Llanelli, Cathays, Treherbert.	16 (Welsh Government with Department for Transport funding)	Design 2015, delivery 2016-17.
Access for All projects – Flint, Pengam, Cadoxton - design only. <sup>2</sup>	0.5	Design 2015, delivery by April 2019, subject to Department for Transport funding.
Porth station park and ride.	1.8	Completion scheduled for July 2016.
Metro Station Improvement Programme - all stations Cathays to Merthyr.	13.7	Completion due 2016-17.

Scheme	Indicative cost £ million	Estimated completion date
Talerddig (Cambrian Line) level-crossing closure programme.	7.5 (Welsh Government with Department for Transport funding)	Completion due 2016-17.
Access for All projects – Mid-tier station accessible replacement footbridge – Radyr, Llandaf, and Machynlleth stations.	7.6 (Welsh Government with Department for Transport)	Completion due July 2016.
Design for new station at Bow Street, near Aberystwyth.	0.25	Completion due June 2016.
Design for infrastructure enhancements in North Wales.	0.4	Completion April 2017.
<b>Total current projects</b>	<b>155.85</b>	

**Notes**

- 1 This analysis excludes projects that the Welsh Government is committed to but which are not fully underway, such as Valleys Line electrification.
- 2 The Welsh Government is funding the design work for access improvements at these stations. However, it is yet to be confirmed whether these stations will receive Access for All funding.

Source: Welsh Government



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Llywodraeth Cymru  
Welsh Government

Nick Ramsay AM  
Chair, Public Accounts Committee  
National Assembly for Wales

c/o [committeebusiness@wales.gsi.gov.uk](mailto:committeebusiness@wales.gsi.gov.uk)

30<sup>th</sup> September 2016

## WELSH GOVERNMENT INVESTMENT IN RAIL SERVICES AND INFRASTRUCTURE

Dear Chair,

Please find enclosed a copy of the Welsh Government's response to the Auditor General for Wales' report on Welsh Government investment in rail services and infrastructure.

I can confirm that we accept or partially accept all the recommendations and work is underway to address them.

Yours sincerely,

A handwritten signature in black ink that reads "James Price,".

**James Price**



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### **Recommendation 1**

We recommend that where the Welsh Government wishes Network Rail to deliver a project it is funding, it should seek to develop bespoke contracts. Bespoke contracts should better protect the Welsh Government's interest by recognising the greater assurance that it can give about the financing of contracts as well as reflecting the circumstances and risks of individual projects.

Accept. We accept that the standard contracts do not adequately reflect our role as a government funder and can be improved. We will seek to develop a suite of Welsh Government bespoke model contracts for use on future rail infrastructure projects. We will continue to seek improvements on this issue with the regulator.

However, we also recognise that whilst Welsh Government will seek to develop the recommended bespoke contracts, as powers over rail infrastructure are not devolved there will be no obligation on either Network Rail or the regulator to reciprocate. We cannot therefore provide assurance that this course of action will deliver the desired results.

### **Recommendation 2**

We recommend that as the procurement progresses the Welsh Government review the effectiveness of the Memorandum of Understanding and ensure that any lessons are applied to its ongoing relationship with Network Rail.

Accept. With Network Rail's agreement, we will incorporate a review of the Memorandum of Understanding into the agenda of the Welsh Government and Network Rail joint board meetings, which take place on a 4 weekly basis.

### **Recommendation 3**

Consistent with the recommendations in the Auditor General's January 2011 Major Transport Projects report, we recommend that the Welsh Government:

- A. Record information to track the performance of the Metro phase 2 projects at key stages of their delivery;

Accept. We have made Transport for Wales aware of this report and asked them to propose how this can be achieved. We expect a proposal for taking this work forward within the next TfW business plan.

- B. Incorporate the information needed to facilitate benchmarking project performance against projects in other parts of the UK;

Accept. The regulator monitors Network Rail's performance. The most recent report (issued in July this year) has within it a section dedicated to the railway in Wales. The monitor covers all aspects of Network Rail's performance in Wales, including on project delivery and infrastructure reliability and compares the performance of

Network Rail in Wales to the national benchmarks on certain metrics. This is a relatively new approach from the ORR and they have made a commitment, in the latest report, to continue to develop this. We have previously provided cost information to the ORR relating to the delivery of Pye Corner station for this kind of purpose. We will continue to work with the regulator to assist and obtain relevant benchmark information.

- C. Record all changes in project costs that occur through the lifecycle of the project; and

Accept. Our infrastructure projects invariably have change control processes which record decisions or events that affect project costs. We are working with our supply chain to standardise the format of these processes.

- D. Record and share the reasons for any cost increases and delays to inform other Welsh Government transport projects.

Accept. We have changed the structure of the Transport Department so that one division is responsible for all the Welsh Government's infrastructure projects on both the trunk road network and the railway which will improve sharing of information across projects. We will review our system for sharing information, such as lessons learnt, across this function and strengthen if necessary.

#### **Recommendation 4**

We recommend that:

- A. The relevant Welsh Government Audit and Risk Committee scrutinises the governance of the Transport Company and its progress in procuring the integrated Wales and Borders and Metro infrastructure contract and the related development of the approach to managing and acquiring rolling stock to enable it to comply with the requirement to make all trains accessible to persons with reduced mobility by 2020. To include the Audit and Risk Committee assuring itself that the Welsh Government is addressing in a timely manner the recommendations of the March 2016 Gateway review.

Accept in principle. Given the advisory role the Audit and Risk Committee occupies within the Welsh Government, the Principal Accounting Officer will bring this recommendation to the attention of the Chair of the Economy, Skills and Natural Resources Audit and Risk Assurance Committee, which has already initiated a programme of work to scrutinise Transport for Wales and the governance arrangements it has in place.

- B. The Welsh Government should ensure that its project and risk management arrangements for the procurement have taken full account of relevant lessons and recommendations from recent National Audit Office reports on rail franchising and rail-infrastructure programmes, and related reports by the UK Parliament's Public Accounts Committee.

Accept. We have written to Transport for Wales to incorporate these lessons and recommendations into their work to develop and implement the procurement of the Wales and Borders franchise and Metro Phase 2. Transport for Wales is currently finalising one of the key procurement documents – the “Invitation to Submit Outline Solutions“. Once this work is complete, we will write to you again, within the next six weeks, to set out how these lessons and recommendations have been incorporated into the procurement.

- C. The Welsh Government should also actively engage with Department for Transport officials to implement the lessons from both successful franchise procurements and those that have been more challenging.

Accept. Transport for Wales is in regular contact with officials at the Department for Transport. Officials at the Department for Transport have reviewed and provided feedback to Transport for Wales on the documentation relating to the procurement. Furthermore, Transport for Wales' team includes legal, financial and technical experts who have prior experience of successfully procuring recent rail franchises on behalf of the Department for Transport.

- D. Alongside the procurement process, the Welsh Government should develop a mechanism which enables it to demonstrate the value for money of the franchise component of the new contract, when compared with the current and other franchises.

Partially accept. The unique nature of each rail franchise means that finding a metric which will be a fair comparison and an indicator of value for money is not straightforward. We are also conscious that there are fundamental differences in the market since the current franchise was let in 2003. The rail industry has fundamentally changed in that time, in terms of outlook and technology for instance.

Our view is that the best way achieving value for money is to run a fair and open competitive process using a team with the skills and experience. It is also important learning from the latest best practice and recommendations. We are also working closely with the Department for Transport and have replicated their team structures for franchising.

We therefore accept that we should demonstrate value for money in the procurement, but we think that this is best done by focussing on our own process,

rather than by making artificial comparisons with either the past or with other franchises.

**Recommendation 5**

We recommend that the Welsh Government's planning for the franchise takes into account the recommendations made by the Enterprise and Business Committee's 2013 inquiry into the Future of the Wales and Borders Rail Franchise.

Accept. The Welsh Government accepted the recommendations made by the Enterprise and Business committee in 2013. We have provided the report and our response to Transport for Wales for consideration when developing proposals for the next franchise. As described above, Transport for Wales is currently finalising one of the key procurement documents – the 'Invitation to Submit Outline Solutions'. Once this work is complete, we will write to you again, within the next six weeks, to set out how these recommendations have been incorporated into the procurement.



James Price  
Deputy Permanent Secretary  
Economy, Skills and Natural Resources  
Welsh Government  
Cathays Park  
Cardiff

26 September 2016

**Auditor General for Wales's report on Coastal Flooding and Erosion Risk Management in Wales**

Dear Deputy Permanent Secretary,

Thank you for your correspondence detailing the Welsh Government's response to the Auditor General for Wales's report on Coastal Flooding and Erosion Risk Management in Wales. The Committee considered this response alongside the Auditor General's report at its meeting on 19 September. The Committee had a number of concerns and queries about the detail of your response.

1. In response to recommendation 1a, there is a reference to all the recommendations within the previous Wales Audit Office Report "Coastal Erosion and Tidal Flooding Risks in Wales 2009" being complete and signed off by August 2015. The Committee would welcome clarification of the Welsh Government's position. Whilst we recognise that some of the issues covered by previous recommendations may be areas for continuous improvement and that there have been changes in the overall policy/strategy context since 2009 it appears from the Auditor General's report that there is still more to do to discharge fully some of the previous recommendations, for example:



- a. working with the main stakeholders to engage with communities at risk and give them a clear understanding of the Welsh Government's strategic approach (paragraph 1.16 in the latest report).
  - b. developing a strategy on managed retreat (paragraph 2.7 in the latest report and reinforced by recommendation 3).
2. Furthermore, while the Committee welcome that the Welsh Government has indicated that it will be publishing an update on the Coastal Review Delivery Plan later this year, but the response suggests that it will be the review of the National Strategy in 2017–18 that will see the Welsh Government take stock of progress in response to the issues raised by other reviews. This is not quite in line with the Auditor General's recommendation to include any residual issues in the Coastal Review Delivery Plan.
3. On recommendation 1b, the Committee noted the £150 million planned investment, through the Coastal Risk Management Programme for the period 2018–2021. However, the Auditor General's report concludes that 'The Welsh Government has identified additional funding for coastal protection but has not developed a long-term funding strategy beyond 2020–21 or helped councils to secure options for external funding'. We would like the Welsh Government to give a clearer commitment regarding the development of a strategy to identify long-term funding for coastal protection. Members also noted that the Coastal Risk Management Programme will require councils to contribute 25 per cent of the costs, whether from their own funds or by generating contributions from other sources.
4. Recommendation 3 calls for the Welsh Government to '*...develop options within the national strategy to help councils prepare communities where it is likely that managed retreat will be required. These options should consider the legal and financial arrangements necessary to relocate people and assets away from flood risk*' and also to '*set out how it will communicate the implications of its risk-based approach to the public*'.

Your response sets out the Government approach of developing a coastal adaptation toolkit, which will set out best practice and examples of how other areas have communicated difficult messages, particularly around



managed retreat. The Committee felt strongly that the approach outlined was insufficient to meet the thrust of the Auditor General's recommendation, for example there appears to be little information/reflection on options and the legal and financial arrangements necessary to relocate people and assets away from flood risk. We would welcome reassurance about the Government's commitment to action in this particular regard.

Finally, the Committee would be grateful to receive a copy of the update to the Coastal Review Delivery Plan when published. The Committee will consider that update and your further comments on the points raised above before deciding on its approach to any further scrutiny of this topic.

I look forward to receiving your response.

Yours sincerely,

A handwritten signature in black ink, reading "Nick Ramsay". The signature is fluid and cursive, with a long horizontal flourish extending from the end of the name.

**Nick Ramsay AM**  
**Chair**





Nick Ramsay AM  
Chair of the Public Accounts Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff, CF99 1NA

24 October, 2016

Dear Mr Ramsay,

**AUDITOR GENERAL FOR WALES REPORT ON COASTAL FLOODING AND  
EROSION RISK MANAGEMENT IN WALES**

Thank you for your letter of 26 September following up on the Committee's 19 September consideration of the Welsh Government's response to the Auditor General for Wales' report on Coastal Flooding and Erosion Risk Management in Wales.

In response to your concerns and queries I am providing the following additional information, numbered to match your queries:

**1. Clarification on the Welsh Government's position in relation to the Wales Audit Office (WAO) 2009 report**

- **Working with the main stakeholders to engage with communities at risk and give them a clear understanding of the strategic approach**

The Welsh Government continues to work closely with the main stakeholders, Local Authorities and Natural Resources Wales (NRW) on all aspects of flood and coastal risk management. Our position is that coastal local authorities and NRW are best placed to engage with local communities on local issues of flood and coastal erosion risk. Our strategic approach is to support risk management authorities in this activity but not to dictate what local action should be.

Welsh Government officials continue to work closely with all risk management authorities, offering policy and programme advice when required and conducting site visits when time allows. Officials also provide support and share best practice

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through Wales Flood Group, Coastal Groups Forum and regional meetings of risk management authorities.

- **Developing a Strategy on Managed Retreat**

The Welsh Government's strategic approach is informed by the Shoreline Management Plans under which all options are considered including, as appropriate 'Managed Re-Alignment' or 'No-Active Intervention'.

Re-aligning defences, or deciding not to continue defending parts of the coastline, may be an unavoidable strategic consideration in some circumstances. Our position is that a one-size fits-all strategy on Managed Re-Alignment and No Active Intervention is not feasible at this stage. However, we are committed to working with local authorities to support local strategies and ensure these can be shared.

We will learn from and work with others. This is a common challenge and as yet, there are few examples of well-developed national level strategies that go beyond communication to legal and financial provision for relocation of people and assets.

Our strategic approach is also to ensure that good practice and lessons identified can be shared across Wales through a coastal adaptation toolkit. This will be developed using findings from ongoing research in Fairbourne, Gwynedd and with input from the Welsh Coastal Groups.

## 2. **Use of the 2017-18 National Strategy for Flood and Coastal Erosion Risk Management in Wales rather than the Coastal Delivery Plan to take stock of progress on coastal risk and associated issues**

The Wales Coastal Flooding Review (2014) and its associated Delivery Plan (2015) were both documents produced by NRW at the request of Welsh Ministers to ensure that the lessons identified from the 2013-14 winter storms were captured and acted on. Their scope is clearly defined. The final report on the progress of the Delivery Plan was approved by the Cabinet Secretary for Environment and Rural Affairs at the start of October and will now be published by NRW.

The 2017/18 review of the National Strategy will be led and produced by Welsh Government working in collaboration with all risk management authorities. The National Strategy is the primary document for flood and coastal policy in Wales and the appropriate place for strategic objectives and setting out how we will manage risk. It provides an opportunity to include any ongoing recommendations from the Wales Coastal Review alongside other reviews.

## 3. **Development of a strategy for long term coastal funding**

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The Coastal Risk Management Programme (CRMP) represents significant progress in terms of enabling a three-year forward pipeline of projects. Previously programmes were more *ad hoc* in the light of available resources.

The programme acknowledges the challenge of delivering this work in the context of declining public funding at the UK level and looks to long term borrowing and revenue funding streams as an alternate source of finance.

CRMP is currently a three-year programme but provides a pilot and a possible strategic option for the longer term. The Programme is already looking to the longer term in its strategic decision to fund early business case development of a wide range of potential projects. This will enable priority projects to be taken forward through CRMP and assist in the identification of a longer term pipeline of potential projects than can help inform strategy and funding bids.

In terms of the core programme, we are continuing to work closely with Local Authorities and NRW to develop and prioritise a pipeline of schemes to inform a longer-term indicative programme.

#### **Regarding the 25% Local Authority contribution to the Coastal Risk Management Programme**

Under CRMP, Welsh Government provides revenue funding to local authorities to make the necessary capital investment in their role as risk management authorities with responsibilities for coastal protection. This is additional to annual capital allocations. This is an appropriate level of contribution from the local authority. It enables Welsh Government's funding to go further and ensures local ownership of the project.

The decision that CRMP should be co-funded and that local authorities should contribute 25% was taken alongside decisions on other revenue funded capital programmes and is in line with the Flood and Coastal Erosion Risk Management capital programme. Whilst Welsh Government is reliant on borrowing and future revenue repayments there is flexibility in the local authority's 25% contribution including the possibility of partnership contributions from other beneficiaries.

It should be noted that we have recognised the risk to local authorities in developing early business cases for projects this financial year and provided 100% grant funding. This enables local authorities to develop their schemes and for the programme to identify those which are a priority to take forward.

#### **4. Coastal Adaptation Toolkit**

A Shoreline Management Plan is a large-scale assessment of the risks associated with coastal processes and their aim is to identify risk management policies to reduce the

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risks to people and the developed, historic and natural environments over the long term. The Plans and their preferred policy for each area are non-statutory.

It is for Risk Management Authorities to set out how flood risk to coastal areas will be managed and the Shoreline Management Plans form a part of that consideration but should be accompanied by more detailed local evidence and monitoring. The Plans also form a material consideration in development decisions and local plans as set out in a letter to Chief Planning Officers and flood leads in January 2015.

The Welsh Government is already supporting local authorities to help communities think about all options for coastal risk management including Managed Re-alignment and No Active Intervention. It is not appropriate to dictate in the forthcoming review of National Strategy how this should work in every location, but it will contain policy considerations and practical advice relating to each of the four Shoreline Management Plan approaches.

There will never be one solution that is right for every coastal community and different areas will experience different issues. This approach has been discussed as part of the Coastal Review as well as with coastal local authorities. Support remains best provided at a local level taking into account the needs of a community and the risks at a specific location. A coastal adaptation toolkit is being prepared to set out common issues, best practice and examples. This will complement the new National Strategy. Research work ongoing in the village of Fairbourne will help inform this toolkit and our policy development in this area.

Please also see the response to **Developing a Strategy on Managed Retreat** under point 1.

I include a copy of the updated Coastal Review Delivery Plan.

Yours sincerely,



**Matthew Quinn**  
**Director, Environment and Sustainable Development**

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**Natural  
Resources**  
Wales

# Wales Coastal Flooding Review: Delivery Plan for Phase 2 Recommendations

## Progress Report August 2016

Prepared by Natural Resources Wales  
for Lesley Griffiths AM, Cabinet Secretary for Environment  
and Rural Affairs

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## Acknowledgement

This progress report has been collated and coordinated by Natural Resources Wales working in partnership with many colleagues across Wales, in particular with the coastal Local Authorities, the Welsh Local Government Association and Welsh Government.

We wish to acknowledge this contribution and thank our colleagues for their continued support with this initiative since its inception in January 2014, whilst they have also continued to deliver activities and services to manage the risks to the communities of Wales.



Delivery Plan Workshop Discussions, 26<sup>th</sup> March 2015

## Executive Summary

Following the flooding to the North Wales Coast on 5<sup>th</sup> December 2013 and the more widespread coastal storms of early January 2014, Natural Resources Wales, working with partners around Wales, completed a two stage Review as instructed by the Minister for Natural Resources. Phase 1 identified the impacts incurred during the storms and Phase 2 concluded with the identification of 47 individual Recommendations ('the Phase 2 Recommendations'). Natural Resources Wales then published a Delivery Plan in January 2015 that outlined how each of the Recommendations could be taken forward.

At the time of Delivery Plan publication, some notable progress had already been made on the Phase 2 Recommendations, whereby:

- 5 were already complete.
- 35 were ongoing (with some significant progress made since the 2013/14 winter).
- 7 were yet to be commenced.

Consistent progress has been achieved in implementing the Delivery Plan throughout 2015/16 and as documented within this Progress Report. By the end of August 2016 and out of the 47 Phase 2 Recommendations:

- 40 are complete.
- 7 are ongoing (with significant progress made since the 2013/14 winter).

Completion of 35 Recommendations in the 20 month period between January 2015 and August 2016 is a significant achievement by all contributing parties, particularly when considering the demands of fluvial flooding during the 2015/16 winter upon Risk Management Authorities in Wales.

Of the 40 completed Recommendations, some tangible improvements are already benefitting the coastal risk management sector in Wales such as:

- Improvements made through supplying more local, longer-range information within flood forecasts to professional partners as and when required.
- 40 of the flood warning thresholds and flood warning areas have been revised following the December 2013 and January 2014 coastal storms.
- A programme of coastal risk management training courses has been delivered to 90 members of staff from across Welsh Risk Management Authorities (RMAs), the Welsh Local Government Association and Welsh Government in Spring 2016.

Realisation of the full benefits from all completed Recommendations will require further commitment and resources from all parties, including Welsh Government. There needs to

be a sustained effort and continuous improvement to ensure that the intended outcomes are fully delivered.

The 7 currently ongoing Recommendations reflect either inter-linkages with the England and Wales Flood and Coastal Erosion Risk Management (FCERM) Research and Development programme (Recommendation 5), specialised science and resource demand (Recommendations 6 and 8), or through recent best endeavours confirming their more onerous nature as tasks which will take place over much longer timescales (Recommendations 19, 31, 33 and 41).

A monitoring and review action should be established for 2016/17 to safeguard momentum on these 7 ongoing Recommendations. The following routes are suggested to further progress these ongoing Recommendations to completion:

- Recommendations 5 (review guidance design of coastal standards and joint probability), 6 (improvements to longer range forecasts), 8 (improvements to the accuracy of the coastal forecasting service) and 33 (developments in the national coastal modelling and mapping programme) are to be taken forward internally by Natural Resources Wales through integration alongside business as usual activities.
- Recommendation 19 (continue to develop potential 'impact scenario' assessments, maps and/or statements) will require further liaison with the Wales Flood Group to gauge level of need and priority to inform Natural Resources Wales' future Flood Incident Management workstreams.
- Recommendation 31 (a national dataset for all flood risk assets, across all key organisations) will require significant and continued collaboration between Welsh Government and all Risk Management Authorities in Wales to share and securely store asset data. This work is progressing well, but will require sustained effort.
- Recommendation 41 (development of local adaptation 'toolkit', to assist communities predicted to experience natural coastal change) will require further liaison with the Wales Coastal Group Forum and the Coastal Groups in Wales to support creation of a toolkit for local coastal adaptation.

Extensive consultation was undertaken with partners in the summer and autumn of 2015 to determine the existing baseline position upon which suggestions for improvements and the formulation of future options have been based. Reporting has appraised options where necessary and identified solutions for future implementation subject to Welsh Government agreement, supplemented by tangible Recommendation outputs where achievable.

Natural Resources Wales are grateful for the additional funding received from the Minister for Natural Resources for implementation of the Delivery Plan during 2015/16, in order to avoid the demands of this task having any detrimental impact on other Natural Resources Wales' flood risk management work.



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## Supporting Information

A number of Annexes are available as separate documents, where necessary to provide supporting information for this Progress Report for 2015/16. The internally produced reports are published alongside this report on our website, whilst the externally produced reports have their hyperlinks within the corresponding Recommendation summary page of this report.

### Project Reports List:

- Project 1 Report – Recommendation 7
- Project 2 Report – Recommendations 11 & 12
- Project 3 Report – Recommendation 13, 14, 15, 16 & 17
- Project 4 Report – Recommendation 19
- Project 5 Report – Recommendations 25 & 26
- Project 6 Report – Recommendation 31 & 32
- Project 7a Report – Recommendation 37
- Project 7b Report – Recommendation 38
- Project 8 Report – Recommendation 39
- \*Project 10 Report – Recommendation 18, 43, 44, 45, 46 & 47

\*There is no Project 9 Report for Recommendations 41 & 42 due to the longer-term, ongoing nature of Recommendation 41. The respective summary pages within this report recognise progress to date and associated external publications.

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## Origin and Purpose of this Progress Report for 2015/16

This Progress Report supplements and complements the following four publications within the Wales Coastal Flooding Review initiative produced at the request of the Minister for Natural Resources in response to the coastal flooding events in Wales of December 2013 and January 2014:

- *Wales Coastal Flooding Review, Phase 1 Report – Assessment of Impacts* ('the Phase 1 Report'), was submitted to Welsh Government on 31<sup>st</sup> January 2014 and published on 14<sup>th</sup> February 2014.
- *Wales Coastal Flooding Review, Phase 2 Report* ('the Phase 2 Report') submitted to Welsh Government on 28<sup>th</sup> April 2014 and published on 30<sup>th</sup> April 2014.
- *Wales Coastal Flooding Review, Delivery Plan for Phase 2 Recommendations* ('Delivery Plan' main report) was submitted to Welsh Government on 2<sup>nd</sup> December 2014 and published on 5<sup>th</sup> January 2015.
- *Wales Coastal Flooding Review, Delivery Plan for Phase 2 Recommendations, Supporting Documents* ('Delivery Plan Supporting Documents') was submitted to Welsh Government on 2<sup>nd</sup> December 2014 and published on 5<sup>th</sup> January 2015.

The Delivery Plan drew together the Phase 2 Recommendations, considering them collectively, to provide a strategic approach to planning, prioritisation, programming and delivery. For efficiency, the Delivery Plan packaged 30 of the 47 Recommendations into a series of 10 Projects according to common technical themes, with the remaining 12 Recommendations standing outside of these Projects due to their individuality. The 10 Projects were aligned against the following five Priority Areas identified in Phase 2 of the Review where improvements could be made to deliver a more resilient coastal flood and erosion management service in Wales:

### Priority Area:

**More support to communities to help them become more self-sufficient and resilient**

- Project 1 = Recommendations 3 to 8 – Flood Forecasting and Coastal Design
- Project 2 = Recommendations 11 and 12 – Flood Warning and Forecasting
- Project 3 = Recommendations 13 to 17 – Community Resilience
- Project 4 = Recommendations 19 and 20 – Operational Response

### Priority Area:

**Improved information on coastal flood defence and erosion management systems**

- Project 5 = Recommendations 25 and 26 – Coastal Defences
- Project 6 = Recommendations 31 and 32 – National Coastal Defence dataset and inspection

**Priority Areas:**

**Greater clarity of roles and responsibilities, and an assessment of skills and capacity of Risk Management Authorities**

Project 7 == Recommendations 37 and 38 - Skills and Capacity Audit and Roles and Responsibilities

**Priority Area:**

**Locally developed and delivered plans for coastal communities and infrastructure operators**

Project 8 = Recommendation 39 – Review of Coastal Groups  
Project 9 = Recommendations 41 and 42 – Coastal Adaptation  
Project 10 = Recommendations 18\* and 43 to 47 – Infrastructure Resilience

\*Recommendation 18 was originally placed in Project 4 of the Delivery Plan, however practical implementation has moved it into Project 10 due to synergies with the other Recommendations relating to infrastructure resilience.

The Phase 2 Report also identified a sixth Priority Area of ‘Sustained investment to coastal flood and erosion risk management’. This is a core requirement addressed through Recommendation 27.

This Progress Report captures the effort invested in implementing the Delivery Plan in the twenty months following its publication in January 2015 through to the end of August 2016. Appendix 1 provides a list of the 47 Phase 2 Recommendations. For each Recommendation in turn, this Progress Report considers:

- Who has been the lead on delivering the Recommendation.
- If the Recommendation has been completed by the end of August 2016 and if so, by when.
- Summary of the implementation of the Recommendation.

## **Programme Management and Governance**

Implementation of the Delivery Plan has been a considerable body of work which has needed management and prioritisation of the personnel and financial resources available and efficient and effective use of the collective expertise and capacity across Risk Management Authorities (RMAs) in Wales.

A governance structure was established to monitor and direct progress of the Delivery Plan. This governance structure was needed to be appropriate and proportionate and sought to use existing arrangements where possible.

Each of the 10 Projects required the resource of a temporary Project Manager. Collectively the 10 Projects were coordinated by a Natural Resources Wales Programme Manager and Support Officer, alongside their role in tracking progress of the remaining 12 Recommendations outside of the Projects (as 5 were already completed by January 2015). The Programme Manager reported to a Natural Resources Wales Programme Board on a monthly basis and to Welsh Government typically on a quarterly basis.



## Consultation and engagement measures to shape progress

Since publication of the Delivery Plan in January 2015, Natural Resources Wales has designed and actioned an extensive consultation programme to gather baseline evidence to inform implementation of each Recommendation and/or Project and to seek views on options where appropriate. This consultation programme has included the following activities:

- Hosting two Wales Coastal Flooding Review: Delivery Plan workshops for RMAs.
- Hosting two workshops regarding community engagement and resilience under Project 3.
- Hosting two Flood Warden Volunteer networking events under Project 3.
- Presenting on coastal risk management assets under Project 6 to the three Regional Flood Risk Management Groups in Wales.
- Managing a comprehensive set of data requests to the 15 coastal LAs (or when considering inland flood risk management, a total of 22 LAs) in summer 2015.
- Data requests to the four Local Resilience Fora in Wales.
- Data requests to the Wales Utility Group, Network Rail and the Trunk Road Agencies under Project 10.
- Holding focused meetings and telephone conversations with partners as appropriate.

Regular updates on progress were given as part of the above activities, supplemented by presentations at the Institution of Civil Engineers Wales' 'Learning to live with flooding' conference of June 2015, to the Wales Flood Group twice, to the Wales Utility Group and at routine Coastal Group meetings. Briefing notes were also issued to stakeholders and Local Resilience Fora / their Severe Weather Groups.

Where an external organisation led implementation of a specific Recommendation(s), similar consultation activities such as questionnaires and discussion at pre-established practitioner group meetings was undertaken to shape direction.

## Progress made prior to publication of the Delivery Plan

In addition to the priority given to the repair and restoration of coastal defences in the aftermath of the December 2013 and January 2014 coastal storms, some initial notable progress was made across the Recommendations prior to publication of the Delivery Plan in January 2015. This work was documented in the published Delivery Plan and included:

- Welsh Government worked to protect the flood risk core budgets in face of public spending pressures and the core flood budget was maintained for 2015/16.
- In Rhyl stop logs at stairwell openings have been replaced by pre-cast concrete walls and steel flood gates, and a topographic survey of Rhyl Golf Course has been completed. Work to evaluate longer term options is ongoing.
- Three Shoreline Management Plans were approved by Welsh Government (South Wales, West of Wales and Severn Estuary) by early December 2014.
- Rebranding of the flood warning service in Wales, so the provider is clearly identified as Natural Resources Wales.
- A permanent offshore waverider buoy has been deployed off the West Pembrokeshire coast to help improve flood forecasting.
- Improvements to Flood Forecasting, with 5 day forecast information now available to local Natural Resources Wales officers.
- Continued progress made by the Fairbourne Multi-Agency Project Board and accompanying Task and Finish Groups in identifying valuable lessons for wider application.
- Preparatory work undertaken for Exercise Megacyma Cymru in March 2015.
- Completion and publication of the assessment of environmental change experienced during the December 2013 and January 2014 storms (Duigan C, Rimington N & Howe M (Eds) 2014. *Welsh Coastal Storms, December 2013 & January 2014 – an assessment of environmental change*, NRW Evidence Report).
- Ongoing work to identify and evaluate improvement options at multiple locations around the coast which either experienced flooding or came close to flooding during last winter's storms.
- National Sciencewise Research & Development programme research carried out into the way Natural Resources Wales communicates flood messages to the public.

## Progress made since publication of the Delivery Plan

Following publication of the Delivery Plan in January 2015, tangible progress has been made to support its implementation to date and in addition to the Project Reports produced to accompany this Progress Report for 2015/16. These successes include:

- A review of the extreme sea level dataset was undertaken by the National Oceanography Centre for Natural Resources Wales, using the UK Coastal Monitoring & Forecasting partnership, and concluded that the inclusion of the more recent peak sea level data does not make a statistically significant difference to the design sea level estimates around Wales.
- On-going engagement with the joint Wales and England Flood and Coastal Erosion Risk Management (FCERM) Research and Development programme working with UK partners to consider joint probability analysis.
- Improvements made through supplying more local, longer-range information within flood forecasts to professional partners as and when required.
- 40 of the flood warning thresholds and flood warning areas have been revised following the December 2013 and January 2014 coastal storms.
- Continued work on the Flood Awareness Wales Programme has increased registrations of at-risk members of the public to Flood Warnings Direct, with 866 full registrations between January 2015 and June 2016.
- Continued work developing community flood plans through Flood Awareness Wales.
- Completion of a Research and Development project focusing upon greater engagement of the youth sector in community flood resilience activities.
- NRW Flood Incident Management teams are now developing a training programme to improve staff confidence in their role in the decision-making process for issuing a Severe Flood Warning.
- 'Exercise Megacyma Cymru', being the national coastal evacuation exercise, was held in March 2015 to test capabilities and resources in dealing with a large scale flooding event in Wales.
- Option appraisal has been undertaken to result in a Project Appraisal Report for a future East Rhyl Coast Protection Scheme for determination by Welsh Government.
- Development of Welsh Government's Coastal Risk Management Programme providing a £150 million programme to Local Authorities to deliver coastal risk management activities between 2018 and 2021.
- Additional funding for 2016/17 has been secured for coastal local authorities to undertake project appraisals and detailed design work in preparation for the Coastal Risk Management Programme.
- Additional funding has been secured for NRW and local authority schemes, maintenance and emergency repairs in light of the December 2015 storms.

- Natural Resources Wales has updated the North Wales tidal defence survey which now offers valuable data to inform a future national dataset of coastal protection and defence assets.
- Completion of a national skills and capacity audit for all Risk Management Authorities to assess and quantify the scale of the issue plus to assess the size of the skills and capacity gap.
- A programme of coastal risk management training courses has been delivered to 90 members of staff from across RMAs, the Welsh Local Government Association and Welsh Government.
- The fourth and final Shoreline Management Plan for North Wales and North West England was approved by the Minister for Natural Resources in late December 2014.
- Progress has continued within the Fairbourne: Moving Forward project, with publication of the project's first Annual Report in May 2015 and Welsh Government's appointment of a researcher to work alongside the project through to the end of 2017.
- The National Trust published their '*Shifting Shores – playing our part at the coast*' in November 2015 that captures progress made in the ten years since their original 'Shifting Shores' publication and identified the opportunities and challenges facing delivery of coastal adaptation.
- In December 2015, the joint Wales and England Flood and Coastal Erosion Risk Management (FCERM) Research and Development programme published a report entitled '*Adapting to Coastal Erosion: Evaluation of rollback and leaseback schemes in Coastal Change Pathfinder projects*'.

## Recommendations – Completion status and progress

At the time of Delivery Plan publication in January 2015, some notable progress had already been made on the Phase 2 Recommendations, whereby:

- 5 were already complete.
- 35 were ongoing (with some significant progress made since the 2013/14 winter).
- 7 were yet to be commenced.

Consistent progress has been achieved in implementing the Delivery Plan throughout 2015/16. By the end of August 2016 and out of the 47 Phase 2 Recommendations:

- 40 are complete.
- 7 are ongoing (with significant progress made since the 2013/14 winter).

Completion of 35 Recommendations in the twenty month period between January 2015 and August 2016 is a significant achievement by all contributing parties, particularly when considering the unforeseen demands of fluvial flooding during the 2015/16 winter upon Risk Management Authorities in Wales.

Table 1 overleaf provides a summary of completion status and/or progress made against each individual Recommendation or Project.

### Key to Table 1: Classification of Recommendation Progress Status

<b>RECOMMENDATION PROGRESS STATUS</b>	
<b>35</b>	Recommendations complete following the publishing of the Delivery Plan (Jan 2015 to August 2016)
<b>5</b>	Recommendations complete when the Delivery Plan was published (Jan 2014 to Jan2015)
<b>7</b>	Recommendations ongoing (Aug 2016 onwards – Ongoing)
<b>47</b>	<b>Total</b>

**Table 1: Summary of Recommendation and Project Status**

Rec. no.	Report available ? Yes / No	Completion status	Summary of individual Recommendation / Project status	Delivery Lead	Delivery Plan target completion date	Actual completion date	
1	No		Recommendation completed prior to Delivery Plan publication.	NRW	Dec 2014	Dec 2014	
2	No		Recommendation completed prior to Delivery Plan publication.	NRW	Dec 2014	Dec 2014	
3	No		<b>Project 1 – Flood Forecasting and Coastal Design</b> See progress summarised within this report and supplementary Project 1 Report for Recommendation 7.	NRW	Ongoing and linked to progress of joint Research & Development Programme	Dec 2015	
4	Yes	Jan 2016					
5	No	Ongoing					
6	No			NRW	Summer 2015	Ongoing	
7	Yes			NRW		Oct 2015	
8	No			NRW		Ongoing	
9	No			Recommendation completed prior to Delivery Plan publication.	NRW	Dec 2014	Dec 2014
10	No			Recommendation completed prior to Delivery Plan publication.	NRW	Sep 2014	Sep 2014
11	Yes		<b>Project 2 – Flood Warning and Forecasting</b> See progress summarised within this report and supplementary Project 2 Report.	NRW	Autumn 2015	Oct 2015	
12	Yes			NRW		Oct 2015	
13	Yes		<b>Project 3 – Community Resilience</b>	NRW	Winter 2015	Mar 2016	
14	Yes					Mar 2016	



15	Yes		See progress summarised within this report and supplementary Project 3 Report.			Mar 2016
16	Yes					Mar 2016
17	Yes					Mar 2016
18 <sup>1</sup>	Yes		<b>Project 4 – Operational Response</b> See progress summarised within this report and supplementary Project 4 Report for Rec 19 and presentation for Rec 20.	NRW	Winter 2015	Nov 2015
19	Yes					Ongoing
20	No					Mar 2016
21	Yes		'Exercise Megacyma Cymru', a coastal mass evacuation exercise, was held in March 2015.	LRF	After Spring 2015	Jun 2015
22	Yes			Wales Flood Group	Spring 2015	Jun 2015
23	Yes		Recommendation was informed by the coastal exercise above.	LRFs	After Spring 2015	Jun 2015
24	Yes		Recommendation specific to Garford Road area Rhyl.	Denbighshire County Council	Ongoing and dependent upon completion of options appraisal work	Mar 2016
25	Yes		<b>Project 5 – Coastal Defences</b> See progress summarised within this report and supplementary Project 5 Report.	WLGA	Winter 2015	Jan 2016
26	Yes					Jan 2016
27	No		Welsh Government continually works to protect budgets and the core flood budget was maintained for 2015/16.	WG	Ongoing	Jun 2015
28	No					Jun 2015

<sup>1</sup>Recommendation 18 has been moved from Project 4 to Project 10 due to the links with infrastructure resilience.

29	No		National Programme of Investment, now called Flood and Coastal Investment Programme (FaCIP), was consulted upon in early 2015.	WG	End 2014	Jun 2015
30	No		Announcements have been made regarding Welsh Government's Coastal Risk Management Programme and bids are currently being determined.	WG	Spring 2015	Jun 2015
31	Yes		<b>Project 6 – National Coastal Defence dataset and inspection</b> See progress summarised within this report and supplementary Project 6 Report.	NRW	Winter 2015	Ongoing
32	Yes					Nov 2015
33	No		Continue to develop a Flood Risk Modelling and Mapping Strategy/Work plan for Wales.	NRW	Spring 2016	Ongoing
34	No		Risk based review of <b>flooded locations</b> is completed. See progress summarised within this report.	NRW	Varies According to location	Nov 2015
35	No		Risk based review of <b>'near miss'</b> locations is completed. See progress summarised within this report.	NRW	Varies According to location	Nov 2015
36	Yes		Recommendation completed prior to Delivery Plan publication.	NRW	Linked to other individual Recommendations	Dec 2014
37	Yes		<b>Project 7 Skills and Capacity audit and roles and responsibilities</b> See progress summarised within this report and supplementary Project 7a Report for Recommendation 37 and Project 7b Report for Recommendation 38.	WLGA	Winter 2015 (Rec. 37)	Dec 2015
38	Yes			NRW	Summer 2015 (Rec. 38)	Mar 2016

39	Yes		<b>Project 8 – Review of Coastal Groups</b> See progress summarised within this report.	WG	By Winter 2015	July 2016
40	No		WCMC future business case determined.	WG	Spring 2015	Feb 2016
41	No		<b>Project 9 – Coastal Adaptation</b> See progress summarised within this report.	*WG and LLFAs	Long term	Ongoing
42	No			*WG	Summer 2015	Mar 2016
43	Yes		<b>Project 10 – Infrastructure Resilience</b> See progress summarised within this report and supplementary Project 10 Report.	*WG	Spring 2015	Nov 2015
44	Yes			*WG	Spring 2015	Nov 2015
45	Yes			*WG	Spring 2015	Nov 2015
46	Yes			*WG	Ongoing	Nov 2015
47	Yes			*WG	Ongoing	Nov 2015

*Table 1 - Summary of Recommendations and Project Status*

**Table 1 Acronyms:** NRW – Natural Resources Wales, LRF – Local Resilience Forum, WLGA – Welsh Local Government Association, WG – Welsh Government, RMA - Risk Management Authority.

\*The Delivery Plan named Welsh Government as the lead for Recommendations 41 to 47, however NRW have overseen progress and reporting on these Projects during 2015/16, in collaboration with Welsh Government.

As identified in Table 1, the 7 ongoing Recommendations are numbers 5, 6, 8, 19, 31, 33, and 41. The ongoing nature of these Recommendations reflect either inter-linkages with the Wales and England Flood and Coastal Erosion Risk Management (FCERM) Research and Development programme (Recommendation 5), specialised science and resource demand (Recommendations 6 and 8), or through recent best endeavours confirming their more onerous nature as tasks which will take place over much longer timescales (Recommendations 19, 31, 33 and 41).

## Progress summaries for each Recommendation

Progress made by end of August 2016 is summarised in this section. Each summary confirms who has been the lead on delivering the Recommendation, the completion date for the Recommendation where applicable and outlines the methodology followed to implement the Recommendation. These progress summaries are supplemented as appropriate by a separate report within the Supporting Information.

### Supporting Information

A number of Annexes are available as separate documents, where necessary to provide supporting information for this Progress Report for 2015/16. The internally produced reports are published alongside this report on our website, whilst the externally produced reports have their hyperlinks within the corresponding Recommendation summary page of this report.

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- Project 7b Report – Recommendation 38
- Project 8 Report – Recommendation 39
- \*Project 10 Report – Recommendation 18, 43, 44, 45, 46 & 47

\*There is no Project 9 Report for Recommendations 41 & 42 due to the longer-term, ongoing nature of Recommendation 41. The respective summary pages within this report recognise progress to date and associated external publications.

## Recommendation 1 – Progressing the Recommendations

**Rec 1: The recommendations included in this report are compiled into a Delivery Plan. This Delivery Plan will identify how the recommendations will be progressed. It will consider matters such as; the parties to be involved lead responsibility, priorities, governance and resources and capacity to deliver.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** December 2014

### Summary of Recommendation Implementation

Following the flooding to the North Wales Coast on 5<sup>th</sup> December 2013 and the more widespread coastal storms of early January 2014, Natural Resources Wales, working with partners around Wales, completed a two stage Review as instructed by the Minister for Natural Resources. This Review concluded with the identification of 47 individual recommendations in April 2014.

In January 2015, we published the Coastal Flooding Review Delivery Plan, which proposed how each recommendation can be taken forward and implemented.

Delivery Plan can be found at:

<http://naturalresources.wales/our-evidence-and-reports/flooding-reports/wales-coastal-flooding-review-delivery-plan-phase-2-recommendations/?lang=en>

The Delivery Plan identified that thirty recommendations have been packaged into ten Projects to reflect common themes. The remaining seventeen recommendations are being addressed independently outside of projects by individual leads.

The 10 Projects and their broad technical themes are listed below:

- Project 1 – Flood Forecasting and Coastal Design
- Project 2 – Flood Warning and Forecasting
- Project 3 – Community Resilience
- Project 4 – Operational Response
- Project 5 – Coastal Defences
- Project 6 – National Coastal Defence Dataset and Inspection
- Project 7 – Skills and Capacity Audit and Roles and Responsibilities
- Project 8 – Review of Coastal Groups
- Project 9 – Coastal Adaptation
- Project 10 – Infrastructure Resilience

Within the Delivery Plan a methodology has been proposed to take forwards and progress each Recommendation. These have been developed through liaison with coastal practitioners across Wales, to draw on the expertise and experience of the key people managing flood and erosion risk across the country.



## Recommendation 2 – Progressing the Recommendations

**Rec 2: The Delivery Plan should consider opportunities to expand the recommendations beyond just coastal flooding and erosion risks and to consider the link to risks from other sources of flooding.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** December 2014

### Summary of Recommendation Implementation

Following the flooding to the North Wales Coast on 5th December 2013 and the more widespread coastal storms of early January 2014, Natural Resources Wales, working with partners around Wales, completed a two stage Review as instructed by the Minister for Natural Resources. This Review concluded with the identification of 47 individual Recommendations in April 2014.

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Delivery Plan can be found at:

<http://naturalresources.wales/our-evidence-and-reports/flooding-reports/wales-coastal-flooding-review-delivery-plan-phase-2-recommendations/?lang=en>

The potential to expand each Recommendation to include additional sources of flood risk was determined within the Delivery Plan and hence this Recommendation is complete.

Where linkages were identified to other sources of flooding, the impact of including other flood sources upon the proposed methodology for a specific Recommendation has been considered.

Additional non-coastal sources of flooding increased the number of partners involved in developing and implementing the Delivery Plan, this required more liaison with partners and incorporating more ideas. This increased the cost and time required to implement Recommendations. Expanding a Recommendation to consider other non-coastal sources generated access to additional funding and resources. Such avenues were investigated where possible.

## Recommendation 3 – Storm Severity

**Rec 3: Further work is required to assess the joint probability of wind, waves and tides for these recent winter storms. This may take the form of an initial assessment coupled with consideration of more thorough analysis. The scope of this work will require further technical discussion.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 1

**Completion Date:** December 2015

### Summary of Recommendation Implementation

The UK Coastal Monitoring and Forecasting Service (UKCMF) Factual Report into the Coastal Storms of December 2013 and January 2014 including Joint Sea Level and Wave Analysis was commissioned by Natural Resources Wales and produced by JBA Consulting. It was shared with RMAs on 9th June 2014 <sup>[1]</sup>. The joint probability assessment for that study used the “Desk Study” spreadsheet method within the Defra Best Practice Guide and the results gave very high estimates of joint return period which were deemed implausible. The JBA report recommended that:

*“Return periods calculated for the coincident sea levels and wave heights seen in December 2013 and January 2014 are extreme and very uncertain. We recommend that they are quoted with this in mind. We recommend more robust statistical modelling to determine a more reliable estimate of return period”.*

And that: *“We recommend further research to develop methods of joint probability assessment along the lines of those discussed in Environment Agency science project SC060088.”*<sup>3</sup>

JBA Consulting were also commissioned by Denbighshire County Council in 2015 to undertake a joint probability analysis focusing for Rhyl to support the development of a flood risk management scheme. For this, a detailed statistical analysis of the December 2013 coastal event was undertaken using the Heffernan and Tawn method for multivariate probability. The analysis indicated that the conditions on the 5th of December 2013 were the largest in the month, and were a relatively uncommon tidal event in their own regard. The probability of the offshore wave and skew surge conditions occurring during this extremely large tide was calculated to have a 0.005% AEP, representing an approximate 1 in 200-year return period.

JBA consulting also undertook a comparison of the Heffernan and Tawn multivariate probability assessment and the Defra “Desk Study” spreadsheet method. This identified that the Defra “Desk Study” method tended to under predict the range and magnitude of coastal storm events. This could lead to the under estimation of risk and the under design of structures. Further details of the work undertaken by JBA Consulting for Denbighshire County Council are provided under Recommendation 24.

It has become clear from the work carried out following the 2013/14 storms and further detailed modelling carried out at Rhyl that this is a very specialist area of work with a range of methods available, from the relatively simple to the more complex. There is the potential for misunderstanding on how to apply the methods and the situations in which the various methods should be used.

Following the initial assessment of the joint probability of wind, waves and tides for the 2013/2014 storms and the subsequent analysis of joint probability carried out for the Rhyl flood

## Recommendation 3 – Storm Severity

risk management scheme, Recommendation 3 concludes that further specialist work is required to review and update standard methods of joint probability analysis and best practice guidance.

We believe this is best achieved by working at a UK level, because of the need to establish best practice which RMAs and their consultants can use across England and Wales, in a similar vein to the approach taken for fluvial flood frequency (where the Flood Estimation Handbook has become established as the UK wide industry standard).

We also share coastal waters with England (Liverpool Bay and Severn Estuary) so consistency becomes an issues for assessment of storm severity and joint probability in these locations.

To begin to take this forward, NRW have engaged through the Defra-Welsh Government Flood and Coastal Erosion Risk Management Joint Research Development (R&D) Programme with two projects which are developing new techniques related to joint probability assessment:

- Planning scenarios for FCRM and the National Risk Assessment (H21 widespread inland flooding) Capturing the true spatial nature and joint probability of flood risk across all sources
- Defra National Risk Assessment H19 extreme coastal flooding.

Further work engaging with these R&D projects will continue as part of Recommendation 5 (see page 29) with a view to using these projects as a platform for establishing best practice methodologies and supporting guidance, including the assessment of the joint probability of sources of coastal flooding. It is likely that any new guidance will need to be supported by practitioner workshops.

Until these projects are complete and best practice methodologies and guidance implemented, there would be little further benefit in trying to undertake further joint probability assessments on the severity of the 2013/2014 storm events at other sites across Wales.

<sup>[1]</sup> JBA (2014) UKCMF Factual Report into the Coastal Storms of December 2013 and January 2014 Including Joint Sea Level and Wave Analysis

<sup>[2]</sup> Heffernan, J.E., Tawn, J.A., 2004. A conditional approach for multivariate extreme values (with discussion). *J. R. Stat. Soc. Ser. B Stat Methodol.* 66 (3), 497–546

<sup>[3]</sup> Environment Agency R&D project SC060088 “*The Risk of widespread flooding – capturing spatial patterns in flood risk from rivers and coasts*” was a scoping study to identify, develop and trial a method for assessing flood risk when aggregated over large spatial scales”. This work was a predecessor to the R&D project “*Planning scenarios for FCRM and the National Risk Assessment (H21 widespread inland flooding) Capturing the true spatial nature and joint probability of flood risk across all sources*” which is currently in progress.

## Recommendation 4 – Storm Severity

**Rec 4: Review and update if required, the extreme sea level dataset around the Welsh coast. The recent tidal conditions are amongst the highest for many years. This dataset may need to be amended.**

**This is to include methods for assessment of joint probability for storm severity.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 1

**Completion Date:** January 2016

### Summary of Recommendation Implementation

The December 2013 and early January 2014 sea levels were significant in terms of the available records from the UK national tide gauge network.

The Phase 1 Report identified that the peak sea level experienced in December 2013 was the highest recorded in Liverpool Bay in over 20 years since the tide gauge was established. The level exceeded the previous highest value by a considerable amount (0.3m or 1 ft.).

In January 2014, the peak recorded sea level at:

- Milford Haven was 4.51mAOD. This was the highest level since at least February 1997 and exceeded the March 2008 level (another notable event) by 0.14m.
- Newport was 8.03mAOD. This was the highest level since at least February 1997 and exceeded the February 1997 level by 0.20m.
- Barmouth was 3.92mAOD. This was marginally higher than the February 1997 level.
- Liverpool was 5.86mAOD. This was 0.36m lower than the peak level on 5th December 2013.

The Coastal Flood Boundary conditions for UK mainland and islands: design sea levels, completed in 2010, published in February 2011, is the industry standard, best practice dataset used in coastal flood risk management across England and Wales. This Environment Agency (EA) R&D project, which worked in partnership with the Scottish Environment Protection Agency (SEPA), provided an up-to-date scientifically robust national evidence base and practical guidance on appropriate design sea level and swell wave conditions around the country and how to use them.

Following the 2013/14 coastal storms and the significant sea levels recorded around Wales, we needed to understand whether inclusion of the more recent 2013/14 peak sea levels in the datasets and analysis used for the 2010 published research would alter the design estimates of extreme sea levels at key locations around the Welsh coast. Put another way, would the 1 in 200 year and 1 in 1,000 year design levels frequently used in coastal modelling and asset design significantly change with inclusion of the 2013/14 peak data.

A study was commissioned by Natural Resources Wales, using the UK Coastal Monitoring & Forecasting partnership, and undertaken by the National Oceanography Centre (NOC), Liverpool.

This study carried out a re-analysis of the extreme sea level estimates for seven locations on the national tide gauge network around, or close to, the Welsh coastline (Liverpool, Llandudno,

## Recommendation 4 – Storm Severity

Barmouth, Milford Haven, Mumbles, Newport and Avonmouth) using the same methodology as used in the 2011 published research.

**The conclusion of the study was that inclusion of the more recent peak sea level data does not make a statistically significant difference to the design sea level estimates around Wales.**

The table below, extracted from the report, shows the 200 year return period sea levels at all seven locations as calculated in the original 2011 published research, the change from including the 2013/14 recorded sea levels and the 95% confidence intervals.

Table 2. 200 year return level from McMillan et al. (2010), confidence interval, and change due to 2013/2014 data

	200 year level (m)	Change to 200 year level (m)	95% confidence interval (m)
Liverpool	6.03	0	0.2
Llandudno	5.38	+0.01	0.2
Barmouth	4.22	+0.05	0.2
Milford Haven	4.75	0	0.2
Mumbles	6.15	+0.04	0.3
Newport	8.41	+0.10	0.3
Avonmouth	9.11	+0.10	0.3

It would be reasonable to extrapolate these results, and hence the conclusions, to the entire Welsh coastline since the seven tide gauge locations (a) provide the best data available and (b) are well distributed around the entire Welsh coastline.

The full report from this study is provided at <http://nora.nerc.ac.uk/512661/>. It has been published as NOC Research & Consultancy Report No. 54.

We have therefore concluded that following this review of the extreme sea level data set around Wales, there is no immediate need to update the 2011 published coastal flood boundary design sea levels on account of the peak sea levels recorded around Wales during the 2013/14 winter.

However, the NOC study we commissioned has highlighted that whilst the methods used in the 2010 research remain valid, further recommended improvements could be made, in particular to:

- Refine the statistical models used at some locations for the most extreme sea levels;
- Include the seasonal dependencies between storm surges and tides within the 'skew surge' methodology which underpins the 2010 research.

These recommendations are beyond the scope of the Recommendation 4 project but will be picked up by Natural Resources Wales through:

- Ongoing engagement with the joint Defra-Welsh Government Flood & Coastal Erosion Risk Management R&D Programme;
- Our working relationships with the EA and SEPA, so we ensure design sea level estimates and supporting research remain coherent around the UK coastline.

## Recommendation 5 – Storm Severity

**Rec 5: Review and update if required, the guidance used for the assessment and design of coastal standard of service against flooding. The review should consider whether more clarification is needed, in particular on the issues of the treatment of joint probabilities, in combination effects and appropriate national consistency.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 1

**Completion Date:** Ongoing

### Summary of Recommendation Implementation

There is a close dependency with Recommendation 3 which states:

*“Further work is required to assess the joint probability of wind, waves and tides for these recent winter storms. This may take the form of an initial assessment coupled with consideration of more thorough analysis. The scope of this work will require further technical discussion.”*

Following the initial assessment of the joint probability of wind, waves and tides for the 2013/2014 storms and the subsequent analysis of joint probability carried out for the Rhyl flood risk management scheme, Recommendation 3 concluded that further specialist work is required to review and update standard methods of joint probability analysis and best practice guidance.

As stated in the summary report for Recommendation 3, we believe this is best achieved by working at a UK level, because of the need to establish best practice which RMAs and their consultants can use across England and Wales, in a similar vein to the approach taken for fluvial flood frequency (where the Flood Estimation Handbook has become established as the UK wide industry standard).

We also share coastal waters with England (Liverpool Bay and Severn Estuary) so consistency becomes an issues for assessment of storm severity and joint probability in these locations.

To begin to take this forward, NRW have engaged through the Defra-Welsh Government Flood and Coastal Erosion Risk Management Joint Research Development (R&D) Programme with two projects which are developing new techniques related to joint probability assessment:

- Planning scenarios for FCRM and the National Risk Assessment (H21 widespread inland flooding) Capturing the true spatial nature and joint probability of flood risk across all sources.
- Defra National Risk Assessment H19 extreme coastal flooding.

NRW will continue to engage with these R&D projects to support delivery of this Recommendation with a view to using these projects as a platform for establishing best practice methodologies and supporting guidance for coastal design standards of service, including the assessment of the joint probability of sources of coastal flooding. It is likely that any new guidance will need to be supported by practitioner workshops.

Once these R&D projects are complete, we will review if further work is required to take forward the R&D outputs and/or develop best practice guidance based in order to deliver the Recommendation.



## Recommendation 6 – Flood Forecasting

**Rec 6: Continue to identify and implement risk based opportunities to deliver further improvements to longer range forecasts.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 1

**Completion Date:** Ongoing

### Summary of Recommendation Implementation

This is addressed as part of ongoing work, including collaborative work with the Met Office, utilising emerging science. This enhancement and improvement to Natural Resources Wales' long range coastal forecasting capability enables earlier discussion around the scale, impacts and location of coastal flood events. Some illustrations of the ongoing work include:

- Natural Resources Wales input into the United Kingdom Coastal Flood Forecasting (UKCFF) partnership which provides a strategic overview of the current and future needs of those who provide coastal warnings. Natural Resources Wales contribute to, propose and lead, UKCFF work.

As part of the ongoing portfolio of the work of UKCFF, there are several examples of how Natural Resources Wales both input into the work and benefit from the collaborative work undertaken, including:

- A project to better align Met Office, Environment Agency and Natural Resources Wales' forecast data, enabling better sharing of data and discussions around specific forecasts – instigated by Natural Resources Wales;
  - A project to better understand coastal processes within the Bristol Channel – also instigated by Natural Resources Wales;
  - A project to review the potential benefit of, and implement the operation use of, wave ensemble forecasts, providing improved long range forecasting ability.
- Surge, wind and wave data provided by the Met Office, now extend to 5 days' worth of forecasts (compared to 48 hours' previously). This data is processed through Natural Resources Wales' bespoke forecasting models, providing site specific forecast at 80 locations around Wales to better inform the flood warning service.
  - Surge ensemble data has been implemented, in collaboration with the Met Office, to give a greater understanding of uncertainty in the current forecast and flagging potential events earlier.

These improvements provide a greater lead-in time to coastal flood events, giving a greater understanding of the potential risks earlier. This enables earlier discussions between professional partners around the scale and potential impacts of coastal flood events. Earlier and more informed discussions increase the effectiveness of both preparatory action and the resulting response.

## Recommendation 7 – Flood Forecasting

**Rec 7: Review with partners what additional forecast information could be provided to support local incident management decisions. Identify options and recommendations.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 1

**Completion Date:** October 2015

### Summary of Recommendation Implementation

A Natural Resources Wales working group was set up to undertake this recommendation, comprising a Flood Incident Management team technical specialist from each area within Wales (North, South West and South East) and a member of the national Flood Forecasting team to advise on the forecast data which could be provided and how this could be done.

The first step was to consult with professional partners to identify what additional forecast information they felt would be useful for local incident management decisions. Professional Partners were asked three questions:

1. What forecasting information do you currently receive and in what format?
2. What additional forecast information would be beneficial to your operations and why?
3. Can you identify any situations when forecast information is diluted through onward sharing within organisations and may therefore not fully reach all the intended recipients?

A total of 20 consultation responses were received. The responses indicated that:

- There is a variety in the type and amount of forecast information received by partners across different areas within Wales.
- A large proportion of partners would like to receive additional forecast information.
- There are no current concerns over the dilution of information through onward sharing within organisations.

Based on this information the working group developed and discussed potential solutions to provide additional forecast information and achieve greater consistency in the forecast data provided across Wales.

This led to the development of a two-stage solution to achieve the Recommendation, which was reviewed and agreed with the NRW national forecasting team:

- Stage 1 - Short Term Response: Provide generic information on a more local level to partners via email
- Stage 2 - Long Term Response: Provide more detailed forecast information to partners

Stage 1, the short term solution, aims to provide professional partners with more local, longer-range information via email correspondence. Emails will be provided on a Local Resilience Forum basis, covering the geographical area associated with the each LRF in a similar style to those of the Met. Office Advisor emails. The contents of these emails will vary in detail depending on the conditions forecast, but templates and examples have been developed to enable this to be a consistent process across Wales. This solution can be implemented immediately and is already being implemented under some events.

## Recommendation 7 – Flood Forecasting

Stage 2, the long term solution, is the provision of more detailed forecast information, such as site specific forecasts. This is technically more difficult to implement due to the need to ensure that uncertainty in the forecast is fully communicated and the need for development of a user friendly and efficient data dissemination process. A feasibility study should be undertaken by NRW to progress this task. Decisions on the level of data provided and the manner in which it is presented are key for this to work successfully.

Further information on this Recommendation can be found within the accompanying Project Report 1 - Recommendation 7.

## Recommendation 8 – Flood Forecasting

**Rec 8: Continue to progress risk based opportunities to deliver improvements to the accuracy of the coastal forecasting service. Develop and deliver a programme of improvement works.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 1

**Completion Date:** Ongoing

### Summary of Recommendation Implementation

This is ongoing work and forms part of the continuous improvement, review and recalibration of Natural Resources Wales' coastal forecasting models. Improvements to the accuracy of the coastal forecasting service directly influences the coastal flood warning service, leading to more effective action in the lead up to coastal flood events. Some examples of the ongoing work to improve the accuracy of the coastal forecasting service include:

- Continuing to utilise improvements in forecast data available to Natural Resources Wales. This involves working with the Met. Office and the Flood Forecasting Centre, as well as the United Kingdom Coastal Flood Forecasting partnership (UKCFF) of which Natural Resources Wales is a member, to both identify our needs and understand advancing scientific forecasting methods. Examples of this include the empirical re-tuning of astronomic data, and the manual assessment of surge performance, both of which are done during flood events to improve the accuracy of the raw model outputs.
- Continuing to improve Natural Resources Wales' site specific coastal flood forecasting modelling capabilities by:
  - Updating forecasts for individual locations using the latest forecast modelling techniques to improve accuracy;
  - Continuing to capture site observations where possible to verify the model output, better understand model performance and recalibrate where necessary.
- Improving the understanding of strengths and limitations of current coastal forecasting techniques. Whilst Natural Resources Wales utilises the latest coastal flood forecasting modelling methods, this is still an emerging science. By delivering in-house training to duty officers on the nuances and assumptions of coastal flood modelling, the forecasting service benefits from detailed interpretation of the model outputs.

This work provides an enhancement to the coastal flood forecasting service, better informing the flood warning service and hence Natural Resources Wales' ability to advise and respond to coastal flood events. The understanding of coastal processes and hence the modelling of these is an emerging and evolving science – inputting into the development of coastal flood forecasting methods, and utilising the outputs enhances Natural Resources Wales' coastal flood warning capability.

## Recommendation 9 – Flood Forecasting

**Rec 9: Review the whole wave buoy network around the Welsh coast, including working with UKCMF to address a strategic gap in the offshore wave buoy network in the Irish Sea. This is required to better validate offshore wave forecasts, leading to improvements to the Wales forecasting service. (UKCMF- UK Coastal Monitoring and Forecasting Service).**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** December 2014

### Summary of Recommendation Implementation

A new wave rider buoy was installed off the West Pembrokeshire Coast on 11<sup>th</sup> September 2014.

The method followed to reach this outcome comprised:

- The wave buoy network around the Welsh coast was reviewed and a gap identified in the network in the Irish Sea.
- Centre for Environment, Fisheries & Aquaculture Science (Cefas) helped assess locations and prepare for the operational deployment of the new buoy.
- Funding was secured via UKCMF (from the UK Government flood recovery funds).
- The optimal location was identified by Natural Resources Wales through consultation with professional partners and the new installation will provide directional wave data as well as wave height and wave period.

A live telemetry feed supplies instantaneous data and will be used to routinely calibrate Natural Resources Wales' forecast data, as well as monitor wave conditions during storm events. The resilience and suitability of the wave buoy network will continue to be assessed including the impact of the new buoy. Any issues or strategic gaps will continue to be raised as appropriate.

## Recommendation 10 – Flood Warning and Community Response

**Rec 10: Complete the ongoing work by summer 2014 to ‘rebrand’ the flood warning service in Wales so that the provider is clearly identified as Natural Resources Wales.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** September 2014

### Summary of Recommendation Implementation

All flood warnings issued in Wales clearly identify Natural Resources Wales as the provider of the service.

- The work was completed in September 2014.
- We have continued to develop our own web products in the meantime, while continuing the partnership with the Environment Agency for certain products such as the 3 day flood forecast, live flood warnings and registration to the service.
- We developed a live flood warning map which went live in March 2015: <http://naturalresources.wales/flooding/flood-warnings/?lang=en>
- We are developing our own pages for live flood warnings and the 3 day flood forecast - which is due to be live by the end of March 2016.
- We are procuring this system in partnership with the Environment Agency but the service for Wales will be entirely hosted by Natural Resources Wales’ website.

Natural Resources Wales continue to work in partnership with the Environment Agency for provision of online supporting information and we are working with them to improve their webpages to further help with this clarity.



## Recommendation 11 – Flood Warning and Community Response

**Rec 11: Develop and implement a prioritised programme of improvement works to flood warning areas and thresholds, using the experience and data gathered from these storms. This should include engagement with professional partners and communities as appropriate.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 2

**Completion Date:** December 2015

### Summary of Recommendation Implementation

A Natural Resources Wales working group was set up to undertake these Recommendations, comprising a Flood Incident Management Team technical specialist from each local team within Wales (North, South West and South East).

Recommendations 11 and 12 are inherently linked, as to improve the Flood Warning Service, in particular the setting of flood warning areas and flood warning thresholds, validation information from real storm events is required. These two Recommendations were combined into one report.

The methodology involved consultation with Professional Partners to identify any concerns they may have with the current flood warning areas and thresholds including any specific locations.

Professional Partners were asked three questions with regards to Recommendation 11. From the replies received the Professional Partners had no concerns with the issue and timeliness of the flood warnings, but do have some concerns over the tone and wording of the messages. There were some specific locations which partners have raised, NRW are aware of these and are addressing these locations apart from two flood warning areas where further study is taking place (Caldicot and Wentlooge Levels in South East Wales).

Based on the responses from our Professional Partners the working group concluded that following review of the December 2013 and January 2014 flood events, the flood warning areas that required changes to them have already been undertaken and these areas are summarised within appendices to the report.

To help NRW improve our Flood Warning Service and our understanding of flood risk, for future events, we encourage anyone to send any evidence of flooding to the following email addresses so that we have all the available information to support any decisions taken.

South East Wales – [flinese@cyfoethnaturiolcymru.gov.uk](mailto:flinese@cyfoethnaturiolcymru.gov.uk)

South West Wales – [flinesw@cyfoethnaturiolcymru.gov.uk](mailto:flinesw@cyfoethnaturiolcymru.gov.uk)

North Wales - [flinen@cyfoethnaturiolcymru.gov.uk](mailto:flinen@cyfoethnaturiolcymru.gov.uk)

Further information on this Recommendation can be found within the accompanying Project Report 2 - Recommendations 11 & 12.

## Recommendation 12 – Flood Warning and Community Response

**Rec 12: Review and consider additional sources of validation information for future incidents. This has potential to improve confidence in both forecasting and warning. This may involve seeking feedback from professional partners and others.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 2

**Completion Date:** December 2015

### Summary of Recommendation Implementation

A Natural Resources Wales working group was set up to undertake these Recommendations, comprising a Flood Incident Management Team technical specialist from each local team within Wales (North, South West and South East).

Recommendations 11 and 12 are inherently linked, as to improve the Flood Warning Service, in particular the setting of flood warning areas and flood warning thresholds, validation information from real storm events is required. These two Recommendations were combined into one report.

The methodology to Recommendation 12 involved consultation. Professional Partners were consulted to identify what validation techniques they currently use, if any. There were five questions asked as part of Recommendation 12.

From the replies received the majority of the Professional Partners do not carry out formal validation of impacts following flood events, though a few replied that they do carry out site inspections following receipt of flood warnings. From the replies received only police drones were suggested as capturing event data that NRW doesn't currently use. Gaps within validation data relate more to the sharing of data rather than the data collection itself. The replies suggest that there are no formal triggers for carrying out data validation and there are a variety of systems used for validation data and that approximate 40% of the replies share their data with NRW.

Validation is already carried out and will continue to be used within NRW. The working group concluded that all available methods of validation are being used. These validation techniques have been shared within NRW to ensure best practices are followed and the group concluded that new technologies when they become available should always be explored to see if further validation methods can be used.

To help NRW improve our Flood Warning Service and our understanding of flood risk, for future events, we encourage anyone to send any evidence of flooding to the following email addresses so that we have all the available information to support any decisions taken.

South East Wales – [flinese@cyfoethnaturiolcymru.gov.uk](mailto:flinese@cyfoethnaturiolcymru.gov.uk)

South West Wales – [flinesw@cyfoethnaturiolcymru.gov.uk](mailto:flinesw@cyfoethnaturiolcymru.gov.uk)

North Wales - [flinen@cyfoethnaturiolcymru.gov.uk](mailto:flinen@cyfoethnaturiolcymru.gov.uk)

Further information on this Recommendation can be found within the accompanying Project Report 2 - Recommendations 11 & 12.

## Recommendation 13 – Flood Warning and Community Response

**Rec 13: Work with sample communities to identify options to help sustain an effective local response to flood warnings. This should consider communities where effective response and or confidence in the warning system is low.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 3

**Completion Date:** March 2016

### Summary of Recommendation Implementation

Natural Resources Wales led a series of participatory workshops which involved a wide range of professional partners along with members of the public who had experienced flooding, or who represented communities at risk from across Wales.

An assessment of barriers and ways to overcome them was considered which resulted in the identification of the following 5 options as key to achieving recommendation 13;

1. Better education about risks
2. Improve local gathering of information
3. Better local communication
4. Improve the quality of warnings
5. Improve the response to warnings

Summary:

There are interdependencies between all 5 options above, so they need to be progressed as part of an ongoing 'before during and after' a flood cycle.

They need to be achieved through better local engagement (see Recommendation 14) availability of good information and advice which details what warnings sound and look like what to do and when (Recommendation 15) and supported locally by volunteers as part of flood planning processes (Recommendation 16 & 17).

Organisations are already making improvements to existing warning services and using learning from Sciencewise and Ipsos Mori Flood communications research and public feedback to improve quality and accessibility of warning messages.

**The recommended option: Better education about risks.**

**This needs to be led on a National Level by NRW, supported by a range of others, specifically the 4 newly formed LRF Community Resilience groups and locally by a wide range of interest groups and individuals.**

Further information on this Recommendation can be found within the accompanying Project 3 Report – Recommendations 13, 14, 15, 16 & 17.

## Recommendation 14 – Flood Warning and Community Response

**Rec 14: Identify and evaluate options to help communities to become more self-sufficient and resilient and identify a recommended option**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 3

**Completion Date:** March 2016

### Summary of Recommendation Implementation

Natural Resources Wales led a series of participatory workshops which involved a wide range of professional partners along with members of the public who had experienced flooding, or who represented communities at risk from across Wales.

The aims of the workshops were to;

- Bring together representatives of Risk Management Authorities, the public and other key delivery organisations within Wales who contribute to Recommendations 13 - 17.
- Act as a technical multi-partner advisory group, considering evidence, identifying gaps and opportunities which help to create more self-sufficient and resilient communities in Wales.
- Contribute practical ideas and suggestions as to how the recommendations are best taken forward, by identifying who should lead and support and the timescales involved (short, medium or long term).

Agreement was reached at an early stage of the project that;

- The scope of Project 3 work should be expanded to include all sources of flooding (not just coastal).
- Recommendations 13,15,16 & 17 should sit under the umbrella of Recommendation 14, as they are all essential components that contribute to achieving longer term sustainable resilience.

Findings were clear in that all 5 options listed below need to be delivered concurrently, delivering just one or two will not fully deliver Recommendation 14. This is due to the causal links that emerged.

- Improved Inter-Agency Working
- Better Engagement (current)
- Better public information about options
- Develop a broader community resilience plan – not just flooding
- Better engagement with future generations (education of young people)

## Recommendation 14 – Flood Warning and Community Response

### Summary:

As a result of a 4 stage consultative process, which was informed by existing and newly commissioned research, including 2 pilot Volunteer events, a set of practical suggestions for delivering recommendation 14's agreed vision '*Self-supporting communities that are resilient to flooding*' have been identified;

### **The recommended option (what needs to be done First):**

#### **Improved Inter-Agency Working, which needs to be supported by Better Engagement at local level**

Improved Inter-Agency working needs to start with direction from Welsh Government – through the All Wales Community Resilience Group to implement the identified actions within this report. The new Flood and Coastal Risk Erosion Committee would also have a key role to play in supporting and progressing these recommendations.

Better Engagement at local level can also be improved by sharing of existing best practice and local resources. The mechanism for this is the same as above.

Further information on this Recommendation can be found within the accompanying Project 3 Report – Recommendations 13, 14, 15, 16 & 17.

## Recommendation 15 – Flood Warning and Community Response

**Rec 15: Produce and communicate nationally consistent, public focused information on the types and availability of property level protection measures and the support available.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 3

**Completion Date:** March 2016

### Summary of Recommendation Implementation

**There is a clear need to;**

- Produce separate tailored advice for professional and public audiences.
- Consider and address issues regarding data protection, commercial sensitivity and confidentiality around sharing of information when storing and sharing advice for and between professionals.

**Recommendations identified;**

- Pilot an annual Wales Flood Conference for public, professionals and all partner organisations. Consider using the Institution of Civil Engineers (ICE) event.
- Strengthen Joint Communications meetings between NRW, EA, SEPA, Met Office and DARDNI.
- Establish All Wales Professional Partner Network training events.
- Increase access to and use of Resilience Direct for professional partners including voluntary orgs, and promote this through the Wales Flood Group, Warning and Informing Group, Community Resilience Group and LRF Community Resilience subgroups.
- Develop an online public microsite and ensure the content addresses **known** information gaps including, for example, how to access and how to use Property/Individual Level Protection (PLP/IPP);

**The recommended option: All of the above are relevant, but the recommended next step is to establish an online ‘micro site’ for Wales that all organisations can signpost public to for consistent advice and information that covers before during and after a flood cycle.**

**This should be taken in the first instance to the All Wales Community Resilience Group (Welsh Government).**

**The rationale for this is that this group functions at all Wales Level, its membership includes representation from many of the relevant organisations including the LRFs and has a wider remit that allows for consideration of the whole flood cycle in the context of longer term social and emotional resilience. NRW and other organisations can assist with the micro-site development.**

Further information on this Recommendation can be found within the accompanying Project 3 Report – Recommendations 13, 14, 15, 16 & 17.



## Recommendation 16 – Flood Warning and Community Response

**Rec 16: Using the experience from these recent storms, identify and evaluate options for the future development of local Flood Plans in coastal areas and identify a recommended option to help these be more effective at improving community resilience.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 3

**Completion Date:** March 2016

### Summary of Recommendation Implementation

Natural Resources Wales led a series of participatory workshops which involved a wide range of Professional Partners along with members of the public who had experienced flooding, or who represented communities at risk from across Wales.

The following 5 options were identified as key to delivering Recommendation 16, with the acknowledgement that there are interdependencies with other Project 3 Recommendations (see Recommendation 14) ;

- Better understanding of who does what in the local community flood plan.
- Improve the engagement of communities in planning.
- Maintain community engagement if there is no flood, or after a flood.
- Better implementation of the local community flood plan.
- Learn and implement lessons after the event.

### Recommendations identified;

- Consider and disseminate learning from Flood Awareness Wales' Independent Review commissioned by NRW which looks at flood plans and volunteers.
- Develop broader resilience plans that incorporate flooding (see Recommendation 14).
- Share emergency plans with relevant agencies and increase communication links with the public and partners on a more local level. (see Recommendation 14)

**The recommended option: A combination of the above is required, starting with raising awareness of a better understanding of who does what in all resilience plans, and particularly local community flood plans.**

**This should be led at National Level by Welsh Government – through the Wales Flood Group and Local Resilience Forum structures. NRW can and will assist with this, but it needs buy-in from all parties.**

Further information on this Recommendation can be found within the accompanying Project 3 Report – Recommendations 13, 14, 15, 16 & 17.

## Recommendation 17 – Flood Warning and Community Response

**Rec 17: Using the experience from these recent storms, identify and evaluate options for the future development of local Flood Plan Leads / Warden Volunteers in coastal areas and identify a recommended option.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 3

**Completion Date:** March 2016

### Summary of Recommendation Implementation

Natural Resources Wales led a series of participatory workshops which involved a wide range of Professional Partners along with members of the public who had experienced flooding, or who represented communities at risk from across Wales. This included 2 pilot Volunteer Network events which aimed to ;

1. Provide an opportunity for Volunteers to meet others carrying out similar roles and share best practice.
2. Share advice from specialist partner organisations to obtain an increased understanding of roles and responsibilities at the 3 stages; before, during and after a Flood.
3. Discuss health and safety risks associated with flood volunteer roles and identify ways to mitigate them.

As there are strong linkages and interdependencies between this Recommendation and others within Project 3, (specifically Recommendation 16) the options and Recommendations should be considered together.

#### **Options identified (specific to Volunteers):**

- Consider and disseminate learning from Flood Awareness Wales' Independent Review commissioned by NRW which looks at flood plans and volunteers.
- Hold Flood Plan Volunteer Network events.
- Develop Volunteer Health and Safety Checklists.

**These options should be considered in the first instance at National Level by Welsh Government – through the All Wales Community Resilience Group and its member organisations.**

**The rationale for this is that this group functions at all Wales Level, its membership includes representation from many of the relevant organisations including the LRFs and organisations that specialise in supporting volunteers. NRW can and will assist with this process.**

Further information on this Recommendation can be found within the accompanying Project 3 Report – Recommendations 13, 14, 15, 16 & 17.

## Recommendation 18 – Operational Response

**Rec 18: Review and identify how to improve involvement of infrastructure operators and managers in the coastal flood risk incident management process.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 10

**Completion Date:** November 2015

### Summary of Recommendation Implementation

Natural Resources Wales created a questionnaire which was sent out to 15 Coastal Risk Management Authorities (RMAs), Local Resilience Forums (LRFs), the Wales Utility Group (WUG), Network Rail (NR) and the Trunk Road Agencies within Wales.

This consultation process was to help identify:

- Current levels of awareness and involvement from infrastructure operators and managers;
- Concerns or barriers that restrict the involvement of other organisations;
- Suggestions on how improved involvement can be achieved and implemented.

A total of 26 consultation responses were received. The key points raised were that:

- There is a need for awareness raising and more regular contact / involvement between organisations;
- Infrastructure operators, utility providers and RMAs should be able to share appropriate contact details;
- There should be improved sharing and understanding of infrastructure and utility asset inspection and maintenance regimes at a local level;
- There should be a greater shared understanding at a local level of infrastructure and utility assets that are at risk of flooding.

Summary:

All groups consulted felt that more needed to be done, and could be done, to improve the involvement of infrastructure providers and utility operators in the flood risk management process from forward planning to incident response. The starting point for improved involvement was suggested to be better information sharing between organisations.

After considering the information gathered, the following solution has been proposed:

Resilience Direct is explored as an option for all parties to share and store information at the 'official sensitive' level.

Further information on this Recommendation can be found within the accompanying Project 10 Report – Recommendations 18, 43, 44, 45, 46 & 47.

## Recommendation 19 – Operational Response

**Rec 19: Continue to develop potential ‘impact scenario’ assessments, maps and/or statements. This work must be developed in close discussion with professional partners to ensure it meets all parties’ requirements.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 4

**Completion Date:** Ongoing

### Summary of Recommendation Implementation

An internal Natural Resources Wales (NRW) working group was set up to undertake this Recommendation, which included a Flood Incident Management (FIM) team technical specialist from each area within Wales (North, South West and South East).

Static impact scenario assessment maps have previously been produced for South West and South East Wales, but there are currently no similar maps available for North Wales. These impact scenario maps were produced by the local FIM teams based on documented flood depths and extents which occurred during previous flood events.

The working group discussed whether these static maps should be extended to the North Wales area. During the discussion it was identified that North Wales would prefer a more dynamic approach to the mapping, with maps produced automatically each time a flood event is forecast to occur, based on the forecast condition triggering activation of the flood warning areas. Consultation has been undertaken with Risk Management Authorities (RMAs) to identify their opinion on the existing static mapping approach and the new more dynamic mapping methodology proposed for North Wales.

For this Recommendation, a pilot study has been undertaken to trial the new dynamic mapping for a number of sites in North Wales. This has involved work being undertaken by the FIM teams with help from NRW GIS specialists. A review of the pros and cons of the existing static mapping and the pros and cons of the proposed dynamic mapping has been undertaken.

The scope of this work needs to be considered within NRW’s future mapping and modelling programme. The merits of these proposals need to be gauged against other priorities within the business before engaging externally with Welsh Government and the Wales Flood Group as end users of the maps via Local Resilience Forum activities and access to the Resilience Direct website.

Further information on this Recommendation can be found within the accompanying Project Report 4 - Recommendation 19.

## Recommendation 20 – Operational Response

**Rec 20: Review the local decision making process associated with the issue of Severe Flood Warnings and evacuation procedures in December 2013 and early January 2014. Identify improvements and share at an all Wales level.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 4

**Completion Date:** March 2016

### Summary of Recommendation Implementation

A working group was set up to undertake this Recommendation internally within Natural Resources Wales (NRW), which included a Flood Incident Management (FIM) team technical specialist from each area within Wales (North, South West and South East) with a Senior Advisor in Flood Warning and Informing to steer the Recommendation.

*“Severe Flood Warnings (SFW) are reserved for exceptional flooding situations. They should not be used when flooding of property is expected, even if evacuation may be necessary, unless at least one of the following criteria are met:*

- *Significant risk to life, or*
- *Significant disruption to the community caused by widespread or prolonged flooding.”*

The first stage included consultation with our Professional Partners through a short questionnaire to establish the level of understanding of the meaning and purpose of a Severe Flood Warning as well as their role in the decision making process. Responses to the questionnaire highlighted varying degrees of understanding.

A review of NRW processes confirm that the decision making process was consistently applied. However it was felt that staff and duty officer confidence in their role in the decision-making process varied.

The SFW is a nationally consistent message and there is no clear driver for changing it.

Levels of understanding within both NRW and Partner organisations could however be improved. This led to an action plan to deliver training and table-top exercising to both groups. A training presentation has been developed and will be rolled through internal NRW duty officer training along with presentations and (light-touch) table-top exercises to multi-agency groups.

NRW Flood Incident Management teams are now developing a programme of training for these groups with the aim to complete by Autumn 2016.

## Recommendation 21 – Operational Response

**Rec 21: Assess our national capacity to respond to a widespread and sustained period of coastal flooding. This should include consideration of when the current national resource pool will no longer function effectively. This should also consider post incident recovery issues.**

**Provide a report with recommendations for improvement.**

**Recommendation Lead:** Welsh Government

**Project Reference:** Outside Projects

**Completion Date:** June 2015

### Summary of Recommendation Implementation

Wales Flood Group is best placed to lead on this work as each agency within the group has emergency plans in place, which they have tested against flood scenarios.

Recommendation 22 and the coastal evacuation exercise ('Exercise Megacyma) held in March 2015 helped inform the process of how we prepare for major incidents but ultimately this Recommendation relates to local multi-agency planning which is already taking place; particularly in the high risk areas.

In terms of national capacity, the emergency services have national arrangements for wide-area support for all emergencies but nothing like this exists for Local Authorities. In taking forward planning at the local level, the LRFs also need to consider how Local Authorities broker mutual aid not only with neighbouring authorities but also with those from further afield.

- Review output and lessons learnt from Exercise Megacyma in March 2015. There are 10 recommendations within the Exercise's de-brief report which will be ongoing and monitored by the Wales Flood Group.
- Link with Recommendation 22 and 37.

Further information on this Recommendation can be found within the linked summary page of the Megacyma Exercise.



## Recommendation 22 – Operational Response

**Rec 22: Assess the collective ability to provide an effective response to a potential large scale evacuation scenario in either north east or south east Wales. This should also consider post incident recovery issues.**

**Provide a report with recommendations for improvement.**

**Recommendation Lead:** Wales Flood Group

**Project Reference:** Outside Projects

**Completion Date:** June 2015

### Summary of Recommendation Implementation

Wales Flood Group is best placed to lead on this work as each area of the agencies within the group have emergency plans in place, which they have tested against flood scenarios.

Recommendation 22 and the coastal evacuation exercise ('Exercise Megacyma) held in March 2015 helped inform the process of how we prepare for major incidents but ultimately this Recommendation relates to local multi-agency planning which is already taking place; particularly in the high risk areas.

In terms of national capacity, the emergency services have national arrangements for wide-area support for all emergencies but nothing like this exists for Local Authorities. In taking forward planning at the local level the LRFs also need to consider how Local Authorities broker mutual aid not only with neighbouring authorities but also with those from further afield.

- Review output and lessons learnt from Exercise Megacyma. There are 10 Recommendations within the Exercise's de-brief report which will be ongoing and monitored by the Wales Flood Group.
- Link with Recommendation 22 (and 37).

Further information on this Recommendation can be found within the linked summary page on Exercise Megacyma.

## Recommendation 23 – Operational Response

**Rec 23: Review the Wales resilience structures and ways of working to identify what changes may be needed to enable us to collectively be better prepared and resilient to future coastal flooding.**

**Recommendation Lead:** Local Resilience Forums

**Project Reference:** Outside Projects

**Completion Date:** June 2015

### Summary of Recommendation Implementation

The Local Resilience Forums (LRFs) and their Severe Weather Groups were best placed to lead on this work as each area has recovery plans in place, which they have tested against flood scenarios.

The findings of Phase 2 of the Compact for Change were accepted by the Wales Resilience Forum on 13th November 2014. The LRFs now have responsibility for implementing these changes.

The proposed changes to the Wales resilience structures under the Compact for Change were tested through Exercise Megacyma Cymru in March 2015. The Exercise generated a further ten recommendations for change and these will be ongoing and monitored by the Wales Flood Group. Learning from the Exercise will be applied to ensure we are better prepared for future coastal flooding incidents.

The Exercise Megacyma summary page can be found at:

<http://gov.wales/topics/environmentcountryside/epq/flooding/planning/exercisemegacyma/?ctx=rO0ABXNyAA5qYXZhLmxhbmcuTG9uZzuL5JDMjyPFAgABSgAFdmFsdWV4cGQamF2YS5sYW5nLk51bWJlcoasIR0LIOCLAgAAeHAAAAAAAAAACwA&view=Standard&skip=1&lang=en>

There is work to be done to make the Exercise's recommendations a reality, with the following key points being of note:

1. An update to the Wales Flood Response Framework.
2. The principles of a joint-Strategic Coordination Group (SCG) should be considered across all Welsh LRFs, where this is practicable, and the Pan-Wales Response Plan should reflect any changes at the local and regional level– A Task and Finish Group has been established and a concept paper produced. The LRFs will be consulted on the outcome with a view to embedding the principles in local plans.
3. Further work is required in drawing together all existing initiatives of dealing with vulnerable people into a single, national planning group to take this work forward in a co-ordinated way – A pilot project is currently being undertaken in West Wales to develop a GIS system to provide real time data on the location of vulnerable people during flooding incidents.
4. The principle of wide-area recovery groups should also be explored – A Task and Finish Group has been established and its findings are currently with the LRFs for consultation.
  - Review output and lessons learnt from Megacyma Cymru exercise 2015.

Further information on this Recommendation can be found within the linked summary page on Exercise Megacyma.

## Recommendation 24 – Operational Response

**Rec 24: Options to seek improvements to the standard of protection at the Garford Road area of Rhyl should be identified and evaluated. This should include detailed hydraulic analysis of the capacity and performance of the storage lagoon. This should include an assessment of the stairwell and slipway openings and the interaction with the adjacent golf course area.**

**Recommendation Lead:** Denbighshire County Council

**Project Reference:** Outside Projects.

**Completion Date:** March 2016

### Summary of Recommendation Implementation

During the early stages of carrying out this recommendation, it was recognised by Denbighshire County Council that there was the possibility of achieving some ‘quick wins’ by carrying out some quite basic, but highly effective, improvements to the existing coastal defences. These improvements included:

1. The replacement of timber stop logs at stairwell and slipway openings by steel flood gates, thus significantly reducing the risk of a breach scenario.
2. The construction of a new steel flood gate at Splash Point to prevent overtopping waves being driven in an easterly direction along the promenade and towards properties (as happened on 5<sup>th</sup> December 2013).
3. The introduction of a formal channel at the east end of the Garford Road flood storage lagoon to encourage the passage of flood water towards Rhyl golf course and away from properties.
4. The replacement of the chain link fence between the storage lagoon and the golf course by a collapsible fence (debris which built up on the fence during the 2013 storm probably contributed to the flooding problem).

Whilst the overtopping that took place in 2013 was sufficient to completely overwhelm the defences, and inundate the golf course, it was apparent from studying topographical surveys of the golf course that additional temporary storage capacity could be found fairly easily by constructing a wall and/or bund around the golf course and carrying out some relatively minor re-shaping of the course itself. In addition, a system has been designed whereby flood water can be released back out to sea at low tide via a culvert and penstock arrangement. This work is ongoing and should be complete by summer 2016.

Notwithstanding the particular requirements of Recommendation 24, as a Lead Local Flood Authority Denbighshire County Council has an overarching aim to understand why the flood occurred, the chances of a flood of a similar magnitude happening again and measures that can be taken to reduce the risk. To this end, the Council appointed consultants to carry out a detailed assessment of the 5<sup>th</sup> December 2013 event and to carry out a project appraisal study to identify options to reduce the risk to an acceptable level. The findings of the consultant’s work are as follows.

- i. In order to determine the return period of the event, the consultant carried out a multi-variate probability assessment, which examined the likelihood of a number relatively unusual events all occurring at the same time, for instance, a high astronomical tide

## Recommendation 24 – Operational Response

- combined with an atmospheric surge with gale force onshore winds. The assessment concluded that the event had approximately a 0.5% annual probability.
- ii. Using the outputs from the multi-variate probability assessment, the consultant has been able to establish a set of 'design events' from 100% to 0.1% annual probability, which has enabled an assessment of the current standard of protection in the Garford Road area. The conclusion from this work is that flooding of property is likely to occur during events of between a 2% and 1% annual probability. When sea level predictions are applied, the likelihood of flooding increases significantly.
  - iii. The project appraisal study has considered a number of possible options to reduce flood risk to an acceptable level; these include:
    - a) Beach Recharge
    - b) An offshore breakwater
    - c) A new sea defence consisting of a higher sea wall with concrete stepped revetment
    - d) Rock armour
    - e) A sand engine

The recommended option is (b) an offshore breakwater. Not only does this provide the most economical solution, when considering the whole life costs of the option, it also reduces the likelihood of beach erosion and the consequential increased risk of breach and overtopping. The Project Appraisal Report is currently with the Welsh Government for its comment and approval.

Further information on this Recommendation can be found within the linked Report by Denbighshire County Council.

## Recommendation 25 – Operational Response

**Rec 25: All Risk Management Authorities (RMAs) around Wales should review their local use of stop boards, stop logs, temporary barriers or moveable gates. The purpose of this review is for RMAs to satisfy themselves that existing arrangements are appropriate and robust. Consideration should be given to replacing existing arrangements with more permanent or more robust temporary solutions. This review should be ‘risk based’ and focused on the locations with highest local risk.**

**Recommendation Lead:** Welsh Local Government Association

**Project Reference:** Project 5

**Completion Date:** January 2016

### Summary of Recommendation Implementation

The initial exercise was to assess current arrangements with regards to temporary installations across all Risk Management Authorities (RMAs). This included locations of use, when are the structures installed and removed, current inspection and maintenance regimes and gathering good practice from across Wales.

A data request in the form of a brief questionnaire was sent out to Coastal RMAs to gather information relevant to Recommendation 25 (and shares links with Rec 26 & 31).

The survey was sent out to 16 RMAs and 13 responses were received. The responses indicated that:

- There is a good confidence level on the location of high flood risk areas across Wales.
- There are some inconsistencies in the way data related to temporary defences is recorded.
- There are solid and consistent inspection and maintenance regimes in place within all RMAs.

Based on the responses a report has been produced that addresses Recommendations 25 and 26 in combination. The report comprises of 2 parts:

- Review of the findings.
- Conclusion and recommendations.

Five recommendations have been put forward within the report:

1. Creation of systems to record information related to temporary and secondary defences (for those who haven't already done so).
2. Compare inspection regimes between LLFAs and NRW to avoid duplication and overlap.
3. Share relevant information between RMAs on temporary or secondary defences (locally or regionally).
4. Focus on the performance of whole defence systems instead of focussing on individual sections.
5. Welsh Government to review Schedule 1 of the Flood Water Management Act 2010 to enable RMAs to designate third party townscape or landscape assets as secondary defences.

Further information on this Recommendation can be found within the accompanying Project Report 5 – Recommendations 25 & 26.

## Recommendation 26 – Coastal Defences

**Rec 26: All Risk Management Authorities (RMAs) around Wales should review locations where they have secondary defence systems in place. The purpose of this review is for RMAs to satisfy themselves that the secondary systems will operate as designed when required. This review should be ‘risk based’ and focused on the locations with highest local risk.**

**Recommendation Lead:** Welsh Local Government Association

**Project Reference:** Project 5

**Completion Date:** January 2016

### Summary of Recommendation Implementation

The initial exercise was to assess current arrangements with regards to secondary defences across all Risk Management Authorities (RMAs). This included locations of use, when are the structures installed and removed, current inspection and maintenance regimes and gathering good practice from across Wales.

A data request in the form of a brief questionnaire was sent out to Coastal RMAs to gather information relevant to Recommendation 26 (and shares links with Rec 25 & 31).

The survey was sent out to 16 RMAs and 13 responses were received. The responses indicated that:

- There is a good confidence level on the location of high flood risk areas across Wales.
- There are some inconsistencies in the way data related to secondary defences is recorded.
- There is low confidence level in the identification of secondary flood defences.

Based on the responses a report has been produced that addresses Recommendations 25 and 26 in combination. The report comprises of 2 parts:

- Review of the findings.
- Conclusion and recommendations.

Five recommendations have been put forward within the report:

1. Creation of systems to record information related to temporary and secondary defences (for those who haven't already done so).
2. Compare inspection regimes between LLFAs and NRW to avoid duplication and overlap.
3. Share relevant information between RMAs on temporary or secondary defences (locally or regionally).
4. Focus on the performance of whole defence systems instead of focussing on individual sections.
5. Welsh Government to review Schedule 1 of the Flood Water Management Act 2010 to enable RMAs to designate third party townscape or landscape assets as secondary defences.

Further information on this Recommendation can be found within the accompanying Project Report 5 – Recommendations 25 & 26.



## Recommendation 27 – Coastal Defences

**Rec 27: There needs to be continued sustained investment to manage the national coastal risks to acceptable levels.**

**This must include flood forecasting, warning, awareness, response and recovery, as well as flood defences. Particular focus has to be on the existing defences to ensure they continue to be fit for purpose, as well as investment in new defences to reduce the flood risk for more locations.**

**Recommendation Lead:** Welsh Government – Flood and Coastal Erosion Risk Management

**Project Reference:** Outside Projects

**Completion Date:** June 2015

### Summary of Recommendation Implementation

- The flood and coastal risk management budget for 2016/17 has seen an increase thanks to additional funding from central capital.
- The focus remains on maximising the funding available to deliver the flood and coastal erosion risk management programme.
- Additional funding for 2016/17 has been secured for coastal local authorities to undertake project appraisals and detailed design work in preparation for the Coastal Risk Management Programme.
- Additional funding has been secured for NRW and local authority schemes, maintenance and emergency repairs in light of the December 2015 storms.

Flood and coastal erosion risk management (FCERM) remains a priority for this Government. All indications are that public spending constraints are likely to continue but flood budgets have been sustained and are currently complemented by an injection of funds for the Coastal Risk Management Programme.

Welsh Government will continue to maximise opportunities to sustain investment within the funding envelope available. Welsh Government FCERM team hold regular discussions with finance colleagues and have successfully bid for additional capital resulting in an increase in FCERM funding for 2016/17.

Whilst investment needs to continue to ensure existing defences continue to be fit for purpose, investment will also focus on improved flood risk mapping, forecasting and warning, community resilience and awareness, response and recovery as well as new flood and coastal risk management schemes and adaptation.

Any flood and coastal erosion risk management investment will consider all types of flooding.

Delivery of this Recommendation should include consideration of Recommendations from 'the Welsh Coastal Storms, December 2013 & January 2014 – an assessment of environmental change' report delivered under Recommendation 36.

## Recommendation 28 – Coastal Defences

**Rec 28: Review and identify options to maximise certainty in flood and coastal erosion risk management funding over a longer timeframe and to maximise flexibility in the use of this funding.**

**This would mean less focus on annual and in year budgets and more focus on delivery and budget management of 3-5 years.**

<b>Recommendation Lead:</b>	Welsh Government – Flood and Coastal Erosion Risk Management
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<b>Project Reference:</b>	Outside Projects
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<b>Completion Date:</b>	June 2015
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### Summary of Recommendation Implementation

Existing funding for flood and coastal erosion risk management considers all types of flood risk management and interventions.

The Flood and Coast Investment Programme will consider all sources of flooding. Further development of the Programme will provide a methodology for prioritisation of funding and a long term schedule of schemes for future investment. Improvements are already being made to the programme. Welsh Government are working with NRW to refine the Communities at Risk Register so that it can be shared with all RMAs and used to prioritise areas for investment.

Developing the Coastal Risk Management Programme providing a £150 million capital value programme to Local Authorities to deliver coastal risk management activities between 2018 and 2021. Welsh Government is working with local authorities supporting the development of investment cases for potential projects. Programme improvements are underway to create a longer pipeline of schemes and improve the claims and appraisal process.

## Recommendation 29 – Coastal Defences

**Rec 29: The development of the National Programme of Investment should be progressed as a matter of importance and its development should seek a wide range of ways of working and technical improvements to the flood and coastal erosion risk management investment allocation, decision making and prioritisation process.**

**Recommendation Lead:** Welsh Government – Flood and Coastal Erosion Risk Management

**Project Reference:** Outside Projects

**Completion Date:** June 2015

### Summary of Recommendation Implementation

Welsh Government held a consultation on the proposed Flood and Coast Investment Programme between December 2014 and March 2015. A summary of consultation responses received was published in June 2015.

Full details about this consultation exercise are available at:

<http://gov.wales/consultations/environmentandcountryside/flood-and-coast-investment-programme-facip/?lang=en> .

This programme will set out a prioritisation methodology to enable areas of Wales to be ranked according to risk from all sources of flooding. An index will be created for use in helping to identify schemes and prioritise funding.

The Flood and Coast Investment Programme will consider all sources of flooding. Further development of the Programme will provide a methodology for prioritisation of funding and a long term schedule of schemes for future investment. Improvements are already being made to the programme. The next step will be to work with NRW to consider how the Communities at Risk Register can be used to prioritise areas for investment and ensuring that asset/defence data is accurate and reflected in the maps.

## Recommendation 30 – Coastal Defences

**Rec 30: Review and identify options to gain additional funding to supplement core FCERM investment. This must be closely aligned with the development of the National Programme for Investment.**

**Recommendation Lead:** Welsh Government – Flood and Coastal Erosion Risk Management

**Project Reference:** Outside Projects

**Completion Date:** June 2015

### Summary of Recommendation Implementation

Ministers have announced a £150 million capital value programme of investment in flood risk infrastructure projects with construction scheduled to taking place 2018-2021. This is being taken forward as the Coastal Risk Management Programme. This will be co-financed between local authorities and Welsh Government with Welsh Government contributing 75% to construction costs. This additional funding will be achieved using borrowing powers and is additional to the core grant-funded national programme of investment.

Alignment with the development of the core national programme is achieved by shared ministerial oversight and overlapping governance structures.

An initial list of projects has been identified for further development and prioritisation through feasibility studies, project appraisals and detailed design.

Whilst the Coastal Risk Management Programme will directly benefit coastal/tidal projects it will also indirectly benefit fluvial and surface water flood risk schemes by allowing core funding to concentrate on these areas.

## Recommendation 31 – Coastal Defences

**Rec 31: Produce a complete national dataset of coastal protection and defence assets including details of areas benefitting.**

**It is essential that this dataset becomes a ‘live management tool’ and not merely a representative picture of a snapshot in time. This dataset must therefore be associated with a process for ensuring the information is maintained.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 6

**Completion Date:** Ongoing

### Summary of Recommendation Implementation

At an early stage, it was decided that the asset data issues highlighted in the Wales Coastal Review Delivery Plan Recommendation 31 were also applicable to fluvial watercourses. As a result, it was decided that Project 6 would address asset data across the whole of Wales and include ‘landlocked’ Risk Management Authorities (RMAs) as well as those with interests on the coast.

The first phase of addressing the issues raised in Recommendation 31 was to get a sound understanding of how asset data management is currently being carried out amongst all RMAs. A questionnaire to capture this information was created for RMAs to complete in July 2015. While the main focus was on Natural Resources Wales (NRW) and Local Authorities (LAs), organisations such as Welsh Water, Network Rail and both Trunk Road Agents for Wales were also consulted. The survey targeted key information such as:

- How many assets are maintained?
- The type of assets maintained?
- What information is stored and in what format?
- Do you have plans to upgrade your current asset database?

There was a good response to the survey with around 85% completing the survey. The main findings of the survey were:

- All stored information on assets in some format.
- Fundamental asset data is in place e.g. asset owners, asset type, location, National Grid Reference.
- Over 60% are interested in using AMX.
- Information on maintenance and inspection is patchy.
- There is little in the way of data showing the people and property benefitting from flood risk assets.

Using the information provided a number of options were put forward. It was identified that there was no perfect solution in achieving the aim of a nationally consistent asset dataset. All options had their relative merits and drawbacks.

The main areas addressed were in relation to how data would be accessed and managed in the future, along with ensuring a consistent data format. Also, the availability of resources was a major factor in identifying the most viable solution.

## Recommendation 31 – Coastal Defences

The issue of the asset database needing to be a 'live management tool' was also considered. Whilst it is important that asset data should be kept up-to-date and accurate, it should be remembered that there is relatively little change in the basic asset data over time. While it is important that changes are logged, the need for updates on a daily/weekly basis should not be the most influential factor in a future solution.

### Recommendations

The recommendations put forward to address Recommendation 31 are:

- The NRW AMX asset management system should be used to store flood risk asset information for all RMAs in Wales. Other RMAs to supply NRW with asset data in a suitable format for placement on the NRW AMX system.
- Where AMX is being purchased by other RMAs, the same AMX system architecture currently used in NRW, should be used. This will ensure that all asset data fields are consistent across RMAs in Wales.
- NRW Area flood risk teams to review their respective coastal asset datasets on AMX. This is to ensure that all flood risk assets have been captured and have the correct inspection frequency assigned to it.

### Conclusion

The views of senior Flood Risk Managers at NRW, WLGA and the AMX Project team have been taken into account to assess the viability of the options put forward. The general opinion is that AMX can be used to provide a consistent national asset dataset in Wales. WLGA, WG and NRW will need to collectively agree on which option is to be taken forward.

Further information on this Recommendation can be found within the accompanying Project Report 6 – Recommendations 31 & 32.



## Recommendation 32 – Coastal Defences

**Rec 32: Review and identify options to achieve a more consistent approach to the inspection of the network of coastal defence systems. This must include recommendations to improve the efficiency and effectiveness of the asset inspection process.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 6

**Completion Date:** November 2015

### Summary of Recommendation Implementation

As with Recommendation 31, the decision was made at an early stage to address the issue across all Risk Management Authorities (RMAs) in Wales, not only those with a coastal element. Once again, the starting point for this piece of work was to investigate what inspections regimes are currently being employed. To capture this information, an additional section was added to the asset data management questionnaire.

The asset inspection section focussed on:

- The method and tools RMAs use to inspect flood risk assets in Wales.
- The frequency of inspection and what information is collected.
- Who carries out the inspections and their qualifications.

Again, there was a good response from the RMAs with both positive and negative trends identified, the main findings were:

- Inspections are being carried out in some form e.g. during culvert grid clearance.
- The majority of assets have at least an annual inspection.
- Few RMAs have a dedicated inspection resource.
- There is little in the way of inspection of third party assets on Ordinary Watercourses.
- There is no consistency in asset condition assessment methodology.
- There is no like-for-like comparison of asset condition between RMAs.

An evaluation exercise looking at the options available in creating a consistent and risk based asset inspection process was carried out. As with the options appraisal made under Recommendation 31, each option identified has its inherent benefits and drawbacks.

### Recommendations

The following recommendations are put forward in the main report to create a consistent and effective asset inspection process in Wales:

- The current inspection methodology used in NRW should be adopted across all RMAs in assessing the condition of flood risk assets. This would include the 5 point asset condition grading system.
- T98 accreditation courses in asset inspection to be arranged to train other RMA representatives to carry out flood risk asset inspections for their respective areas.

## Recommendation 32 – Coastal Defences

- In the short term, NRW asset inspectors to carry out inspection of the key flood risk assets identified by the other RMAs. It is proposed that inspections in low flood risk areas on Main Rivers will be temporarily stopped or reduced. This will be until representatives of the other RMAs achieve the T98 accreditation in asset inspection and can carry out inspections themselves.
- A rebranded version of the EA Condition Assessment Manual (CAM) to be developed for use across all RMAs in Wales.

### Review of coastal asset data on AMX

Whilst the scope of Project 6 covers asset data management and inspection for all of Wales, coastal data stored on AMX was given specific focus. A desk-top exercise was carried out of asset data on the coast with particular interest given to the relationship between inspection frequency and ownership. The main findings of this review were:

- The majority of NRW maintained coastal assets are inspected on a 6 or 12 month frequency. However, there is evidence that Local Authority and third party assets on the coast do not get inspected at the same frequency. Some of these assets provide flood and erosion protection to key infrastructure and industry.

### Recommendations following the coastal asset data review:

- South East Area and South West Area of NRW to review their respective coastal datasets to ensure that all flood risk assets have been identified and placed on AMX.
- Blanket annual inspection for all flood risk assets on the coast - irrespective of ownership.

Further information on this Recommendation can be found within the accompanying Project Report 6 – Recommendations 31 & 32.

## Recommendation 33 – Coastal Defences

**Rec 33: Continue to develop a nationally prioritised programme of coastal modelling and mapping improvements. This must be nationally risk based and consistent.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** Ongoing

### Summary of Recommendation Implementation

We will aim to develop and implement a National prioritised programme or Work plan of modelling and mapping within Natural Resources Wales.

This will use the Communities at Risk Register to provide an All-Wales view of risk to develop the National Work plan.

We will aim to balance National-scale projects against local priority projects but using the register ranking to assign priority scores.

The work plan will improve our datasets to provide a more consistent description of risk both fluvial (broad scale) and coastally.

The method for using resources in this National format is still to be agreed, and is subject to the ongoing Business Area Review in Flood Risk Management.

We will also continue to develop our suite of online flood risk information products, which will align with the improvement of the flood risk datasets.

## Recommendation 34 – Coastal Defences

**Rec 34: Locations and communities which experienced flooding in December 2013 and early January 2014 should be subjected to a risk based assessment to determine if further risk management activity/intervention is needed and can be justified.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** November 2015

### Summary of Recommendation Implementation

The Wales Coastal Flooding Review Phase 1 Report identified areas around the coast that suffered impacts from the December 2013 and January 2014 storms. The Phase 2 Report defined this Recommendation, listing different locations around Wales that were flooded in these winter storms.

To complete this Recommendation Natural Resources Wales periodically sought information from Risk Management Authorities for these flooded locations regarding:

- a) Any additional works that have been implemented at this site since the winter 2013/14 storms, or,
- b) Any works that are planned to be implemented at this site in the near future.

These requests were issued in:

- October 2014.
- June 2015.
- October 2015.

Responses have been collated and summarised into the accompanying *Table 2* to show works that have been carried out at these locations between January 2014 and November 2015, together with identification of any further works planned for these locations.

**Table 2 - Overview of Flooded Locations**

This table has been drawn from Table 5 of the Wales Coastal Flooding Review: Phase 2 Report in providing an overview of locations that experienced the higher numbers of property flooding in December 2013 and January 2014, with a final column added to the right that summarises the updates received from Risk Management Authority partners. This table is not intended to be fully inclusive of all property flooding.

Community name	No properties flooded	Local Authority	Which Event	Status of works carried out
Rhyl (Splash Point)	138 homes	Denbighshire	Dec'13	Denbighshire County Council has developed a Project Appraisal Report for a future East Rhyl Coastal Defence Scheme that is being considered under Welsh Government's Coastal Risk Management Programme. See Recommendation 24 for details.
Kinmel Bay	8 homes, 1 supermarket	Conwy	Dec'13	Repair works completed and no further work planned.
East of Pwllheli	Caravan park	Gwynedd	Jan'14	Repair works completed and identified scope for possible further work.
Llanbedr	4 homes plus farms	Gwynedd	Jan'14	Repair works completed and no further work planned.
Barmouth	15 homes, 2 commercial	Gwynedd	Jan'14	Gwynedd Council is seeking to progress coastal defence schemes at both the north promenade area and Viaduct Gardens via Welsh Government's Coastal Risk Management Programme.
Borth	12 homes, 2 non-residential	Ceredigion	Jan'14	Repair/reinstatement works were undertaken at Borth, Aberystwyth, Aberaeron and Llangrannog following the storms. Ceredigion County Council is seeking to progress coastal defence schemes at Aberystwyth and Aberaeron via Welsh Government's Coastal Risk Management Programme and is looking to develop future management proposals at Borth and Llangrannog. NRW are promoting a scheme to address tidal inundation and associated flooding problems at Cardigan in conjunction with Dwr Cymru Welsh Water and Ceredigion County Council.
Aberystwyth	23 properties (typically basement flats)	Ceredigion	Jan'14	
Aberaeron	7 properties	Ceredigion	Jan'14	
Cardigan	30 properties	Ceredigion	Jan'14	
Lower Town Fishguard	13 homes, 2 non-residential	Pembrokeshire	Jan'14	Ongoing community resilience project. All planned works now complete.
Little Haven	4 homes, 3 non-residential	Pembrokeshire	Jan'14	Repair works now complete and no further work planned.
Amroth	4 homes, 1 caravan park, 1 non-residential	Pembrokeshire	Jan'14	Repair works now complete and no further work planned.
Carmarthen Bay Holiday Park near Kidwelly	70 chalets, 6 static caravans flooded.	Carmarthenshire	Jan'14	Privately owned defence. Unknown whether structural repairs were carried out at this location.

Table 2- Overview of Flooded Locations

## Recommendation 35 – Coastal Defences

**Rec 35: Near miss locations and locations subjected to substantial foreshore change should be identified and subjected to a risk based assessment to determine if further risk management activity/intervention is needed and can be justified.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** November 2015

### Summary of Recommendation Implementation

The Wales Coastal Flooding Review Phase 1 Report identified areas around the coast that suffered impacts from the December 2013 and January 2014 storms. The Phase 2 Report outlined this recommendation, listing over 30 different locations around Wales that had experienced 'near misses' in these winter storms.

To complete this Recommendation Natural Resources Wales periodically sought information from Risk Management Authorities for these 'near miss' locations regarding:

- a) Any additional works that have been implemented at this site since the winter 2013/14 storms, or,
- b) Any works that are planned to be implemented at this site in the near future.

These requests were issued in:

- October 2014.
- June 2015.
- October 2015.

Responses have been collated and summarised into the accompanying *Table 3* to show works that have been carried out at these locations between January 2014 and November 2015, together with identification of any further works planned for these locations.



This table has been drawn from Table 6 of the Wales Coastal Flooding Review: Phase 2 Report in providing an overview of 'near miss' locations that came close to more significant flooding in either December 2013 or January 2014, with a final column added to the right that summarises the updates received from Risk Management Authority partners.

Community name	County/Authority	Which event	Status work carried out
Prestatyn (Tower Gardens, Central Beach)	Denbighshire	Dec'13	Flood walls and a steel flood gate at the crest of the beach access ramp have been installed to replace stop logs at Tower Gardens, Prestatyn.
Llanfairfechan	Conwy	Dec'13	Repair works now complete and no further work planned.
Hen Wrych	Conwy	Dec'13	Repair works now complete and no further work planned.
Pensarn Shingle Bank	Conwy	Dec'13	Repair works now complete and no further work planned.
Abererch and Traeth Crugan	Gwynedd	Jan'14	Repair works now complete and no further work planned.
Borth-y-Gest	Gwynedd	Jan'14	Repair works now complete and no further work planned.
Ceredigion – various locations	Ceredigion	Jan'14	Repair/reinstatement works were undertaken at Aberaeron South and Tresaith following the storms and no further work planned.
Loughor, Burry Port, Llansteffan, Pendine and Machynys.	Carmarthenshire	Jan'14	Works have been undertaken at Burry Port. Minor repairs have been undertaken at Llansteffan and Pendine, with no further work planned. Minor repairs completed and regular inspection and monitoring undertaken at Loughor and Machynys.
Mumbles	Swansea	Jan'14	Repair works now complete and no further work planned.
Swanbridge	Vale of Glamorgan	Jan'14	Repair works now complete and no further work planned.
Sandy Bay, Porthcawl	Bridgend	Jan'14	Repair works now complete and no further work planned.
Shaftesbury and Crindau	Newport	Jan'14	Repair works now complete and no further work planned.
Northern and Hawarden Embankments along Dee from Connah's Quay to Chester	NRW	Dec'13	Repair works now complete and no further work planned.
Abererch	NRW	Jan'14	Repair works now complete and no further work planned.
Newton (near Porthcawl)	NRW	Jan'14	Repair and improvement works completed, with no further work planned.
Caerleon	NRW	Jan'14	Works are currently ongoing by NRW to raise the standard of protection around the Isca Road area of Caerleon.

Table 3 - Overview of 'near miss' locations

## Recommendation 36 – Coastal Defences

**Rec 36: Complete the ongoing update to the Phase 1 ‘rapid’ assessment of environmental changes experienced during the December 2013 and January 2014 storms.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** December 2014

### Summary of Recommendation Implementation

In December 2013 and January 2014, significant storm surges and relatively powerful waves, in combination with high tides, caused considerable disruption along the Welsh coast.

Following the storms, we carried out an environmental audit of the storms' impact on wildlife and coastal conservation sites.

This report identifies a number of areas of further work, through the creation of fifteen recommendations.

Recommendation 36 has been completed via publication of Duigan C, Rimington N & Howe M (Eds) 2014. *Welsh Coastal Storms, December 2013 & January 2014 – an assessment of environmental change*, NRW Evidence Report 33.

The report can be found at:

<http://naturalresources.wales/media/1069/welsh-coastal-storms-december-2013-and-january-2014-an-assessment-of-environmental-change.pdf>

**Rec 37: Carry out a national skills and capacity audit for all Risk Management Authorities to assess and quantify the scale of the issue – to assess the size of the skills and capacity gap.**

**Produce an options document for how the skills and capacity gap could be addressed to meet present day flood risk management needs and future challenges.**

**Recommendation Lead:** Welsh Local Government Association

**Project Reference:** Project 7a

**Completion Date:** December 2015

### Summary of Recommendation Implementation

An online survey was the preferred option to collate the information required to produce rec 37 report. It was sent out to all 22 Lead Local Flood Authority (LLFAs) and Natural Resources Wales (NRW) on June 10<sup>th</sup> 2015 with a 4 week window to complete and return.

The survey was completed by 45 respondents: 44 Flood Risk Management (FRM) practitioners from 22 LLFAs and 1 from NRW covering their full Flood Coastal Erosion Management (FCERM) function. The survey didn't include Operations and Emergency Planning but mostly focussed on those delivering FCERM duties under the Flood & Water Management Act.

A findings report was consequently produced and presented to Welsh Government (via email) on January 27<sup>th</sup> 2016 following a review and approval from The Coastal Delivery Board. The report includes 6 short-term recommendations and 2 long-term. RMAs, WG and the WLGA have been highlighted as the key players to take forward these recommendations.

### Conclusion

It is apparent that only providing training to practitioners to '*fill in the knowledge gap*' is not going to reverse the current trend but merely turn practitioners into knowledgeable clients although this approach is necessary to enable practitioners to challenge contractors' proposal and ensure best use of public monies.

Flood risk management is a long-term issue currently being tackled with a short-term solution. To ensure long-term planning, succession and resilience Risk Management Authorities and Welsh Government need to look at a more sustainable approach to flood risk management.

### Next steps

- One of the recommendation highlighted in the report: Providing an initial round of coastal training to LLFAs and NRW has already been completed.
- The WLGA has engaged with Institute of Civil Engineers (ICE) and Chartered Institution of Water and Environmental Management (CIWEM) to look at developing long-term and up to date training and to give LLFAs officers the opportunity to gain membership with these organisations and continuous support and training through reviews.
- We will be starting in the 3rd quarter of 2016 an awareness raising campaign with Head of Service and Directors on the importance of succession planning.
- We have been in discussion with NRW to develop a Project Management Toolkit more specific to FCERM or Highways type scheme.
- The remaining of our recommendations will be embedded in the WLGA Flood & Water Work Programme which is currently funded until March 2018.

Further information on this Recommendation can be found within the accompanying Project Report 7a – Recommendations 37.

**Rec 38: Clarify roles and responsibilities amongst risk management authorities at both the local and national level as required.**

**Develop consistent and common communication messages and tools to convey roles and responsibilities to communities.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 7b

**Completion Date:** March 2016

### Summary of Recommendation Implementation

This Recommendation was one of the top six priority themes from the Phase 2 Review and arises from the Coastal Review identifying that the national network of coastal defences and the flood risk management service as a whole in Wales is complex and multi-faceted. In some locations and aspects of work this has contributed to a lack of clarity about roles and responsibilities within risk management authorities. This lack of clarity can in part contribute to community confusion and frustration. Improved clarity of roles and responsibilities will also improve the efficient and effective delivery of flood and coastal risk management outcomes.

Practical delivery of this Recommendation has focused on coastal rather than all flood risk sources and on routine asset management considerations rather than those related to operational incident response as covered under Project 4 - Recommendation 20.

Consultation to inform delivery of this Recommendation has occurred through a workshop with Risk Management Authority partners in March 2015, a questionnaire exercise from July to September 2015 and ad-hoc feedback gathered from routine meetings of Regional Flood Risk Management Groups and Coastal Groups in Wales.

The overall view from consultation was that a clarification of roles and responsibilities at the coast would be helpful but that the extent of current issues and queries amongst Risk Management Authorities did not appear to merit any formal change to the existing arrangements. Consultees demonstrated a good level of understanding of existing legislation and Welsh Government's National FCERM Strategy. Collectively, the three main concerns noted in the consultation were:

- Resource limitations impacting upon effective delivery of roles and responsibilities;
- The need to mitigate organisational risk when conducting routine operations at the coast, and;
- How to optimise collaborative working at the local level.

The following two future Recommendations are generated in this report:

Recommendation 1: A national coastal overview map for Wales should be produced which can be used as a management tool by all Risk Management Authorities and to inform the public and other organisations.

Recommendation 2: NRW develop and maintain a national register of third party owned coastal flood and erosion assets.

Further information on this Recommendation can be found within the accompanying Project Report 7b – Recommendations 38.

## Recommendation 39 – Coastal Defences

**Rec 39: Undertake a review of Welsh Coastal Groups and the Wales Coastal Group Forum. This review should include, as appropriate, links and relationships with other similar groups who have a role in the management of flood and coastal erosion risks.**

**This review should identify improvement options to maximise efficient and effective delivery of flood and coastal risk management.**

**Recommendation Lead:** Welsh Government

**Project Reference:** Outside Projects

**Completion Date:** July 2016

### Summary of Recommendation Implementation

Project 8 is fully implemented through Recommendation 39. This recommendation charges the Welsh Government to:

*Undertake a review of Welsh Coastal Groups and the Wales Coastal Group Forum. This review should include, as appropriate, links and relationships with other similar groups who have a role in the management of flood and coastal erosion risks.*

*This review should identify improvement options to maximise efficient and effective delivery of flood and coastal risk management.*

The review was undertaken through 3 stages:

Stage 1: A questionnaire was sent to the 15 Welsh Maritime Local Authorities (MLAs), Natural Resources Wales (NRW) and the Welsh Local Government Association (WLGA) during June 2015 with responses received by July 2015. As part of this exercise, a request for the Terms of Reference (ToR) of each Coastal Group was also sent during July 2015.

Stage 2: Informal interviews with individuals from selected organisations including NRW and WLGA.

Stage 3: Desk based analysis of the summary of questionnaire responses, ToRs and a wider desk based literature review of the governance around coastal flood risk management in Wales was undertaken through the Winter 2015 & Spring 2016.

The following actions were proposed:

Action 1: Coastal Groups and Forum to form part of the wider governance structure around the planned Flood and Coastal Erosion Committee. This would involve a two way process, with the Coastal Groups providing information and advice, while taking account of the strategic priorities of the Committee.

Action 2: Coastal Groups seek to contribute towards the following national strategic aims:

- a) Contributing along with Local Authorities, Welsh Government and NRW towards the development of a toolkit for coastal adaption of communities for SMP implementation;
- b) Working with a re-established Wales Coastal Monitoring Centre (WCMC) to enable the collation and standardisation of Welsh coastal monitoring data.

Action 3: Coastal Forum to standardise the Terms of Reference of the Coastal Groups, including encouraging consistency in the calculation of subscription rate and membership organisations.

Further information on this Recommendation can be found within the accompanying Project Report 8 – Recommendations 39.

## Recommendation 40 – Coastal Defences

**Rec 40: The Wales Coastal Monitoring Centre submitted a business case for the future of the centre to Welsh Government in December 2013. This business case should be determined by Welsh Government.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Outside Projects

**Completion Date:** Winter 2015

### Summary of Recommendation Implementation

The business case was assessed by the Welsh Government during 2015 with the result that the need for a Wales Coastal Monitoring Centre was accepted.

The financial and operational implications of the business case were however deemed to be unsustainable given the uncertainty on the flood programme budget during Autumn/Winter of 2015.

Welsh Government is working with local authorities, the Welsh Local Government and NRW to establish a sustainable operating model that meets user requirements. It is intended to complete this within FY 2016-17.



## Recommendation 41 – Coastal Defences

**Rec 41: Welsh Government should endorse the strategic framework established by the Shoreline Management Plans (SMP2). This should be accompanied by more national and local support to communities and community involvement in the development of local adaptation options and plans.**

**Develop a ‘local adaptation toolkit’ to better support communities. This may include technical guidance, templates, and engagement and communication tools and policy positions.**

**Local discussions in all coastal communities need to begin now, involving professional partners and the community. These discussions should consider communities on a risk basis. These discussions need to explore and develop local plans to adapt and increase resilience over time.**

**Support and draw upon the experience of the Fairbourne multi-agency group to help inform adaptation and community resilience discussions at other locations.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 9

**Completion Date:** Ongoing

### Summary of Recommendation Implementation

The Minister for Natural Resources signed-off each of the four second edition Shoreline Management Plans (SMP2) for Wales between October and December 2014. Welsh Government has confirmed this documentation equates to approval of both the IROPI (imperative reasons of overriding public interest) test and the coastal management policies contained within the SMP2s.

Delivery and communication of SMP2s needs to be done at a local level, understanding local issues and needs and involving local communities. Welsh Government can provide strategic direction and support, however decision making, planning and adaptation needs to be delivered locally.

In spring 2014, Gwynedd Council initiated the Fairbourne: Moving Forward project (<http://fairbourne.info/>) with the project’s vision being ‘to ensure that the community of Fairbourne get the help they need in relation to matters affected by the SMP2’ and the project’s mission being to ‘work on a multi-agency basis, facilitating access to the necessary information and resource required to guide and support the community of Fairbourne, over the next 40 years’. Phase 1 of the project aimed to address immediate problems including communication, emergency response and planning procedures, the impact of the information provided by the SMP2 and co-ordinating the short term response to the storms that occurred during the early part of 2014. Fairbourne: Moving Forward produced their first Annual Report in May 2015, reflecting on progress made. Structure to the project has evolved over time, with five task and finish groups that achieved their initial objectives having merged into one working group that meets monthly and reports quarterly to a multi-agency Project Board. The project has submitted bids to Welsh Government for funding of work streams including the scoping of a ‘buy to let’ scheme, investigating ‘the effect the SMP2 has and will have on the people an community of Fairbourne, ‘building community resilience and self-sufficiency’ and routine project management. The current Phase 2 of the project aims to focus

## Recommendation 41 – Coastal Defences

on further understanding risk to the community through development of a draft Masterplan in 2016/17 to support implementation of change in the medium term.

In autumn 2015, Welsh Government appointed JBA Consulting Ltd and Icarus on a research contract through to the end of 2017 to support learning from the experience of the SMP2 at Fairbourne. The first, reflective stage of the research aims to get a good independent understanding of the impact on the community of the SMP2 and the subsequent process of engagement and consultation, appraising what went well and what could be improved. In the second stage, the researchers will form a 'critical friend' to the Fairbourne: Moving Forward project and the Fairbourne Facing Change Community Action Group, via attending key meetings, talking to everyone involved and feeding back learning and recommendations from observations in Fairbourne and elsewhere on a regular basis. It is hoped the research findings will not only support the community engagement process in Fairbourne, but also help other coastal communities at risk across Wales and beyond.

In November 2015 the National Trust published their 'Shifting Shores - playing our part at the coast' (<https://www.nationaltrust.org.uk/documents/shifting-shores-report-2015.pdf>) capturing collectively the progress made against goals set out in its 2005 'Shifting Shores' report. The wider challenges posed within the report for Wales focused upon a) long-term planning (to review the Coastal Groups (see Recommendation 39); to re-establish a coastal monitoring facility (see Recommendation 40); to develop a coastal adaptation toolkit to support local change (as per this Recommendation 41), and; to turn policy into action and establish a target against which progress in moving the coastal adaptation agenda forward can be assessed) and b) Government co-ordination and innovation (including to review Technical Advice Notes (TAN) 14 and 15 (see Recommendation 42); to make SMP2 implementation a requirement within the development of local plans; to develop a national policy to support adaptive coastal change management, and; to implement Welsh Government's Coastal Risk Management Programme (see Recommendation 28 and 30). An associated 'Shifting Shores' seminar was held in Swansea on 26th November 2015. An important seminar outcome was the need for early, transparent community engagement, especially involving the process of building of trust between the statutory bodies, other stakeholders and residents. The National Trust's coastal adaptation sites have great potential to demonstrate managed realignment in the future, which in turn could inspire other similar projects. Consequently, the National Trust is promoting the concept of coastal adaptation strategies for their most at risk sites, with projects being currently initiated for Cemlyn on Anglesey and at Aberdaron, Porthdinllaen and Llandanwg in Gwynedd, in collaboration with the relevant Local Authorities and NRW.

It is hoped that findings from the above initiatives over the coming years will feed into 1) any future change to coastal planning policy by Welsh Government, and 2) future development of a 'local adaptation toolkit' to better support communities and the practical delivery of coastal adaptation on the ground. This should be prepared and led by the Coastal Groups, with support from Natural Resources Wales, the Welsh Local Government Association and Welsh Government. For this reason, Recommendation 41 remains ongoing.

**Rec 42: Review and evaluate existing barriers and gaps to supporting coastal adaptation and make recommendations for improvement.**

**Review, where necessary, existing climate change guidance to ensure the most appropriate approach is being used by all parties involved in all aspects of flood and coastal erosion risk management (i.e. all Government departments, RMAs infrastructure and utility operators).**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 9

**Completion Date:** March 2016

### Summary of Recommendation Implementation

This Recommendation has been addressed in two parts, as described below:

*i) Reflection on relevant external publications.*

May 2015 saw publication of Fairbourne: Moving Forward's '*first Annual Report*', which noted a key barrier to effective planning as the uncertainty associated with SMP2 timescales. This uncertainty is recognised as a core concern to residents, affecting the way in which they can plan for and invest in their future, and has negative impacts upon: people (loss of asset value, reduced mobility and reliance on health and basic services); community coherence (a lack of clarity on actions needed brings apathy, and reduced confidence in the community); investment (negative perception and decreasing business opportunities detract from investment and economic prosperity); planning (in the absence of a clear adaptation management plan, planning constraints would apply in a manner potentially not reflecting the specific time limited needs of the community), and; risk management (without a future plan there is a real risk that investment in defences is reduced and that improvements are made in a piecemeal, reactive manner, bringing higher risk, earlier damages or inappropriate over investment giving asset redundancy). A further barrier is the challenge of 'eventuality planning' i.e. the inevitable lack of understanding of what the future will look like in reality and how best to prepare for that scenario. This barrier that will be tackled through development of a draft masterplan for Fairbourne in 2016/17.

In November 2015, the National Trust published '*Shifting Shores – playing our part at the coast*' (<https://www.nationaltrust.org.uk/documents/shifting-shores-report-2015.pdf>) capturing its own performance against goals set out in its 2005 '*Shifting Shores*' report, as well as overall progress by Government and RMAs in managing and adapting to coastal change. An associated seminar was held in Swansea on 26<sup>th</sup> November 2015. Outputs identified a key barrier to coastal adaptation as being the understandable reluctance of local authorities and/or landowners to embark on community engagement relating to potentially controversial issues, in view of the recognition that any future loss of funding on community engagement projects would cause a serious setback in relations and cooperation. A further barrier was funding, where the long-term financial implications of SMP2s policies should be flagged as part of long-term budget needs, especially where relating to managed realignment causing impact on communities.

The England & Wales FCERM R&D programme published '*Adapting to Coastal Erosion: Evaluation of rollback and leaseback schemes in Coastal Change Pathfinder projects*': (<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=19218&FromSearch=Y&Publisher=1&SearchText=FD2679&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>) in December 2015. This research looked at key mechanisms

## Recommendation 42 – Coastal Defences

explored by local authorities in five of the English coastal change adaptation pathfinders relating to 'rollback' (the relocation/replacement of at risk property and infrastructure to areas inland away from the eroding coastline). Barriers to undertaking rollback varied, with the most common being problems associated with 1) selecting land for rollback, 2) a lack of community awareness or understanding of erosion and the rollback process and 3) funding constraints e.g. the ability for property owners to afford to buy land and rebuild. The research identified three planning policies with the potential to enable rollback, being: allow for conversion of at risk buildings to temporary, alternative use e.g. holiday lets; make rollback development an exception to avoid excessive development; and enable development with clear policies and legal obligations to avoid misuse.

A common theme from the above research, and therefore a recommendation for future improvement, is for informed RMAs to increase their effective communication and engagement with coastal communities at risk, the media, planners, estate agents and mortgage providers on the challenge and opportunities for coastal adaptation.

### *ii) Discussion with Welsh Government (WG).*

NRW are working closely with WG to review the climate change guidance used for FCERM and development planning purposes. In line with planning policy, new development decisions should take into account the potential effects of climate change over the lifetime of a development, including a flood event which has a 0.1% annual probability of occurrence. This planning policy requirement was clarified in a Chief Planning Officers letter in January 2014. The letter acted as a catalyst for NRW and WG to further discuss the implications climate change may have on future development, particularly at the coast. There is also a requirement on RMAs to factor in the predicted effects of climate change on future sea and river levels in FCERM scheme design.

Although current planning policy advises that the climate change allowances provided in the latest project appraisal guidance should be used, there is currently no aligned set of climate change guidance for FCERM and development planning. This is a priority issue to be addressed.

NRW and WG are now working together on a task that will provide clarity to Local Planning Authorities on the climate change allowances that should be using for planning purposes. These will be informed by the latest available information on climate change projections and will align with allowances used in England and Scotland, as well as those used by RMAs in Wales for FCERM projects. Guidance will be developed and issued with an accompanying Chief Planning Officers letter confirming which set of figures should be used. It is anticipated that this will be issued in September 2016, with adoption of the revised allowances taking full effect by 1<sup>st</sup> October 2016. The guidance will be reviewed when more up-to-date climate change research is available.

WG have also confirmed the intention to undertake a factual update of Planning Policy Wales Technical Advice Note 15 (TAN15): Development and Flood Risk (July 2004). The update will not be an amendment to planning policy, but intends to bring the document up to date with current thinking and provide clarity on certain aspects that are open to interpretation. This task should help deliver a consistent and appropriate approach to decision making for future development, helping to reduce long term flood risk to people and communities. NRW has been invited to contribute to this work, which is scheduled for completion in 2017.

Through delivery of these two tasks, much of Recommendation 42 will have been carried out.

## Recommendation 43 – Infrastructure Resilience

**Rec 43: Review and make recommendations for how Risk Management Authorities and infrastructure and utility operators can work together operationally more efficiently and effectively. This should consider a range of working agreements to ensure clarity of roles and responsibilities between professional partners and for communities.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 10

**Completion Date:** November 2015

### Summary of Recommendation Implementation

Natural Resources Wales created a questionnaire which was sent out to 15 Coastal Risk Management Authorities (RMAs), Local Resilience Forums (LRFs), the Wales Utility Group (WUG), Network Rail (NR) and the Trunk Road Agencies within Wales.

This consultation process was to help identify:

- Current levels of awareness and involvement from infrastructure operators and managers;
- Concerns or barriers that restrict the involvement of other organisations;
- Suggestions on how improved involvement can be achieved and implemented.

A total of 26 consultation responses were received. The key points raised were that:

- There needs to be greater clarity on roles and responsibilities in the flood incident management processes.
- There needs to be better working relationships between RMAs and Infrastructure providers and utility operators.
- There should be an annual commitment to developing and undertaking flooding exercises.

Summary:

The consultees for how RMAs, infrastructure providers and utilities operators can work together more efficiently and effectively provided a variety of recommendations. The recurring themes were clarity on roles and responsibilities, working agreements between organisations, a mechanism to store and share information and annual exercises or training undertaken jointly.

After considering the information gathered, the following solution has been proposed in addition to the solution proposed for Recommendation 18:

A structured programme of incident response exercises is developed by the Wales Learning and Development Group to test strategies and develop greater links.

Further information on this Recommendation can be found within the accompanying Project 10 Report – Recommendations 18, 43, 44, 45, 46 & 47.



## Recommendation 44 – Infrastructure Resilience

**Rec 44: Review and make recommendations if more needs to be done to enable infrastructure and utility operators to effectively work together and interact on issues of mutual interest. This may include a review of the role and remit of the Wales Utility Group and other options.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 10

**Completion Date:** November 2015

### Summary of Recommendation Implementation

Natural Resources Wales created a questionnaire which was sent out to 15 Coastal Risk Management Authorities (RMAs), Local Resilience Forums (LRFs), the Wales Utility Group (WUG), Network Rail (NR) and the Trunk Road Agencies within Wales.

This consultation process was to help identify:

- Current levels of awareness and involvement from infrastructure operators and managers;
- Concerns or barriers that restrict the involvement of other organisations;
- Suggestions on how improved involvement can be achieved and implemented.

A total of 26 consultation responses were received. The key points raised were that:

- There is a need for clarity on the role and remit of WUG.
- There needs to be a reinvigoration of the group to include the transport sector and RMAs.
- RMAs reported limited awareness and interaction with WUG.
- WUG can be a good forum if the right members are together.

After considering the information gathered, the following solution has been proposed:

The Wales Utilities Group is reinvigorated as the Wales Infrastructure Group (WIG) with Network Rail and the Trunk Road Agents invited to attend as new members. A representative for Flood and Coastal Risk Management Authorities is also invited to attend on behalf of all 22 Lead Local Flood Authorities across Wales. The broader membership will help establish better understanding between organisations and better working relationships. The reinvigoration needs to be supported by a new chair elected within the group with Welsh Government taking on a supportive role by providing administrative and secretariat support to the group.

Further information on this Recommendation can be found within the accompanying Project Report 10 - Recommendations 18, 43, 44, 45, 46 & 47.



## Recommendation 45 – Infrastructure Resilience

**Rec 45: Encourage and support the development of programmes of works to increase resilience of infrastructure and utility assets. These must be aligned with local community adaptation planning.**

**Review where appropriate if there are regulatory barriers to obstruct this process of adaptation and identify regulatory improvements, which could help adaptation.**

**Recommendation Lead:** Natural Resources Wales

**Project Reference:** Project 10

**Completion Date:** November 2015

### Summary of Recommendation Implementation

Natural Resources Wales created a questionnaire which was sent to the Wales Utility Group (WUG), Network Rail (NR) and the Trunk Road Agencies within Wales.

This consultation process was to help identify:

- Current programmes of work to increase resilience;
- Regulatory barriers that obstruct the process of adaptation;
- Suggestions of how improved involvement can be achieved and implemented.

The key findings were that:

- Most infrastructure operators and utility providers have work programmes to increase resilience.
- There were no barriers identified that could obstruct the process.

Summary:

Most infrastructure providers and utility operators in Wales have work programmes to some extent to help increase resilience to all sources of flooding. Opportunities could be gained through joint forward planning between organisations.

Further information on this Recommendation can be found within the accompanying Project Report 10 - Recommendations 18, 43, 44, 45, 46 & 47.

## Recommendation 46 – Infrastructure Resilience

**Rec 46: Review and evaluate at the national Wales level, the impacts of climate change scenarios on Network Rail infrastructure and highways infrastructure around the Welsh coastline and the long-term adaptation options.**

Recommendation Lead: Natural Resources Wales

Project Reference: Project 10

Completion Date: November 2015

### Summary of Recommendation Implementation

Natural Resources Wales created a questionnaire which was sent to Network Rail and the Trunk Road Agencies within Wales for completion. Separate meetings were held with both parties. This consultation process was to help identify:

- Current awareness and planning by each organisation for climate change;
- Concerns or barriers that restrict long term adaptation planning, and;
- Suggestions for how greater infrastructure resilience can be encouraged and delivered.

Both Network Rail and the Trunk Road Agencies are reviewing the impact of climate change scenarios on their infrastructure around the Welsh coastline. Both are also considering long-term adaptation options to protect their networks in the future. Both organisations acknowledge that financial pressures can restrict the present level of work and planning for climate change.

After considering the information gathered, it is suggested that this Recommendation remains ongoing to monitor long term adaptation options.

Further information on this Recommendation can be found within the accompanying Project Report 10 - Recommendations 18, 43, 44, 45, 46 & 47.

## Recommendation 47 – Infrastructure Resilience

**Rec 47: Undertake a periodic national assessment of infrastructure and utility resilience across Wales, in order to provide assurance of a national progress towards increased resilience to coastal flooding and erosion risks.**

Recommendation Lead: Natural Resources Wales

Project Reference: Project 10

Completion Date: November 2015

### Summary of Recommendation Implementation

Natural Resources Wales undertook an online assessment study of infrastructure operators and utilities providers to assess what they are currently doing to address resilience and climate change. This information was collated into a table which captures whether operators and providers have produced and promoted their own resilience and climate change programmes for the short and long term.

The study indicated that many operators and providers have plans in place to increase resilience to coastal flooding and erosion risks.

After considering the information gathered, the following solutions have been proposed: In order to demonstrate progress towards increased resilience, this assessment should be undertaken annually with involvement from organisations to provide assurance of progress.

The newly revised Wales Infrastructure Group (see summary sheet R44) will take on the responsibility of undertaking an annual National assessment of infrastructure and utility resilience to flood and coastal erosion risks to demonstrate progress towards a more resilient Wales. This should be reported to the Welsh Government Resilience department annually as evidence.

Further information on this Recommendation can be found within the accompanying Project 10 Report – Recommendations 18, 43, 44, 45, 46 & 47.

## Outputs from all Phase 2 Recommendations

Through implementation of the Delivery Plan in 2015/16, some Recommendations have been entirely completed through closure of an action (e.g. Recommendations 1 and 2 were completed through publication of the Delivery Plan) where no further work is necessary. Some Recommendations however are deemed complete through the creation of an output that presents a preferred option or proposal(s) for future consideration. Progression of the 7 ongoing Recommendations may also have identified proposals for future consideration to date despite only being currently incomplete.

Table 4 below captures the proposals for future consideration that have been generated during 2015/16 from the above scenarios:

Delivery Plan Rec. No	Proposal for future consideration
Rec. 7	<ul style="list-style-type: none"> <li>• Stage 1 - Short Term Response: Provide generic information on a more local level to partners via email.</li> <li>• Stage 2 - Long Term Response: Provide more detailed forecast information to partners.</li> </ul>
Rec. 13	<ul style="list-style-type: none"> <li>• Better education about risks. This needs to be led on a National Level by NRW, supported by a range of others, specifically the 4 newly formed LRF Community Resilience groups and locally by a wide range of interest groups and individuals.</li> </ul>
Rec. 14	<ul style="list-style-type: none"> <li>• Improved Inter-Agency Working, which needs to be supported by Better Engagement at local level.</li> </ul>
Rec. 15	<ul style="list-style-type: none"> <li>• Establish an online 'micro site' for Wales that all organisations can signpost public to for consistent advice and information that covers before during and after a flood cycle.</li> <li>• This should be led by the All Wales Community Resilience Group (Welsh Government).</li> </ul>
Rec. 16	<ul style="list-style-type: none"> <li>• Consider and disseminate learning from Flood Awareness Wales' Independent Review commissioned by NRW which looks at flood plans and volunteers.</li> <li>• Develop broader resilience plans that incorporate flooding (see Recommendation 14).</li> <li>• Share emergency plans with relevant agencies and increase communication links with the public and partners on a more local level. (See Recommendation 14).</li> </ul>
Rec. 17	<ul style="list-style-type: none"> <li>• Consider and disseminate learning from Flood Awareness Wales' Independent Review commissioned by NRW which looks at flood plans and volunteers.</li> <li>• Hold Flood Plan Volunteer Network events.</li> <li>• Develop Volunteer Health and Safety Checklists.</li> </ul>
Rec. 18	<ul style="list-style-type: none"> <li>• Resilience Direct is explored as an option for all parties to share and store information at the 'official sensitive' level.</li> </ul>

Rec. 21,22 & 23	<ul style="list-style-type: none"> <li>• There are 10 recommendations within the Megacyma Exercise's de-brief report which will be ongoing and monitored by the Wales Flood Group.</li> </ul>
Rec. 24	<ul style="list-style-type: none"> <li>• Welsh Government to determine the PAR for the future of East Rhyl Coast Protection Scheme.</li> </ul>
Rec 25 & 26	<ul style="list-style-type: none"> <li>• Creation of systems to record information related to temporary and secondary defences (for those who haven't already done so).</li> <li>• Compare inspection regimes between LLFAs and NRW to avoid duplication and overlap.</li> <li>• Share relevant information between RMAs on temporary or secondary defences (locally or regionally).</li> <li>• Focus on the performance of whole defence systems instead of focussing on individual sections.</li> <li>• Welsh Government to review Schedule 1 of the Flood Water Management Act 2010 to enable RMAs to designate third party townscape or landscape assets as secondary defences.</li> </ul>
Rec. 31	<ul style="list-style-type: none"> <li>• The NRW AMX asset management system should be used to store flood risk asset information for all RMAs in Wales. Other RMAs to supply NRW with asset data in a suitable format for placement on the NRW AMX system.</li> <li>• Where AMX is being purchased by other RMAs, the same AMX system architecture currently used in NRW, should be used. This will ensure that all asset data fields are consistent across RMAs in Wales.</li> <li>• NRW Area flood risk teams to review their respective coastal asset datasets on AMX. This is to ensure that all flood risk assets have been captured and have the correct inspection frequency assigned to it.</li> </ul>
Rec. 32	<ul style="list-style-type: none"> <li>• The current inspection methodology used in NRW should be adopted across all RMAs in assessing the condition of flood risk assets. This would include the 5 point asset condition grading system.</li> <li>• T98 accreditation courses in asset inspection to be arranged to train other RMA representatives to carry out flood risk asset inspections for their respective areas.</li> <li>• In the short term, NRW asset inspectors to carry out inspection of the key flood risk assets identified by the other RMAs. It is proposed that inspections in low flood risk areas on Main Rivers will be temporarily stopped or reduced. This will be until representatives of the other RMAs achieve the T98 accreditation in asset inspection and can carry out inspections themselves.</li> <li>• A rebranded version of the EA Condition Assessment Manual (CAM) to be developed for use across all RMAs in Wales.</li> </ul>
Rec. 37	<ul style="list-style-type: none"> <li>• Providing an initial round of coastal training to LLFAs and NRW has already been completed.</li> <li>• The WLGA has engaged with Institute of Civil Engineers (ICE) and Chartered Institution of Water and Environmental Management (CIWEM) to look at developing long-term and up to date training and to give LLFAs officers the opportunity to gain membership with these organisations and continuous support and training through reviews.</li> <li>• We will be starting in the 3rd quarter of 2016 an awareness raising campaign with Head of Service and Directors on the importance of succession planning.</li> </ul>

	<ul style="list-style-type: none"> <li>• We have been in discussion with NRW to develop a Project Management Toolkit more specific to FCERM or Highways type scheme.</li> <li>• The remaining of our recommendations will be embedded in the WLGA Flood &amp; Water Work Programme which is currently funded until March 2018.</li> </ul>
Rec. 38	<ul style="list-style-type: none"> <li>• A national coastal overview map for Wales should be produced which can be used as a management tool by all Risk Management Authorities and to inform the public and other organisations.</li> <li>• NRW to develop and maintain a national register of third party owned coastal flood and erosion assets.</li> </ul>
Rec. 39	<ul style="list-style-type: none"> <li>• Coastal Groups and Forum to form part of the wider governance structure around the planned Flood and Coastal Erosion Committee. This would involve the Coastal Groups taking a strategic lead from the Committee and the Minister, while providing information and advice to the Committee via the Coastal Forum.</li> <li>• Coastal Groups seek to contribute towards the following national strategic aims: <ul style="list-style-type: none"> <li>– Contributing along with Local Authorities, Welsh Government and NRW towards the development of a toolkit for coastal adaption of communities for SMP implementation;</li> <li>– Working with a re-established Wales Coastal Monitoring Centre (WCMC) to enable the collation and standardisation of Welsh coastal monitoring data.</li> </ul> </li> <li>• Coastal Forum to standardise the Terms of Reference of the Coastal Groups, including encouraging consistency in the calculation of subscription rate and membership organisations.</li> </ul>
Rec. 40	<ul style="list-style-type: none"> <li>• Welsh Government to commence procurement process for Wales Coastal Monitoring Centre.</li> </ul>
Rec. 41	<ul style="list-style-type: none"> <li>• To ensure recent and ongoing research will feed into any future change to coastal planning policy by Welsh Government, and future development of a 'local adaptation toolkit' to better support communities and the practical delivery of coastal adaptation on the ground. This should be prepared and led by the Coastal Groups, with support from Natural Resources Wales, the Welsh Local Government Association and Welsh Government.</li> </ul>
Rec. 42	<ul style="list-style-type: none"> <li>• Risk Management Authorities to increase their effective communication and engagement with coastal communities at risk, the media, planners, estate agents and mortgage providers on the challenge and opportunities for coastal adaptation.</li> <li>• Welsh Government to develop guidance and issue it to Local Planning Authorities with an accompanying Chief Planning Officers letter confirming which climate change figures should be used by autumn 2016.</li> <li>• Welsh Government to undertake a factual update of Planning Policy Wales Technical Advice Note 15 (TAN15): Development and Flood Risk (July 2004) by end of 2016.</li> </ul>
Rec. 43	<ul style="list-style-type: none"> <li>• A structured programme of incident response exercises is developed by the Wales Learning and Development Group to test strategies and develop greater links.</li> </ul>



Rec. 44	<ul style="list-style-type: none"> <li>• The Wales Utilities Group is reinvigorated as the Wales Infrastructure Group (WIG) with Network Rail and the Trunk Road Agents invited to attend as new members.</li> <li>• A representative for Flood and Coastal Risk Management Authorities is also invited to attend on behalf of all 22 Lead Local Flood Authorities across Wales.</li> </ul>
Rec. 47	<ul style="list-style-type: none"> <li>• The newly revised Wales Infrastructure Group (see above and summary sheet R44) will take on the responsibility of undertaking an annual National assessment of infrastructure and utility resilience to flood and coastal erosion risks to demonstrate progress towards a more resilient Wales. This should be reported to the Welsh Government Resilience department annually as evidence.</li> </ul>

*Table 4 - Outputs from all Phase 2 Recommendations*

## Next Steps for the Wales Coastal Flooding Review

There is value in quoting from the Delivery Plan as a reminder of the aspirations behind the Wales Coastal Flooding Review initiative:

*'The current flood risk management service in Wales is multi-faceted and in parts complex. Although collectively the Risk Management Authorities (RMAs) performed well during the winter storms of 2013/14, there are challenges and opportunities across all aspects of the service and a collective response, sustained over time, is required to enable Wales to become more resilient to coastal flooding. There is no simple or quick fix solution. These challenges and opportunities are reflected by the scope and scale of the 47 Phase 2 Recommendations.'*

*The Recommendations are a positive reflection of the ambition and aspiration of Welsh Government and the coastal risk management partners in Wales. They set out a shared framework of practical activities, which over time will deliver increased resilience to communities at risk from coastal flooding and/or coastal erosion in Wales.'*

The Wales Coastal Flooding Review initiative has achieved considerable success in promoting collaborative working between RMAs in Wales. Realisation of the full benefits of the 40 completed Recommendations during 2016/17 and beyond will require sustained commitment from RMAs and a focus on continuous improvement opportunities to aim for the intended outcomes to be fully achieved (i.e. through due consideration of the proposals in Table 4 above).

A monitoring and review action should be established for 2016/17 to safeguard momentum of the 7 ongoing Recommendations. The following routes are suggested to further progress these ongoing Recommendations to completion:

- Recommendations 5 (review guidance design of coastal standards and joint probability), 6 (improvements to longer range forecasts), 8 (improvements to the accuracy of the coastal forecasting service) and 33 (developments in the national coastal modelling and mapping programme) are to be taken forward internally by Natural Resources Wales through integration alongside business as usual activities.
- Recommendation 19 (continue to develop potential 'impact scenario' assessments, maps and/or statements) will require further liaison with the Wales Flood Group to gauge level of need and priority to inform Natural Resources Wales' future Flood Incident Management workstreams.
- Recommendation 31 (a national dataset for all flood risk assets, across all key organisations) will require significant and continued collaboration between Welsh Government and all Risk Management Authorities in Wales to share and securely store asset data. This work is progressing well, but will require sustained effort.
- Recommendation 41 (development of local adaptation 'toolkit', to assist communities predicted to experience natural coastal change) will require further liaison with the Wales Coastal Group Forum and the Coastal Groups in Wales to support creation of a toolkit for local coastal adaptation.

## Appendix 1: List of Phase 2 Recommendations

	<b>Progressing the Recommendations</b>
1.	<p>The recommendations included in this report are compiled into a Delivery Plan.</p> <p>This Delivery Plan will identify how the recommendations will be progressed. It will consider matters such as; the parties to be involved lead responsibility, priorities, governance and resources and capacity to deliver.</p>
2.	<p>The Delivery Plan should consider opportunities to expand the recommendations beyond just coastal flooding and erosion risks and to consider the link to risks from other sources of flooding.</p>
	<b>Recommendations – Storm Severity</b>
3.	<p>Further work is required to assess the joint probability of wind, waves and tides for these recent winter storms. This may take the form of an initial assessment coupled with consideration of more thorough analysis. The scope of this work will require further technical discussion.</p>
4.	<p>Review and update if required, the extreme sea level dataset around the Welsh coast. The recent tidal conditions are amongst the highest for many years. This dataset may need to be amended.</p> <p>This is to include methods for assessment of joint probability for storm severity.</p>
5.	<p>Review and update if required, the guidance used for the assessment and design of coastal standard of service against flooding. The review should consider whether more clarification is needed, in particular on the issues of the treatment of joint probabilities, in combination effects and appropriate national consistency.</p>
	<b>Recommendations – Flood Forecasting</b>
6.	<p>Continue to identify and implement risk based opportunities to deliver further improvements to longer range forecasts.</p>

7.	Review with partners what additional forecast information could be provided to support local incident management decisions. Identify options and recommendations.
8.	Continue to progress risk based opportunities to deliver improvements to the accuracy of the coastal forecasting service. Develop and deliver a programme of improvement works.
9.	Review the whole wave buoy network around the Welsh coast, including working with UKCMF to address a strategic gap in the offshore wave buoy network in the Irish Sea. This is required to better validate offshore wave forecasts, leading to improvements to the Wales forecasting service.  <i>(UKCMF- UK Coastal Monitoring and Forecasting Service)</i>
<b>Recommendations – Flood Warning and Community Response</b>	
10	Complete the ongoing work by summer 2014 to ‘rebrand’ the flood warning service in Wales so that the provider is clearly identified as Natural Resources Wales.
11.	Develop and implement a prioritised programme of improvement works to flood warning areas and thresholds, using the experience and data gathered from these storms. This should include engagement with professional partners and communities as appropriate.
12.	Review and consider additional sources of validation information for future incidents. This has potential to improve confidence in both forecasting and warning. This may involve seeking feedback from professional partners and others.
13.	Work with sample communities to identify options to help sustain an effective local response to flood warnings. This should consider communities where effective response and or confidence in the warning system is low.
14.	Identify and evaluate options to help communities to become more self-sufficient and resilient and identify a recommended option

15.	<b>Produce and communicate nationally consistent, public focused information on the types and availability of property level protection measures and the support available.</b>
16.	<b>Using the experience from these recent storms, identify and evaluate options for the future development of local Flood Plans in coastal areas and identify a recommended option to help these be more effective at improving community resilience.</b>
17.	<b>Using the experience from these recent storms, identify and evaluate options for the future development of local Flood Plan Leads / Warden Volunteers in coastal areas and identify a recommended option.</b>
<b>Recommendations – Operational Response</b>	
18.	<b>Review and identify how to improve involvement of infrastructure operators and managers in the coastal flood risk incident management process.</b>
19.	<b>Continue to develop potential ‘<i>impact scenario</i>’ assessments, maps and/or statements. This work must be developed in close discussion with professional partners to ensure it meets all parties’ requirements.</b>
20.	<b>Review the local decision making process associated with the issue of Severe Flood Warnings and evacuation procedures in December 2013 and early January 2014. Identify improvements and share at an all Wales level.</b>
21.	<b>Assess our national capacity to respond to a widespread and sustained period of coastal flooding. This should include consideration of when the current national resource pool will no longer function effectively. This should also consider post incident recovery issues.</b>  <b>Provide a report with recommendations for improvement.</b>
22.	<b>Assess the collective ability to provide an effective response to a potential large scale evacuation scenario in either north east or south east Wales. This should also consider post incident recovery issues.</b>  <b>Provide a report with recommendations for improvement.</b>

23.	Review the Wales resilience structures and ways of working to identify what changes may be needed to enable us to collectively be better prepared and resilient to future coastal flooding.
24.	Options to seek improvements to the standard of protection at the Garford Road area of Rhyl should be identified and evaluated. This should include detailed hydraulic analysis of the capacity and performance of the storage lagoon. This should include an assessment of the stairwell and slipway openings and the interaction with the adjacent golf course area.
25.	All Risk Management Authorities (RMAs) around Wales should review their local use of stop boards, stop logs, temporary barriers or moveable gates. The purpose of this review is for RMAs to satisfy themselves that existing arrangements are appropriate and robust. Consideration should be given to replacing existing arrangements with more permanent or more robust temporary solutions. This review should be 'risk based' and focused on the locations with highest local risk.
26.	All Risk Management Authorities (RMAs) around Wales should review locations where they have secondary defence systems in place. The purpose of this review is for RMAs to satisfy themselves that the secondary systems will operate as designed when required. This review should be ' <i>risk based</i> ' and focused on the locations with highest local risk.
<b>Recommendations – Coastal Defences</b>	
27.	<p>There needs to be continued sustained investment to manage the national coastal risks to acceptable levels.</p> <p>This must include flood forecasting, warning, awareness, response and recovery, as well as flood defences. Particular focus has to be on the existing defences to ensure they continue to be fit for purpose, as well as investment in new defences to reduce the flood risk for more locations.</p>
28.	Review and identify options to maximise certainty in flood and coastal erosion risk management funding over a longer timeframe and to maximise flexibility in the use of this funding. This would mean less focus on annual and in year budgets and more focus on delivery and budget management of 3-5 years.



29.	The development of the National Programme of Investment should be progressed as a matter of importance and its development should seek a wide range of ways of working and technical improvements to the flood and coastal erosion risk management investment allocation, decision making and prioritisation process.
30.	Review and identify options to gain additional funding to supplement core flood and coastal erosion risk management investment. This must be closely aligned with the development of the National Programme for Investment.
31.	<p>Produce a complete national dataset of coastal protection and defence assets including details of areas benefitting.</p> <p>It is essential that this dataset becomes a '<i>live management tool</i>' and not merely a representative picture of a snapshot in time. This dataset must therefore be associated with a process for ensuring the information is maintained.</p>
32.	Review and identify options to achieve a more consistent approach to the inspection of the network of coastal defence systems. This must include recommendations to improve the efficiency and effectiveness of the asset inspection process.
33.	Continue to develop a nationally prioritised programme of coastal modelling and mapping improvements. This must be nationally risk based and consistent.
34.	Locations and communities which experienced flooding in December 2013 and early January 2014 should be subjected to a risk based assessment to determine if further risk management activity/intervention is needed and can be justified.
35.	Near miss locations and locations subjected to substantial foreshore change should be identified and subjected to a risk based assessment to determine if further risk management activity/intervention is needed and can be justified.
36.	Complete the ongoing update to the Phase 1 ' <i>rapid</i> ' assessment of environmental changes experienced during the December 2013 and January 2014 storms.
37.	Carry out a national skills and capacity audit for all Risk Management Authorities to assess and quantify the scale of the issue – to assess the size of the skills and capacity gap

	<p>Produce an options document for how the skills and capacity gap could be addressed to meet present day flood risk management needs and future challenges.</p>
38.	<p><b>Clarify roles and responsibilities amongst risk management authorities at both the local and national level as required.</b></p> <p><b>Develop consistent and common communication messages and tools to convey roles and responsibilities to communities.</b></p>
39.	<p><b>Undertake a review of Welsh Coastal Groups and the Wales Coastal Group Forum. This review should include, as appropriate, links and relationships with other similar groups who have a role in the management of flood and coastal erosion risks.</b></p> <p><b>This review should identify improvement options to maximise efficient and effective delivery of flood and coastal risk management.</b></p>
40.	<p><b>The Wales Coastal Monitoring Centre submitted a business case for the future of the centre to Welsh Government in December 2013. This business case should be determined by Welsh Government.</b></p>
41.	<p><b>Welsh Government should endorse the strategic framework established by the Shoreline Management Plans (SMP2). This should be accompanied by more national and local support to communities and community involvement in the development of local adaptation options and plans.</b></p> <p><b>Develop a ‘local adaptation toolkit’ to better support communities. This may include technical guidance, templates, and engagement and communication tools and policy positions.</b></p> <p><b>Local discussions in all coastal communities need to begin now, involving professional partners and the community. These discussions should consider communities on a risk basis. These discussions need to explore and develop local plans to adapt and increase resilience over time.</b></p> <p><b>Support and draw upon the experience of the Fairbourne multi-agency group to help inform adaptation and community resilience discussions at other locations.</b></p>
42.	<p><b>Review and evaluate existing barriers and gaps to supporting coastal adaptation and make recommendations for improvement.</b></p> <p><b>Review, where necessary, existing climate change guidance to ensure the most appropriate approach is being used by all parties involved in all aspects of flood and</b></p>

	coastal erosion risk management (i.e. all Government departments, RMAs infrastructure and utility operators).
	<b>Recommendations – Infrastructure Resilience</b>
43.	<b>Review and make recommendations for how Risk Management Authorities and infrastructure and utility operators can work together operationally more efficiently and effectively. This should consider a range of working agreements to ensure clarity of roles and responsibilities between professional partners and for communities.</b>
44.	<b>Review and make recommendations if more needs to be done to enable infrastructure and utility operators to effectively work together and interact on issues of mutual interest. This may include a review of the role and remit of the Wales Utility Group and other options.</b>
45.	<b>Encourage and support the development of programmes of works to increase resilience of infrastructure and utility assets. These must be aligned with local community adaptation planning.</b>  <b>Review where appropriate if there are regulatory barriers to obstruct this process of adaptation and identify regulatory improvements which could help adaptation.</b>
46.	<b>Review and evaluate at the national Wales level, the impacts of climate change scenarios on Network Rail infrastructure and highways infrastructure around the Welsh coastline and the long term adaptation options.</b>
47.	<b>Undertake a periodic national assessment of infrastructure and utility resilience across Wales, in order to provide assurance of national progress towards increased resilience to coastal flood and erosion risks.</b>

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