

Adran yr Economi a'r Seilwaith
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Welsh Government

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East of Magor) Connecting Road) Scheme 201-

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East of Magor) Connecting Road) (Amendment) Scheme 201-

The London to Fishguard Trunk Road (East of Magor to Castleton) Order 201-

The M4 Motorway (West of Magor to East of Castleton) and the A48(M) Motorway (West of Castleton to St Mellons)(Variation of Various Schemes) Scheme 201-

The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and the M48 Motorway (Junction 23 (East of Magor) Connecting Road) and The London to Fishguard Trunk Road (east of Magor to Castleton) (Side Roads) Order 201-

The Welsh Ministers (The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and the M48 Motorway (Junction 23 (East of Magor) Connecting Road) and the London to Fishguard Trunk Road (East of Magor to Castleton)) Compulsory Purchase Order 201-

The M4 Motorway (Junction 23 (East Of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East Of Magor) Connecting Road) (Supplementary) Scheme 201-

The Welsh Ministers (The M4 Motorway (Junction 23 (East Of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East Of Magor) Connecting Road) and The London to Fishguard Trunk Road (East of Magor to Castleton)) Supplementary Compulsory Purchase Order 201-

Proof of Evidence

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Welsh Government, Port Economics

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1. Introduction

1.1 Introduction

1.1.1 In this document I present my estimates of the financial impact of the Scheme on Associated British Ports (ABP) as owner of Newport Docks. I also comment on impacts on some of ABP's tenants ('Tenants') at the Port, and on Newport Harbour Commissioners, which are objecting to the Scheme.

1.2 Personal details

1.2.1 I, Mr Andrew Meaney, Partner and Head of Transport, Oxera Consulting LLP, Park Central, 40/41 Park End Street, Oxford, say as follows.

1.2.2 I am a professional economist with more than 15 years of experience working in the field of transport economics. I hold an MSc in Economics and Finance from Warwick Business School, and a BSc in Economics from the University of Bath.

1.2.3 I have expertise in transport economics, economic regulation, assessment of the impact of government policy and infrastructure interventions, pricing, transactions and state aid.

1.2.4 I have led Oxera's work for the Port of Dover for more than five years, covering issues relating to tariffs, the economic case for its Western Docks Development, and the port's economic contribution. I directed Oxera's work for the UK Department for Transport (DfT) on maritime competitiveness (which included ports), and Oxera's publication on behalf of the Organisation for Economic Cooperation and Development (OECD) on competition in ports and port services.

1.2.5 I have advised road operators for over a decade, including those operating both tolled roads and roads that are free at the point of use. This has included work on governance,

investments and funding leading up to the creation of Highways England, the strategic road network licence holder in England; advice to a toll road operator on attracting commercial vehicles; and advice on state aid for surface access to ports and airports.

1.2.6 I led Oxera's work developing the economic case for the second runway at Gatwick Airport, and have been working over the last three years on the traffic, economic and commercial case for a new rail freight line in eastern Europe. I have also advised the UK government on the development of scheme appraisal and evaluation.

1.2.7 I have experience of acting as an expert witness, having given evidence to Parliament, commercial courts, and regulatory and competition authorities on a number of occasions.

1.3 Declaration of truth

1.3.1 The Proof of Evidence which I have prepared and provide in this Proof of Evidence is true and I confirm that the opinions expressed are my true and professional opinions.

1.4 List of documents reviewed

- 1.4.1 I have reviewed the following documents and information.
- a) Technical drawings of the proposed M4 Corridor around Newport (the Scheme), in particular those relating to the proposed project, junction and carriageway over and on land at Newport Docks.
 - b) The Draft Compulsory Purchase Order (CPO) issued in March 2016 associated with the Scheme.
 - c) The minutes of meetings between the Welsh Government (and its advisers) and ABP (and its advisers).

- d) Correspondence and analysis exchanged between the Welsh Government and ABP, including ABP's analysis of the economic contribution of its Newport site.
- e) Published financial statements and accounts of ABP and other businesses located within its Newport Docks estate.
- f) The Proof of Evidence of Mr Jonathan Vine of Global Maritime.
- g) The Proof of Evidence of Mr Bryan Whittaker of Arup.
- h) The Proof of Evidence of Mr Stephen Bussell of Arup.
- i) The Proof of Evidence of Mr Ben Sibert of Arup.
- j) Long-term forecasts of port traffic for the UK.
- k) Guidance and related literature on the appraisal of transport projects.

1.4.2 I do not make reference to every document I have reviewed, but do refer to all those on which I rely throughout the report.

1.5 Factual background

1.5.1 I understand that the Scheme comprises the construction of:¹

- a) New section of motorway south of Newport and complementary measures such as reclassifying the existing M4 as a trunk road
- b) New M4/M48/B4245 connection; and (iii) walking- and cycling-friendly infrastructure.

1.5.2 In March 2016, the Welsh Government published Draft Orders,² which comprise the legal powers to establish a line,³ modify the side roads, purchase land, and put in place any other rights needed to deliver the Scheme. These included a

¹ Government of Wales (2016), 'M4 Corridor around Newport Statement of Case Part I', August, paragraph 1.4.19.

² Government of Wales (2016), 'Draft orders', <http://gov.wales/topics/transport/roads/schemes/m4/corridor-around-newport/draft-orders/?lang=en>, accessed 25 September 2016.

³ This provides the Welsh Government with the powers to build a new length of trunk road.

Draft CPO, which grants the Welsh Government legal powers to acquire the land needed to undertake the Scheme.⁴ In September 2016 the Welsh Government published a supplementary Order temporarily restricting navigation rights during construction of bridges over the navigable waters of the Rivers Usk and Ebbw.⁵ In December 2016 a further supplementary Draft Order was published to slightly raise the height of the River Usk bridge.⁶

1.5.3 I understand that under Section 16 of the Acquisition of Land Act 1981 (the 1981 Act)⁷ there is provision for qualified protection against compulsory purchase of land where the land is that of a statutory undertaker.⁸ Specifically, the 1981 Act states that if a CPO includes land acquired by statutory undertakers for the purposes of their undertaking, the relevant statutory undertaker may make a representation to object to the appropriate Minister. Under these circumstances, the CPO would not be confirmed unless the circumstances are such that:⁹

It can be purchased and not replaced without serious detriment to the carrying on of the undertaking, or
if purchased it can be replaced by other land belonging to, or available for acquisition by, the undertakers without serious detriment to the carrying on thereof [emphasis added]

⁴ Highways, Wales (2016), 'The Highways Act 1980 and The Acquisition of Land Act 1981 the Welsh Ministers (the M4 motorway (Junction 23 (east of Magor) to west of Junction 29 (Castleton) and connecting roads) and the M4 motorway (Junction 23 (east of Magor) connecting road) and the London to Fishguard trunk road (east of Magor to Castleton)) Compulsory Purchase Order 201', 23 March.

⁵ 'The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and The M48 Motorway (Junction 23 (East of Magor) Connecting Road) (Supplementary) Scheme 201', 5 September 2016.

⁶ 'The M4 Motorway (Junction 23 (East of Magor) to West of Junction 29 (Castleton) and Connecting Roads) and the M48 Motorway (Junction 23 (East of Magor) Connecting Road) (Amendment) Scheme 201', 14 December 2016.

⁷ Acquisition of Land Act (1981), Section 16(2), <http://www.legislation.gov.uk/ukpga/1981/67>.

⁸ Statutory Undertaker is defined in Section 8 of the 1981 Act.

⁹ Acquisition of Land Act (1981), Section 16(2), <http://www.legislation.gov.uk/ukpga/1981/67>.

1.5.4 Among the land owners affected by the Draft CPO is ABP.¹⁰ Its site at Newport Docks is a cargo port located on the western bank of the River Usk, and includes two docks (the North Dock and the South Dock).¹¹ Vessels are able to enter the South Dock through lock gates and proceed to the North Dock through an access point between the two docks known as the ‘junction cut’.¹² The port handles a range of cargo, including dry bulks, general cargo, iron and steel, forestry products, agricultural products, fertiliser and minerals, and ores.¹³ The site also holds a licence to bring in and handle explosives at the site.¹⁴

1.5.5 I understand that the route for the Scheme would cross the River Usk on a new bridge, continue through the Newport Docks on an elevated section, and pass to the south of the Docks Way landfill site. The bridge would cross over junction cut at a height of 26.2m, which links the South Dock to the North Dock. At this location, the bridge design allows for a 26.2m vertical clearance from the maximum retained dock water level of 8.40m Above Ordnance Datum (AOD) to the underside of the soffit of the proposed bridge of 34.60m (AOD).¹⁵ Mr Jonathan Vine describes the dock and water levels in detail in his Proof of Evidence. Mr Ben Sibert’s Proof of Evidence includes more detailed information on the bridge itself.

¹⁰ Highways, Wales (2016), ‘The Highways Act 1980 and The Acquisition of Land Act 1981 the Welsh Ministers (the M4 motorway (Junction 23 (east of Magor) to west of Junction 29 (Castleton) and connecting roads) and the M4 motorway (Junction 23 (east of Magor) connecting road) and the London to Fishguard trunk road (east of Magor to Castleton)) Compulsory Purchase Order 201’, 23 March.

¹¹ Associated British Ports (2014), ‘Newport Plan Map 2014’.

¹² Associated British Ports (2014), ‘Newport Plan Map 2014’.

¹³ Associated British Ports (2016), ‘More about Newport’, September.

¹⁴ Associated British Ports (2016), ‘The Port of Newport Draft Consultation Master Plan 2015–2035’, p. 22.

¹⁵ This is set out in more detail in section 4 of the Proof of Evidence of Jonathan Vine.

1.5.6 ABP had made two separate objections to the Scheme: (i) in a letter dated 29 April 2016, Winckworth Sherwood, on behalf of ABP, issued a formal objection to the Draft Orders;¹⁶ and (ii) in a letter dated 29 April 2016, ABP made the necessary representation to the Secretary of State for Transport under the 1981 Act.¹⁷

1.5.7 ABP's representation to the Secretary of State for Transport included the following points:

- a) 'The Port is a facility that, without doubt, forms a significant component within the transport and economic infrastructure of Wales [...] which has either been ignored or fundamentally misunderstood by Welsh Government';¹⁸
- b) 'the proposed M4 Relief Road Scheme will in fact have a critically serious and detrimental impact upon the Port in terms of current and future operational viability'.¹⁹

1.5.8 In addition to ABP, the following businesses and organisations within the port boundary objected to the Scheme:

- a) T U Agencies Ltd;²⁰
- b) WE Dowds Shipping Ltd;²¹
- c) Port Security Authority;²²
- d) Jewson Ltd and Saint-Gobain Distribution Ltd;²³
- e) CJN Engineering Ltd.²⁴

¹⁶ Objection Letter to Proposed Compulsory Purchase Order from Winckworth Sherwood dated 29 April 2016. Objection number OBJ0031-003

¹⁷ Associated British Ports (2016), objection letter, 29 April. I understand that ABP qualifies as a statutory undertaker, as defined in Section 8 of the 1981 Act. Objection number OBJ0031-003a

¹⁸ Objection Letter to Proposed Compulsory Purchase Order from Winckworth Sherwood dated 29 April 2016, paragraph 2.6.

¹⁹ Objection Letter to Proposed Compulsory Purchase Order from Winckworth Sherwood dated 29 April 2016, paragraph 5.2.

²⁰ TU Agencies Ltd, statement of objections, letter of 14 April 2016. Objection number OBJ0147

²¹ WE Dowds Shipping Ltd, statement of objections, letter of 26 April. Objection number OBJ0302

²² Port Security Authority, statement of objections, 27 April 2016. Objection number OBJ0095

²³ Jewson Ltd and Saint-Gobain Distribution Limited, Statement of objections, letter of 4 May 2016. Objection number OBJ0313

²⁴ CJN Engineering Limited, objection letter, undated. Received 16 May 2016. Objection number OBJ0312

1.5.9 The Newport Harbour Commissioners also issued an objection.²⁵ While not based within the port boundary, the Commissioners' complaint is related to shipping traffic associated with the port.

1.6 Scope and structure of this Proof of Evidence

1.6.1 The Welsh Government has instructed me to consider whether the Scheme would cause 'serious detriment' to ABP's statutory undertaking at Newport Docks in response to ABP's representation that the Scheme will have a 'critically serious and detrimental impact'. I have also been asked to comment on the economic aspects this objection. I also consider ABP's claims about the contribution of the port to the Welsh economy.

1.6.2 The term 'serious detriment' has not been clearly defined in other cases and does not have an obvious economic definition.²⁶ As a result, the focus of my Proof of Evidence is on assessing the level of financial detriment that could occur to the statutory undertaking as a result of the Scheme. I do this by considering the costs and benefits that (are likely to) arise to ABP, the statutory undertaker.

1.6.3 I recognise that other factors may be contributing to the impact of the Scheme that are outside the scope of the financial impacts, but which might still be relevant to consider when assessing whether 'serious detriment' might occur. I understand that these matters will be dealt with by other witnesses.

1.6.4 I do not estimate the level of compensation that would be required to be made to ABP following the implementation of the

²⁵ The Newport Harbour Commissioners, statement of objections, letter of 22 April 2016. Objection number OBJ0071

²⁶ See section 2.2 for a detailed discussion.

Scheme. I would consider that elements of my analysis, such as rental losses, could be within the scope of a compensation payment, while there are other costs that I do not consider, such as loss of structures (albeit I do consider the loss of the land itself). Nonetheless, if there is a negative overall impact, this could be offset by compensation payments. From an economic perspective, I would see this as a relevant consideration when taking a view on the overall impact of the Scheme. I would also note that the way such compensation is used would be a matter for the compensated party (in this case, ABP).

1.6.5 There are a number of other objectors located on the site and Newport Harbour Commissioners ('Other Objectors').²⁷ I understand that since the Other Objectors are not statutory undertakers, they are not subject to the test for 'serious detriment' that I apply to ABP. To assist the Public Local Inquiry, I have commented on the impact of the Scheme on these organisations in Appendix A2 based on my overall analysis on ABP. I do not, however, estimate the overall economic or commercial impact on the Other Objectors.

1.6.6 The aim of my Proof of Evidence is to provide the Public Local Inquiry, and ultimately the Welsh Government and DfT Ministers, with information to form a view on the validity of the objections.

1.6.7 The rest of this Proof of Evidence is structured as follows:

- a) Section 2 outlines the analytical framework I have adopted for my analysis

²⁷ Specifically, these include T U Agencies Ltd, WE Dowds Shipping Ltd, Port Security Authority, Jewson Ltd and Saint-Gobain Distribution Ltd, CJN Engineering Ltd and Newport Harbour Commissioners.

- b) Section 3 assesses the impact of changes in shipping traffic on Newport Docks
- c) Section 4 considers the quayside impact of the Scheme on Newport Docks
- d) Section 5 considers the other impacts of the Scheme on Newport Docks
- e) Section 6 combines these impacts to form an overall estimate of the detriment to Newport Docks
- f) Section 7 concludes

1.6.8 A separate, accompanying report, containing the appendices, covers ABP's claims about the contribution of the port to the Welsh economy (A1); my response to other objections of the Scheme (A2); more detailed information on Tenants' activities, their location-dependency, and operational constraints (A3); a discussion on future activities at the North Dock based on ABP's consultation master plan (A4); and the weighted average cost of capital (A5).

1.6.9 A summary of this report is also provided.

2. Analytical framework for my analysis

2.1 Overview

2.1.1 In this section I set out the analytical framework for my Proof of Evidence. I begin by considering how ‘serious detriment’ has been assessed in other cases. I then describe how economic tools can help the inspector (‘the Inspector’) to reach a conclusion on whether the level of detriment should be considered ‘serious’ in this case.

2.2 Definition of serious detriment

2.2.1 Section 16 of the 1981 Act states that:²⁸

The compulsory purchase order shall not be confirmed or made so as to authorise the compulsory purchase of any land as to which the appropriate Minister is satisfied as aforesaid except land as to which he is satisfied that its nature and situation are such:

- a) That it can be purchased and not replaced without serious detriment to the carrying on of the undertaking, or
- b) That if purchased it can be replaced by other land belonging to, or available for acquisition by, the undertakers without serious detriment to the carrying on thereof, and certifies accordingly.

2.2.2 I am not aware of any Court precedent on how the issue of ‘serious detriment’ should be approached from an economic perspective. I have, however, reviewed the following reports, in which issues relating to serious detriment are dealt with.

- a) The Planning Inspectorate’s report regarding the Thorpe Marsh Gas Pipeline.²⁹
- b) The Planning Inspectorate’s report regarding the Knottingley Power Project.³⁰

²⁸ Acquisition of Land Act (1981), Section 16(2), <http://www.legislation.gov.uk/ukpga/1981/67>.

²⁹ The Planning Inspectorate (2016), ‘Examining Authority’s Report of Findings and Conclusions and Recommendation to the Secretary of State for Energy and Climate Change’, 3 March.

³⁰ The Planning Inspectorate (2015), ‘Examining Authority’s Report of Findings and Conclusions and Recommendation to the Secretary of State for Energy and Climate Change’, 10 March.

- c) The Planning Inspectorate's report regarding the North Killingholme Power Project.³¹
- d) The Planning Inspectorate's report regarding the Hinkley Point C Connection.³²

2.2.3 Based on my review, I do not consider these cases to have set out a clear definition of serious detriment or a framework for testing whether a detriment is serious. They appear to approach the matter on the basis of whether: (i) an undertaking can continue operations with or without the replacement of land lost under the CPO; and (ii) there are protective provisions in place that, among other objectives, represent an agreement between the affected undertaking and the party proposing the CPO.

2.2.4 In the absence of a clear definition of serious detriment, I use economic and financial tools to evaluate the level of detriment that the statutory undertaker might experience as a result of the Scheme. I discuss my approach in the next section.

2.3 My approach to assessing detriment

2.3.1 I believe that the existence of detriment is not in itself sufficient to satisfy the test in Section 16 of the 1981 Act. I consider detriment to be a matter of degree, and therefore that it is necessary to approach the definition of serious detriment with a view to evaluating the level of detriment.

2.3.2 The Transport Act 1981 defines the scope of ABP's statutory undertakings as follows. It is the duty of Associated British Ports to provide port facilities at its harbours to such extent as it may think expedient.³³

2.3.3 In this context, 'port facilities' comprise:

³¹ The Planning Inspectorate (2014), 'Examining Authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for Energy and Climate Change', 11 September.

³² The Planning Inspectorate (2015), 'Examining Authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for Energy and Climate Change', 19 October.

³³ Transport Act 1981 c. 56 Part II Section 9(1).

- a. The constructing, improving, maintaining, regulating, managing, marking or lighting of a harbour or any part thereof
- b. The berthing, towing, moving or dry-docking of a ship which is in, or is about to enter, or has recently left, a harbour
- c. The loading or unloading of goods, or embarking or disembarking of passengers, in or from any such ship
- d. The lighterage or the sorting, weighing, warehousing or handling of goods in harbour
- e. The movement of goods within a harbour.³⁴

2.3.4 As an economist, I consider that I can most usefully assist the Inspector by assessing the impact of the Scheme on these statutory duties where there is a clear and measurable financial impact on the undertaker. I consider these to include:

- a) Harbour revenues, which are a function of vessel traffic and cargo throughput, and would be broadly consistent with the revenues from 'berthing, towing, moving or dry-docking of a ship' and the 'loading or unloading of goods' above;
- b) Rental income, which is related to the availability of usable land at the port to accommodate current and future development of the port which would relate to 'constructing, improving, maintaining' a harbour and 'sorting, weighing, warehousing or handling of goods'.

2.3.5 The Scheme may be detrimental to Newport Docks because the land being taken by the CPO could reduce rental incomes and potentially restrict the operations of the Port's Tenants. However, on the basis of the 1981 Act, this would be included only if the land could not be replaced. The Scheme might also constrain maritime operations at Newport Docks by imposing a restriction on the vessels that can use the North Dock.

³⁴ Transport Act 1981 c. 56 Part II Section 14(3).

2.3.6 Conversely, the Scheme may benefit Newport Docks, in as much as it may provide offsetting benefits ('betterments') that offset any negative impacts. These include:

- a) Time savings and financial benefits associated with the Scheme for Tenants of Newport Docks, which could be subsequently passed on to ABP;
- b) Cost savings associated with the Scheme for Newport Docks.

2.3.7 With this in mind, I consider that a definition based on the present value of changes in future expected profits is most consistent with the natural meaning of economic 'detriment'. This definition is also consistent with decision-making in both a commercial and a public policy context.³⁵

2.3.8 Accordingly, I evaluate the potential level of detriment that the Scheme could cause to Newport Docks via three channels. I look at the impact of the Scheme on Newport Docks':

- a) shipping traffic and therefore shipping revenues;
- b) quayside activities and therefore rental income;
- c) cost savings and other Betterments.

2.3.9 Specifically, I forecast Newport Docks' future shipping revenues, rental income, costs and Betterments to estimate the present value of Newport Docks in two scenarios: one in which the Scheme is implemented; and one in which it is not implemented. The difference between the two present values represents my estimate of the level of detriment to Newport Docks. I review each forecast in turn below.

2.4 Approach to uncertainty

2.4.1 I understand that the Welsh Government has requested financial and operational data from the ABP and that disclosure

³⁵ For instance, see HM Treasury (2013), 'The Green Book, Appraisal and Evaluation in Central Government', 18 April.

from ABP has been limited.³⁶

- 2.4.2 In the absence of detailed data, I have used publicly available information and my judgement to inform my analysis. Where publicly available information is not sufficient to inform a robust conclusion, I have produced upper- and lower-bound estimates. As a result, I have obtained a range of estimates for detriment to Newport Docks.
- 2.4.3 The upper bound of the range is based on combining several assumptions that would yield a higher estimate of detriment. The lower bound is based on combining assumptions that would yield a lower estimate.
- 2.4.4 If further information were to become available I would seek to reconsider my Proof of Evidence.

³⁶ For instance, see Letter from Michael Stacey to Martin Bates dated 27 May 2016, and Letter from Matthew Kennerley to Martin Bates dated 23 September 2016.

3. Shipping Impact of the Scheme

3.1 Overview

3.1.1 In this section, I assess the impact of the Scheme on Newport Dock's shipping revenues and forecast these in the two scenarios. I use these forecasts in section 6 to assess the level of detriment to Newport Docks.

3.1.2 To assess the shipping impact of the Scheme, I analyse in turn:

- a) The historical cargo patterns at Newport Docks. I review these to establish the key commodities for Newport Docks, and the historical growth in cargo handled there;
- b) The forecast of traffic for key commodities at Newport Docks. I have compiled external forecasts to provide an estimate of future vessel movements for the key commodities (identified from historical cargo) at Newport Docks;
- c) The Newport Docks' shipping revenue in 2014. I use data on vessel movements and cargo movements and apply the published tariffs for Newport Docks to estimate its shipping revenue in 2014;
- d) The forecast of Newport Docks' shipping revenues if the Scheme is not implemented. I apply the published tariffs to the forecast of key commodities and vessel movements to obtain a forecast of Newport Docks' shipping revenues in the scenario that the Scheme is not implemented;
- e) The impact of the Scheme on Newport Docks' shipping revenues. I use analysis from Global Maritime (GM) on the number of vessels that would no longer be able to access Newport Docks, and the corresponding lost cargo, to estimate Newport Docks' shipping revenue in the scenario that the Scheme is implemented;
- f) Other factors which affect Newport Docks' shipping revenue. Here I draw on the Proof of Evidence of Mr

Jonathan Vine, to inform an alternative scenario for the impact on revenues;

- g) The potential for substitution to alternative ABP assets.

3.1.3 I rely on data from ABP and the DfT on vessel movements and the volume of cargo at the Newport Docks. The two sources vary in their quality, coverage and level of detail. In Box 3.1, I present an assessment of each dataset and its appropriateness for the purpose of my analysis, before making relevant adjustments to proceed with the analysis.

Box 3.1 Available data

Vessel data

The DfT publishes data on the movement of vessels into and out of major ports in the UK. This data source covers annual movements from 2009 to 2014,³⁷ and refers to Newport as a whole (Newport Docks). It includes traffic on the wharves on the River Usk, which do not belong to ABP's statutory undertaking, along with the Newport Docks, which does.

ABP has provided Global Maritime with data covering 2000 to 2015 on the vessels entering the Newport Docks. This data shows the precise location of each vessel's destination.³⁸

I compared the DfT vessel movement data with the ABP data (see Figure 3.1). I compare the data to 2014 because this is the most recent year with complete data from both data sources. The ABP data shows a larger number of arriving vessels (which are not categorised as working vessels) than the DfT data over the time series: a total of 1,006 vessels in the ABP data arriving in 2014, while the DfT data shows only 806 vessels arriving. I am not aware of any reason for this divergence.

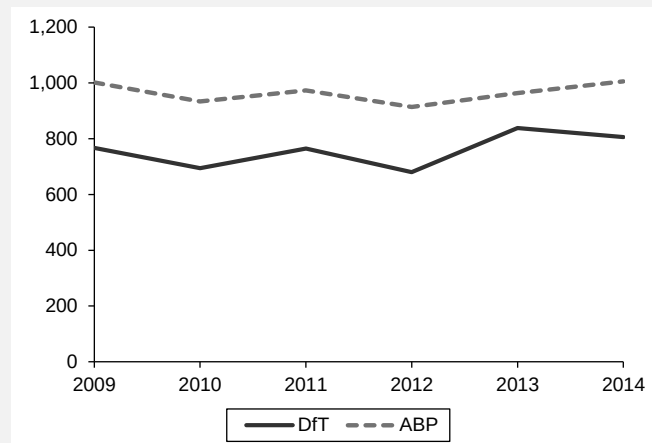
In addition, the DfT data reports that 117 of the 806 arriving vessels

³⁷ DfT Port Traffic Tables, Table PORT0601.

³⁸ 'Newport Consolidated with Deadweights.xls' sent by Global Maritime to Oxera on 15 July 2016.

in 2014 are passenger vessels.³⁹ ABP's vessel numbers, which are likely to be more accurate as they report internal operational data, report only two passenger vessels arriving in 2014. For this reason, I use the vessel movement data provided by ABP for my analysis.

Figure 3.1 Number of vessels



Source: Own calculations, DfT Port Traffic Tables, 'Consolidated with Deadweights.xls', sent by Global Maritime to Oxera on 15 July 2016.

Cargo data

The DfT publishes data on inbound and outbound cargos for the Port of Newport as a whole.⁴⁰ This data does not allow me to observe directly the amount of cargo handled by the Newport Docks because the Port of Newport also comprise facilities not owned by ABP—i.e. the wharves on the River Usk.⁴¹ The cargo data dates back to 2000 and lists nine cargo categories being handled at the Port of Newport:⁴²

- a) dry bulk: ores, coal, agricultural products, other dry bulk;
- b) all bulks: bulk fuel, other bulks;
- c) other general cargo: forestry products, iron and steel products, general cargo & <20ft containers.

³⁹ DfT Port Traffic Tables, Table PORT0601.

⁴⁰ DfT Port Traffic Tables, Table PORT0434.

⁴¹ See Department for Transport (2015), 'Port Freight Statistics 2015: notes and definitions'.

⁴² DfT Port Traffic Tables, Table PORT0434.

In its Master Plan 2016 (consultation draft), ABP reports inbound and outbound cargos referring to its own facilities in Newport dating back to 1995.⁴³ However, since ABP reports aggregate numbers only, it is not possible to make any judgement about the share of each individual commodity handled. I therefore adjust the aggregated cargo data published by the DfT, and apply these adjusted commodity shares to the cargo handled in Newport Docks. Using this cargo data, I calculate the respective share of total cargo handled for each commodity class. I then apply these shares to the aggregate cargo figures reported by ABP in its Master Plan 2016 (consultation draft) to estimate the amount of each commodity handled at ABP facilities.⁴⁴

The resulting estimates for the composition of cargo handled by Newport Docks are illustrated in Figure 3.2 and Figure 3.3 below.

3.2 Historical cargo patterns at the Port of Newport

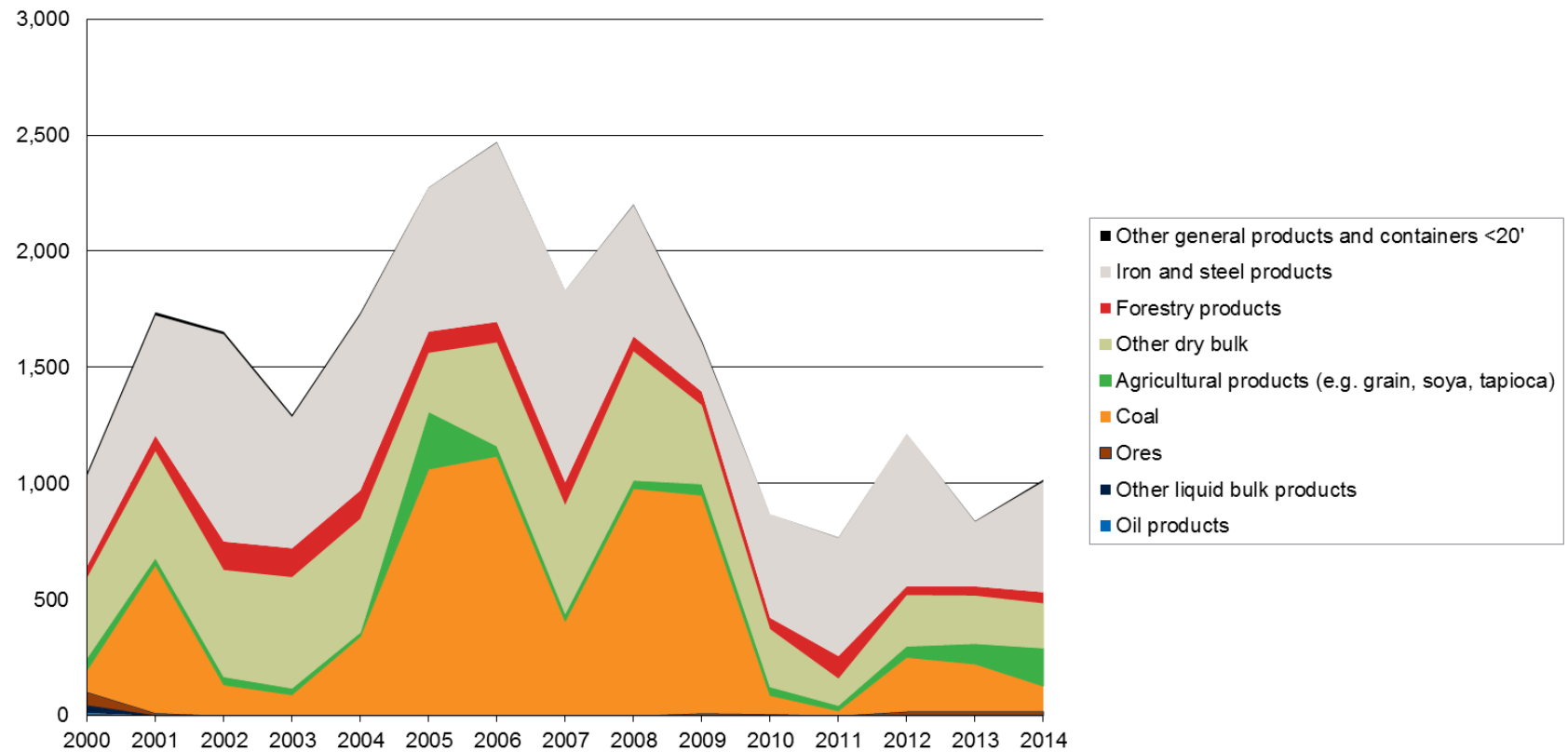
3.2.1 I do not have information from ABP on the breakdown of commodities handled at Newport Docks. Instead, I follow the procedure set out in Box 3.1 to estimate the historical commodity shares handled at Newport Docks.

3.2.2 Figure 3.2 and Figure 3.3 illustrate a commodity breakdown of inbound and outbound cargo, respectively, at Newport Docks from 2000 to 2014. From 2000 to 2014, the volume of inbound commodities fell by 3%, which corresponds to a reduction in volumes of around 0.21% each year. The volume of outbound commodities grew by 51% over this period, corresponding to growth of 3% each year. The volume of total cargo handled increased by 16% over the period, which relates to a 1% increase in volumes each year.

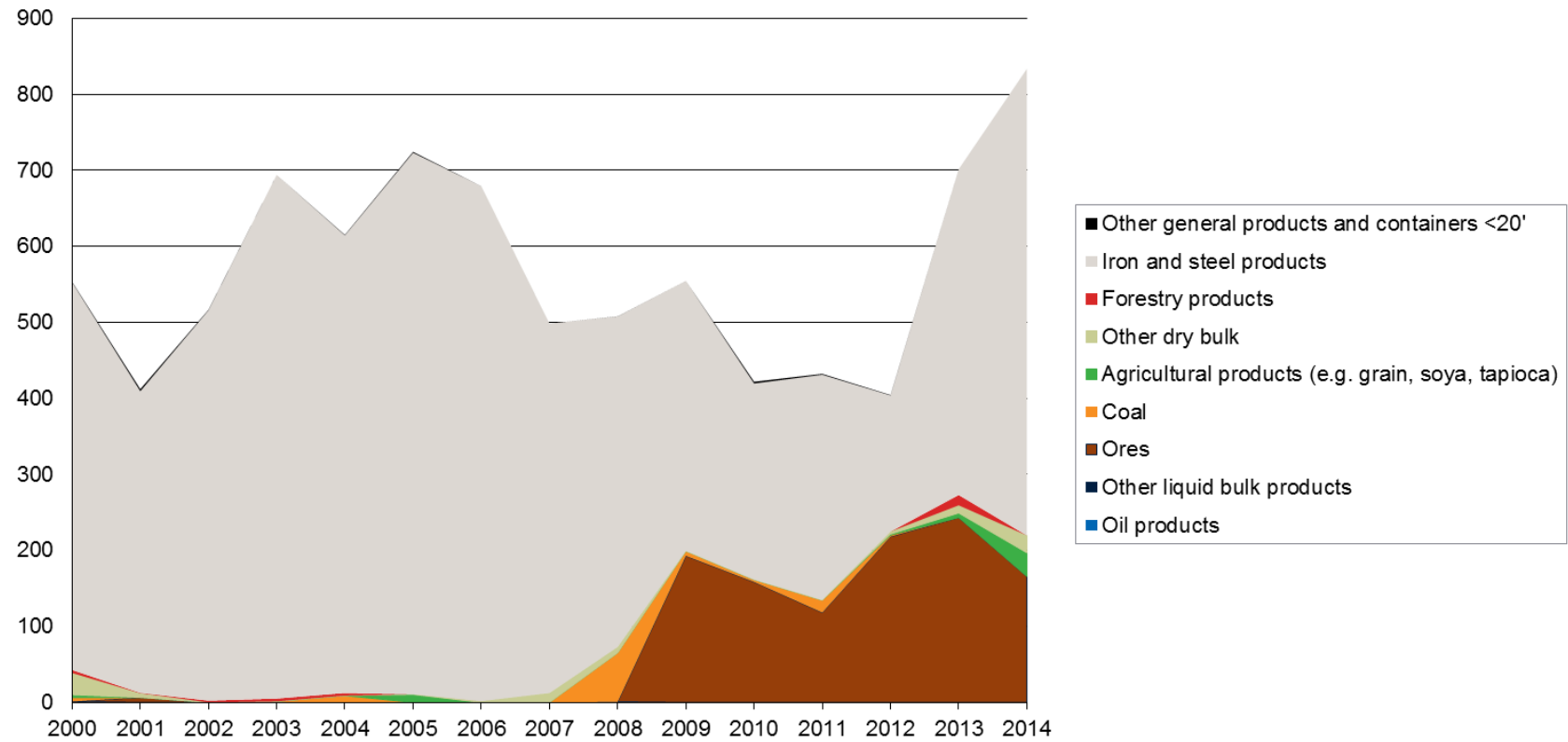
⁴³ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', p. 12.

⁴⁴ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', p. 12.

3.2.3 Figure 3.2 shows that coal, for example, was a large proportion of inbound traffic from 2004 to 2009; in more recent years, the volume of inbound coal handled has fallen.

Figure 3.2 Inbound cargo at Newport Docks (thousand tonnes)

Source: Own analysis of DfT Port Traffic Tables and ABP cargo handled.

Figure 3.3 Outbound cargo at Newport Docks (thousand tonnes)

Source: Own analysis of DfT Port Traffic Tables and ABP cargo handled.

3.2.4 I consider cargo categories that make up more than 1% of total cargo handled to be key commodities for Newport Docks.⁴⁵ These key commodities form the focus of my analysis.

3.2.5 Table 3.1 below presents the volume of each cargo category handled from 2000 to 2014 as a percentage of total cargo handled at Newport Docks over this period.⁴⁶

Table 3.1 Share of cargo handled at Newport Docks, 2000–14 (%)

Commodity	2000–14 ¹	2014 ¹
Iron and steel products inbound	27.8	25.8
Iron and steel products outbound	23.3	33.2
Coal inbound	19.4	5.9
Other dry bulk inbound	16.9	10.4
Ores outbound	3.9	9.0
Forestry products inbound	3.8	2.6
Agricultural products (e.g. grain, soya, tapioca) inbound	3.0	8.9
Ores inbound	0.5	1.0
Coal outbound	0.3	0.0
Other dry bulk outbound	0.3	1.2
Other general products and containers <20' inbound	0.3	0.4
Agricultural products (e.g. grain, soya, tapioca) outbound	0.2	1.7
Other liquid bulk products inbound	0.1	0.0
Forestry products outbound	0.1	0.0
Oil products inbound	0.0	0.0
Other general products and containers <20' outbound	0.0	0.0
Other liquid bulk products outbound	0.0	0.0
Oil products outbound	0.0	0.0
Total	100	100

Note: ¹ Average share over 2000–14, and for 2014. Chemical fertiliser falls under other liquid bulk, and manufactured fertiliser under other dry bulks.

⁴⁵ The key commodities collectively form 98% of cargo handled at the Newport Docks over this period, and 96% of cargo handled at Newport Docks in 2014. As such, they represent a significant share of traffic handled at Newport Docks. Using 1% as a threshold allows me to cover nearly all of the cargo handled at Newport Docks, while allowing me to focus on just those commodities that are significant.

⁴⁶ These are based on estimates for cargo handled at Newport Docks, derived as detailed in Box 3.1.

Source: Own calculations based on DfT's Port Traffic Tables, Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035'.

3.2.6 Based on Table 3.1, I consider the key inbound commodities to be iron and steel products, coal, other dry bulk, forestry products, and agricultural products, and the key outbound commodities to be iron and steel products, and ores. I refer to these collectively as 'Key Commodities'.

3.2.7 Key Commodities made up 98% of cargo handled at Newport Docks over this period, and 96% of cargo handled at Newport Docks in 2014, and therefore form the focus of my analysis.

3.3 Forecasts for Key Commodities

3.3.1 In its Master Plan 2016 (consultation draft), ABP forecasts growth of total cargo handled at Newport Docks to be 3.5% on an annualised rate from 2014 to 2020.⁴⁷ This compares to a historical total cargo growth of 1.0% per year between 2000 and 2014 from ABP's reported cargo growth, and -1.4% at the Port of Newport as a whole.^{48, 49}

3.3.2 ABP based this projection on forecasts for each cargo class handled at its facilities in Newport Docks,⁵⁰ but does not provide any details of how it quantified each particular forecast to reach an overall growth rate of 3.5%.

3.3.3 I consider the cargo growth rate forecasts presented by ABP in its Master Plan 2016 (consultation draft) to be high compared with the historical growth observed at Newport Docks. In the absence of any

⁴⁷ Own calculations based on ABP Master Plan 2016 (consultation draft), p. 18.

⁴⁸ Own calculations based on ABP Master Plan 2016 (consultation draft), p. 12.

⁴⁹ DfT's Port Traffic Tables, adjusted for iron and steel outbound cargo.

⁵⁰ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', pp. 18–22.

Proof of Evidence to support such a forecast, I use UK-wide port traffic forecasts—broken down by commodity—from a DfT-commissioned forecast as the basis for my own forecast of cargo traffic at the Newport Docks.⁵¹

3.3.4 Specifically, I forecast cargo traffic at Newport Docks using four steps.

Step 1 - I adapt long-term UK-wide traffic forecasts for each Key Commodity, inbound and outbound, for the latest medium-term forecasts and outturns;

Step 2 - I estimate the historical relationship between the Newport Docks' cargo and UK-wide cargo for each Key Commodity;

Step 3 - I apply the Newport Docks–UK relationship to the forecasts generated in step 1 to arrive at Newport Docks-specific forecasts for each Key Commodity, inbound and outbound;

Step 4 - I make any further adjustments necessary for known deviations—i.e. account for the planned switch from coal to biomass.

3.3.5 I discuss each step in turn below.

Step 1: Adapt UK-wide forecasts

3.3.6 I have compiled forecasts to 2035 using publicly available port traffic forecasts, commissioned by the DfT from MDS Transmodal (updated in July 2007).⁵² In January 2011, MDS Transmodal presented updated forecasts for the medium term to 2020.⁵³

⁵¹ MDS Transmodal (2007), 'Update of UK Port Demand Forecasts to 2030 & Economic Value of Transshipment Study', Final Report, July.

⁵² MDS Transmodal (2007), 'Update of UK Port Demand Forecasts to 2030 & Economic Value of Transshipment Study', Final Report, July.

⁵³ MDS Transmodal (2011), 'Future Demand and Capacity Projections, UK Ports Policy conference: Planning for the future', January.

- 3.3.7 I have used the 2011 forecasts for the medium-term forecast—from 2015 to 2020—and reverted to the trend from the 2007 forecasts beyond 2020. While the 2007 forecasts were produced some time ago, I consider their use appropriate for two reasons:
- a) they are the most recent forecasts produced by the DfT for the period in question;
 - b) the DfT's National Policy Statement for Ports, published in January 2012, endorsed the use of the 2007 forecasts for long-term projections, noting that while the recession led to a severe fall in demand, in the longer term it might delay growth by a number of years but ultimately the level of demand for port capacity shown in these forecasts will remain.⁵⁴
- 3.3.8 Combining the information in the updated medium-term forecasts, with the view that the long-term position is unchanged, allows me to compile forecasts for Key Commodities from 2015 to 2035. Figure 3.4 to Figure 3.10 below illustrate these, presenting forecasts based on using the 2007 forecasts and the 2011 forecasts from the 2014 outturn point.
- 3.3.9 The most significant change between the 2007 and 2011 forecasts is the reduction in the UK-wide coal forecasts, in line with both outturn coal imports and wider policy objectives around lowering carbon emissions. This is also reflected in lower overall imports of coal into Newport Docks over this period, despite significant volatility over this period from 2007 to 2011.
- 3.3.10 Forecasts for inbound agricultural products do not appear to have been updated in the 2011 publication, so I have used the original 2007 figures for this type of cargo flow. The forecasts for all remaining Key Commodities have generally been revised upwards in the 2011 update.

⁵⁴ Department for Transport (2012), 'National Policy Statement for Ports', January, paragraph 3.4.4.

Figure 3.4 Inbound coal forecasts, UK-wide (thousand tonnes)

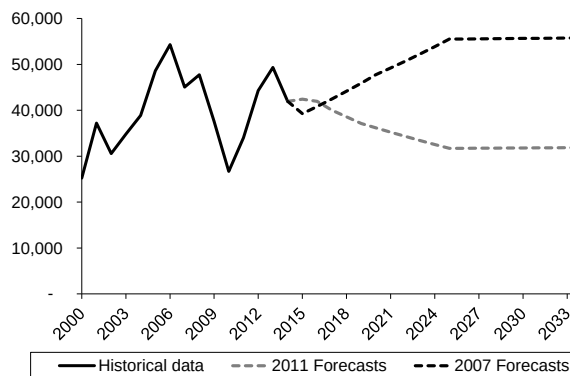


Figure 3.5 Inbound agricultural products forecasts, UK-wide (thousand tonnes)

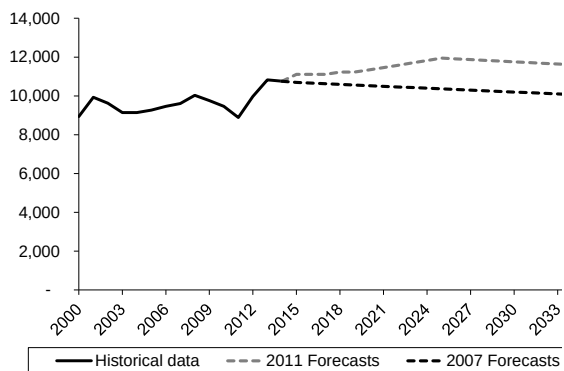


Figure 3.6 Inbound other dry bulk forecasts, UK-wide (thousand tonnes)

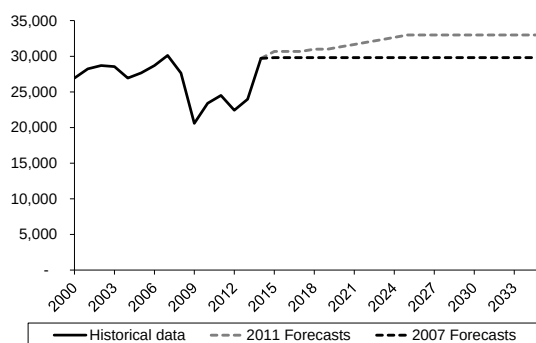
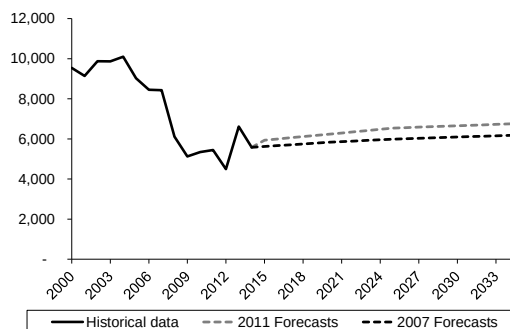


Figure 3.7 Inbound forestry products forecasts, UK-wide (thousand tonnes)



Source: Own calculations.

Figure 3.8 Inbound iron and steel products forecasts, UK-wide (thousand tonnes)

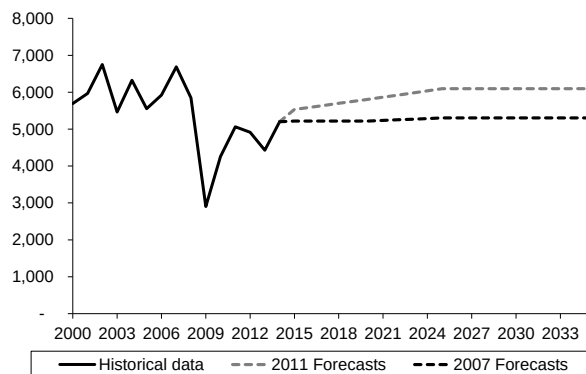


Figure 3.9 Outbound ores forecasts, UK-wide (thousand tonnes)

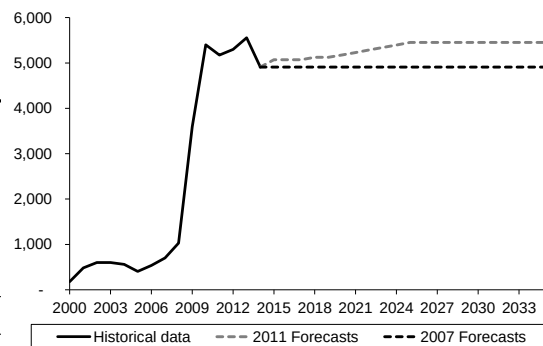
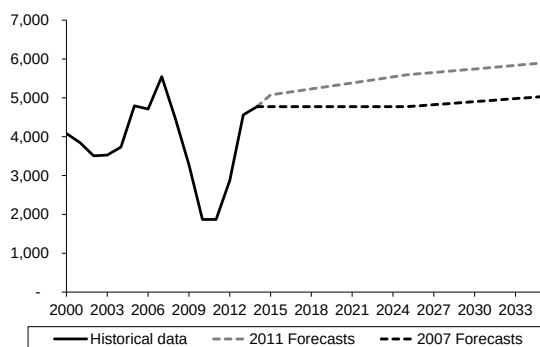


Figure 3.10 Outbound iron and steel products (thousand tonnes)



Source: Own calculations.

Step 2: Estimate the historical relationship between the Newport Docks' cargo and UK-wide cargo

3.3.11 To estimate the historical relationship between the Newport Docks' cargo and UK cargo (the 'elasticity'), I estimate the historical percentage change in a given Key Commodity's cargo at the Newport Docks corresponding to a 1% change at the UK-wide level.⁵⁵

3.3.12 Table 3.2 summarises my estimates of historical relationships for Key Commodities at Newport Docks.

Table 3.2 Estimated historical relationships

Key Commodity	Historical relationship ¹
Coal inbound	3.33
Agricultural products (e.g. grain, soya, tapioca) inbound	5.19
Other dry bulk inbound	1.81
Forestry products inbound	0.97
Iron and steel products inbound	1.59
Ores outbound	1.38
Iron and steel products outbound	0.84

Note: The amount by which cargos at Newport Docks change when there is a change in the UK-level cargo.

Source: Own calculations.

3.3.13 For example, a historical relationship of 1.81 for inbound other dry bulk products implies that a 1% increase in UK imports of other dry bulk products has historically corresponded to a 1.81% increase in inbound other dry bulk at Newport Docks. Conversely, a 1% decrease in UK imports of other dry bulk products (for example, during the downturn) has historically corresponded to a 1.81% decrease in inbound other dry bulk at Newport Docks. The non-Key Commodities form a small share of the overall cargo handled and I

⁵⁵ The elasticities have been estimated using data from 2000 to 2014. For each commodity, the level of cargos handled at the port has been regressed on the level of cargos handled in the UK, and a constant. For example: $coal_inbound_newport_t = \alpha_t + \beta * coal_inbound_{UK_t} + \varepsilon_t$.

All of the coefficients on the UK-level regressor are statistically significant at 10%.

have therefore not estimated the historical relationship with these commodities.

Step 3: Apply historical relationships to adapted UK-wide forecasts to generate Newport Docks-specific forecasts

3.3.14 I apply the historical relationships (estimated as part of Step 2) to the adapted UK cargo forecasts (estimated as part of Step 1) to generate Newport Docks-specific forecasts for each Key Commodity.

Step 4: Make any further adjustments

3.3.15 I make two further adjustments to Newport Docks-specific forecasts obtained in Step 3:

- a) Coal inbound: the UK government has announced a pledge that electricity generation from coal will stop from 2025.⁵⁶ ABP's Master Plan 2016 (consultation draft) notes that it expects coal imports to cease in the mid-2020s.⁵⁷ I therefore assume that this occurs in 2025, with all coal imports falling to zero from this point;
- b) Biomass inbound. ABP has cited plans for the development of a biomass plant in the Newport Docks.⁵⁸ The developer, Nevis Energy, suggests in its planning application that this is likely to be a 49MW plant, which will consume up to 370,000 tonnes of clean biomass per year, which will be 'imported by ship to Newport Docks, with an average of 2 ships per month'.⁵⁹ I therefore assume that the closure of the coal plant coincides with the opening of the biomass plant, with biomass imports starting in 2026. I understand that the biomass handling is likely to take place on the

⁵⁶ <https://www.gov.uk/government/news/new-direction-for-uk-energy-policy>

⁵⁷ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', p. 20.

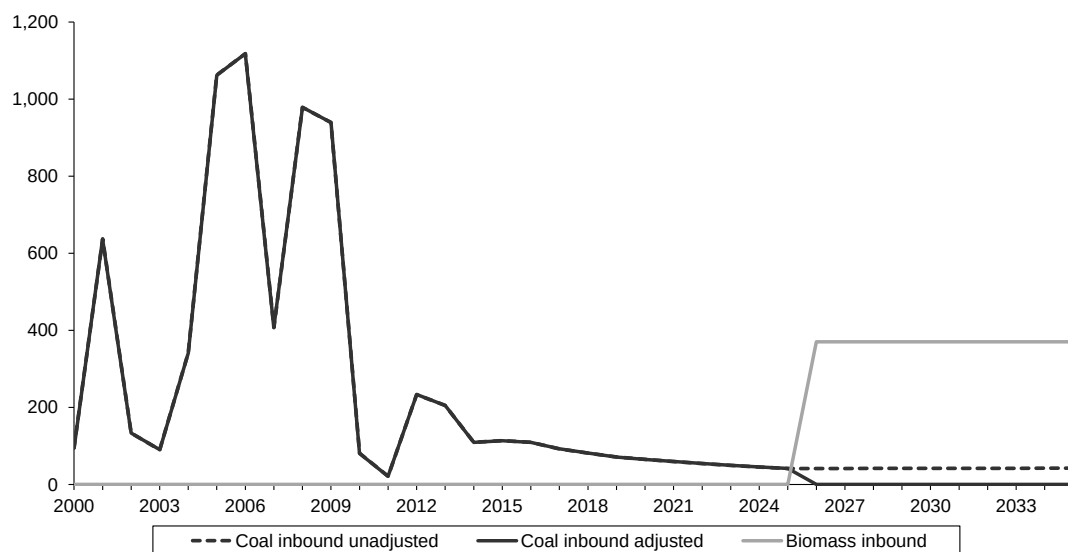
⁵⁸ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', p. 26.

⁵⁹ Nevis Power Ltd. 'Newport Biomass Power Plant, Statement to Inform an Appropriate Assessment' p. 8.

South Dock.⁶⁰

3.3.16 These two adjustments are shown in Figure 3.11 below. The inbound coal traffic forecast falls to zero by 2025, at which point the inbound biomass traffic forecast increases, and more than offsets the forecast fall in coal traffic.

**Figure 3.11 Adjusted coal forecast and biomass forecast
(thousand tonnes)**



Source: Own calculations.

3.3.17 I note that these forecasts do not account for the effects of the result of the referendum on UK membership of the EU. I am not aware of any commodity-level trade forecasts that take the referendum result into account and, in any case, any published forecasts at this stage would be subject to considerable uncertainty.

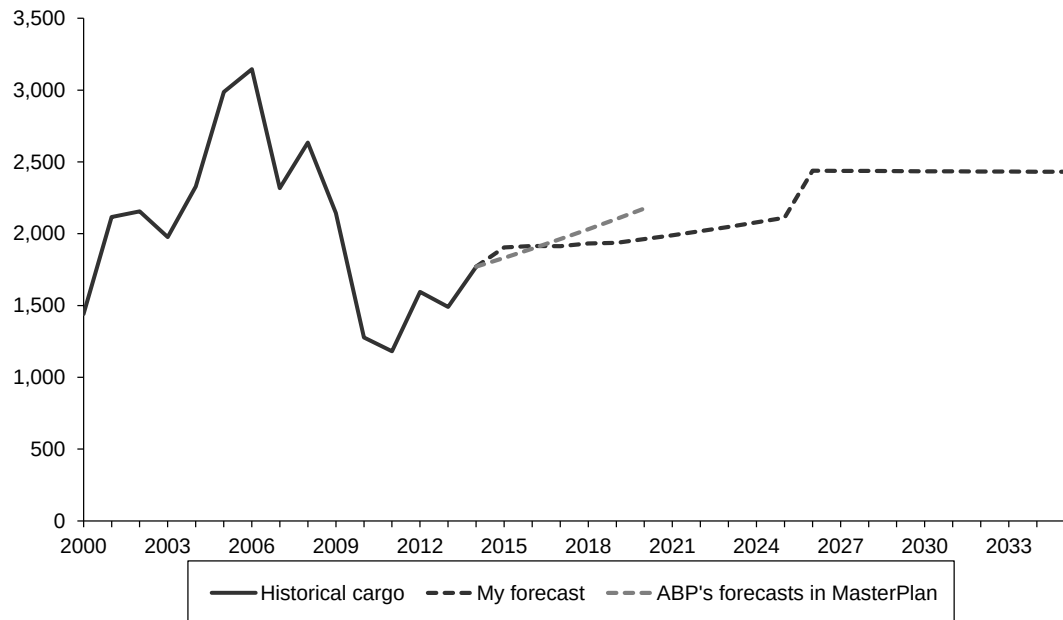
Adjusted forecasts for Key Commodities

3.3.18 Following the four steps described above, I produce Newport Docks-specific forecasts for each Key Commodity. Figure 3.12 below illustrates the total forecast cargo handled at Newport Docks. The jump in the forecast in 2026 is due to my assumption about the

⁶⁰ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', paragraphs 5.11–5.12.

introduction of biomass imports at Newport Docks.

Figure 3.12 Cargo handled at Newport Docks, historical and forecast (thousand tonnes)



Note: Historical data is shown from 2000 to 2014; forecasts from 2015 to 2035, for Key Commodities only. This relates to the Key Commodities at ABP only.

Source: Department for Transport's Port Traffic Tables and own calculations.

3.3.19 As Figure 3.12 shows, I forecast the tonnage of cargo of Key Commodities handled at Newport Docks to increase from 1.8m tonnes in 2014 to 2.4m tonnes in 2035—corresponding to a compound average growth rate of 1.2% per year, including the forecast for biomass. Historical growth for these commodities at Newport Docks was 1.5% on average from 2000 to 2014. The upward kink in 2026 is due to the introduction of biomass imports in this year.

3.3.20 The consultation draft ABP Master Plan shows forecasts for its key commodities to 2020.⁶¹ The forecasts I have estimated are, in general, in line with these forecasts to 2020. The largest difference between my forecast and that described in the ABP Master Plan is for the growth of steel. The Master Plan suggests compound annual growth of around 2% in the years to 2020, whereas my estimation shows 1.2% for these years (for inbound and outbound cargos together). Steel handled at Newport Docks has broadly tracked that of UK growth in line with the elasticities I have estimated from 2000 to 2014. Therefore, I have used my estimate of steel growth, as my method allows me to forecast to 2035. Inbound and outbound steel handled at Newport Docks makes up more than 50% of the cargos handled, so this relatively small difference in forecast drives most of the difference between my overall forecast and that of ABP.

3.4 Shipping revenue of Newport Docks in 2014

3.4.1 As I do not have access to information on Newport Docks' revenues from shipping activities, I estimate this for 2014 using Newport Docks' published tariffs,⁶² and information from ABP on vessel movements in and out of the Newport Docks.⁶³ I use data for 2014 to estimate the shipping revenue as this is the most recent year with complete input data from ABP and the DfT.

3.4.2 I understand that Newport Docks have several sources of shipping revenue, including:

- a) Port access charges—charged to vessels that enter the harbour without loading or discharging cargo
- b) Tariffs on loading and discharging cargo—charged to vessels that enter the harbour to load or discharge cargo

⁶¹ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', Chapter 4.

⁶² Associated British Ports tariffs, South Wales Tariff

2016: <http://www.southwalesports.co.uk/admin/content/files/Tariffs/S%20Wales%20Tariff%202016.pdf>

2015: <http://www.southwalesports.co.uk/admin/content/files/Tariffs/S%20Wales%20Tariff%202015%20Final.pdf>

2014: <http://www.southwalesports.co.uk/admin/content/files/Tariffs/S%20Wales%20Tariff%202014%20v2.pdf>

2013: <http://www.southwalesports.co.uk/admin/content/files/Tariffs/S%20Wales%20Tariff%202015%20Final.pdf>

⁶³ 'Newport Consolidated with Deadweights.xls' sent by Global Maritime to Oxera on 15 July 2016.

- c) Fees for other services such as pilotage and waste disposal—charged to all ships entering the port
- d) Other miscellaneous revenues—such as pilotage exemption certificate fees, dock rents or public holiday surcharges.

3.4.3 I discuss my estimate of shipping revenue from each source in turn.

Port access charges

3.4.4 Port access charges are charged to vessels entering the harbour that do not load or discharge cargo.⁶⁴ The tariff payable depends on the ship's gross tonnage (GT, the internal volume), and the origin of the ship.⁶⁵

3.4.5 I identify the ships for which port access charges were applicable using the Newport Docks' shipping data for 2014.⁶⁶ In this data, vessels are grouped into one of four categories

- a) cargo ships: aggregates carrier, bulk carrier, container ships (fully cellular), general cargo ships, LPG tanker, open hatch cargo ships, Ro-Ro cargo ships, unspecified tankers, chemical tankers, CO₂ tankers, refrigerated cargo ships;
- b) non-cargo ships: dredgers, hopper dredgers, hydrographic survey launch, infantry landing crafts, landing crafts, launch, passenger ships, trailing suction hopper dredger, patrol vessels, work boats;
- c) other: unknown and n/a have been treated as non-cargo ships;
- d) working vessels: hopper motors, pilot vessels, tugs, work/repair vessels and small work boats have been excluded from revenue calculations.

⁶⁴ Associated British Ports, South Wales Tariff 2014.

⁶⁵ Associated British Ports, South Wales Tariff 2014.

⁶⁶ 'Newport Consolidated with Deadweights.xls' sent by Global Maritime to Oxera on 15 July 2016.

- 3.4.6 Of these, port access charges are applicable to non-cargo ships. In 2014, a total of 517 non-working ships entered the harbour, of which 98 were non-cargo ships.
- 3.4.7 Newport Docks' shipping data provided to me did not contain detailed information on the origin and cargo of each vessel. I therefore assume that 70% of the non-cargo vessels are from the UK, 20% from the EU/EFTA, and 10% from the rest of the world.
- 3.4.8 I base this assumption on the fact that non-cargo ships made up 19% of all incoming shipping traffic at Newport Docks in 2014 (98 out of 517), but were responsible for only 14% of the GT (304,105GT out of 2,204,689GT).⁶⁷ It therefore seems likely that a large majority of those ships do not travel large distances but rather originate in the UK or ports from other nearby European countries.⁶⁸
- 3.4.9 I apply these shares to the total number of arriving non-cargo ships at Newport Docks and the port access charges to estimate the total shipping revenue at Newport Docks from port access charges. Table 3.3 presents this calculation.

Table 3.3 Port access tariff revenue

Origin of ship	Tariff per GT (£)	Origin of ships (%)	Tariff revenue (£ '000)
UK	0.79	70	168
EU/EFTA	3.11	20	189
Rest of the world	4.28	10	130
Total			487

Source: ABP tariffs, 'Newport Consolidated with Deadweights.xls' sent by Global Maritime to Oxera on 15 July 2016, and own calculations.

Tariffs on loading and discharging cargo

- 3.4.10 Ships entering Newport Docks to load or discharge cargo do not have to pay the port access charge. Instead, ABP levies a tariff on

⁶⁷ 'Newport Consolidated with Deadweights.xls' sent by Global Maritime to Oxera on 15 July 2016.

⁶⁸ My analysis and conclusions are not sensitive to this assumption, based on my calculations.

each tonne or cubic metre of cargo, whichever unit is greater.⁶⁹

There is also a lower and upper limit on the total amount of tariffs payable on loading and discharging cargo:⁷⁰

- a) Ships from the UK have to pay at least £894.30 if they load or unload any cargo. Ships from other countries have to pay at least £1.73 per GT (2014 prices);
- b) Ships from all countries do not have to pay more fees on loading or unloading cargo than they would have to pay for simply entering the port—i.e. the tariffs on cargo are capped at the level of the port access charges defined in the previous subsection.

Table 3.4 below summarises these tariffs.

Table 3.4 Cargo loading/unloading tariffs

Origin	Cargo tariff (£/tonne)	Minimum cargo fee (£)	Maximum cargo fee (£)
UK	4.28	894.30	0.79/GT
EU/EFTA	4.28	1.73/GT	3.11/GT
Rest of the world	4.28	1.73/GT	4.28/GT

Source: ABP, South Wales Tariff 2014, and own calculations.

3.4.11 To estimate the total shipping revenue from cargo fees at Newport Docks, I apply these tariffs to total tonnes of cargo loaded and discharged. Table 3.5 presents my calculation. Where a ship carries more than its gross tonnage, my estimate may overstate revenues; however, where a ship carries a level of cargo corresponding to below the minimum cargo fee, this estimate may understate revenues. On balance, these effects are likely to offset each other.

⁶⁹ Associated British Ports, South Wales Tariff 2014.

⁷⁰ Associated British Ports, South Wales Tariff 2014.

Table 3.5 Estimated revenue cargo loading/unloading tariffs

Total cargo loaded (m tonnes)	Cargo tariff (£/tonne)	Cargo tariff (£ '000)
1.85	4.28	7,918

Source: ABP, South Wales Tariff 2013 and 2014, Department for Transport's Port Traffic Tables, and own calculations.

Fees for other services

3.4.12 In addition to the charges on port access and cargo handling, ABP levies tariffs on several services, most importantly on waste disposal and pilotage.⁷¹

- a) Each arriving ship that accesses Newport Docks has to pay a waste fee of £70.15 (2014 prices);
- b) Vessels have to pay a minimum fee of £443.00 (in 2014 prices) for each act of pilotage (i.e. each time they enter or leave Newport Docks), which increases by: £0.183 per GT for the first 5,000GT; and £0.14 per GT exceeding 5,000GT.

3.4.13 I understand that ABP executes all of Newport Harbour Commissioners' functions relating to pilotage on behalf of the Commissioners.⁷² This implies that ABP derives pilotage revenue from all vessels entering the River Usk, not just those entering Newport Docks.

3.4.14 I also understand that a discount of 80% is given for vessels whose master officer holds a pilotage exemption certificate. From an economic and commercial perspective, this might be particularly attractive for regular users of the port. I have not been provided information to quantify the value of any applicable discounts.

⁷¹ Associated British Ports, South Wales Tariff 2014.

⁷² Associated British Ports (2013), 'Passage Planning, Navigation and Ordering of Services Guidelines', May, p. 2.

3.4.15 Therefore, to estimate Newport Docks' shipping revenues from other services, I apply the baseline minimum fee of £443.00 for pilotage and £70.15 for waste per ship (2014 prices)—see Table 3.6. The number of applicable ships for pilotage represents all of the movements (arriving, departing and movement in the docks) of non-working vessels; the number of applicable ships for waste disposal represents the unique visits of non-working vessels.

Table 3.6 Estimated revenue from other services

Service	Number of (applicable) ships	Service fee (£)	Revenue (£ '000)
Pilotage	2,003	443.00	887
Waste disposal	517	70.15	36
Total			924

Note: The minimum pilotage fee does not include the National Pension Fund Deficit Surcharge as it does not affect ABP's revenue.

Source: Associated British Ports, South Wales Tariff 2013 and 2014, 'Newport Consolidated with Deadweights.xls' sent by Global Maritime to Oxera on 15 July 2016, and own calculations.

Other maritime revenues

3.4.16 In addition to the fees discussed above, ABP can levy variable fees, covering the following:⁷³

- a) hiring a pilot cutter (price on request);
- b) hiring a second pilot (£213.50 per act of pilotage);
- c) moving a vessel from berth to berth (£0.0271 per GT, subject to minimum charge of £443.00 per act of pilotage);
- d) when low water of the previous tide prevents the vessel from leaving as planned (£443.95 per cancellation).

⁷³ Associated British Ports, South Wales Tariff 2014.

3.4.17 Conversely, a 20% discount is given for vessels moving from one ABP-owned port to another in the South East Wales district.⁷⁴

3.4.18 I have not been provided with sufficient information to estimate these revenues. It is also not clear to me whether vessels pay the advertised rates or whether there are any bespoke contractual arrangements in place that might allow for a discounted fee.

3.4.19 Furthermore, in the absence of relevant data, I do not know the relative magnitude of these under- and over-estimates, although I note that these excluded charges and discounts (including the pilotage discount discussed in the previous subsection) would offset one another, to some extent.

Estimate of total shipping revenue for the Newport Docks

3.4.20 Summing these four sources of revenue for Newport Docks gives an estimate of total shipping revenue in 2014 of £9.3m. As Table 3.7 outlines, most of these revenues are from vessels loading or discharging cargo.

Table 3.7 Estimated shipping revenue for Newport Docks in 2014 (£m)

Revenue item	Revenue (£m)
Port access charges	0.5
Tariffs on loading and discharging	7.9
Fees for other services	0.9
Other miscellaneous revenues	-
Total shipping revenue	9.3

Source: Own calculations.

⁷⁴ Associated British Ports, South Wales Tariff 2014. This discount increases to 25% in the 2016 tariff set.

3.5 Forecast of Newport Docks' shipping revenues if the Scheme is not implemented

3.5.1 To forecast Newport Docks' shipping revenues if the Scheme is not implemented, I apply the growth rate of cargo (as forecast in section 3.3) to Newport Docks' shipping revenues from 2014. I use 2014 as the base year as it is the most recent year with complete information from ABP and the DfT.

3.5.2 In doing so, I assume that revenues grow at the same rate as the Key Commodities, which allows for the revenues from non-cargo, non-working to grow at this rate as well.⁷⁵

3.6 Impact of the Scheme on shipping revenues

3.6.1 As detailed by the Welsh Government's shipping expert, Mr Jonathan Vine, the Scheme would lead to a restriction to the number of vessels that can enter the North Dock.⁷⁶

3.6.2 Mr Vine has analysed a detailed list of vessels that entered Newport Docks between 2005 and 2015 and has indicated which of these would have been unable to enter the North Dock had the Scheme been in place.⁷⁷ Based on this data, I find that in the years from 2005 to 2015, the total deadweight tonnage (DWT) of vessels arriving at Newport Docks was 33.5 million tonnes. In the adjusted data presented by Mr Jonathan Vine, 1.6% of this DWT would have been impeded over this period.

3.6.3 In the absence of more detailed information, I assume that the percentage of lost DWT translates directly into the lost shipping revenue as a result of the Scheme. I assess this at 1.6% of lost visits, to show an estimate of Newport Docks' lost shipping revenue based on historical vessel traffic.

⁷⁵ I also assume that the vessel size remains constant over this period.

⁷⁶ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. para 5.1.1.

⁷⁷ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. Section 5.2

3.7 Other factors affecting the shipping impact

3.7.1 My estimate is likely to overstate the impact of the Scheme on Newport Docks, for the following reasons:

- a) I understand from Mr Vine that it is possible to charter alternative vessels with a smaller air draft instead of many, but not all, of the impeded vessels;⁷⁸
- b) All vessels identified as being impeded by the Scheme are cargo vessels. Therefore, there is no loss of shipping revenues obtained from port access tariffs or fees for other services. Both of these categories relate to non-cargo vessels, which are not impeded by the Scheme;
- c) Finally, I understand from Mr Jonathan Vine's Proof of Evidence that there is capacity at South Dock to accommodate additional vessels.⁷⁹ Such a reallocation would reduce the degree of impediment and therefore the loss of revenue.

3.7.2 Conversely, there are factors that I have not been able to take into account which could understate the impact of the Scheme on Newport Docks:

- a) I have assumed that vessel sizes remain constant over the forecast period. If, for example, average vessel sizes increase over this time, this might lead to more vessel visits to the North Docks being impeded under the Scheme;
- b) I understand from ABP's Master Plan 2016 (consultation draft) that there are plans to widen the junction cut.⁸⁰ In the absence of information on the impact of this on vessel sizes visiting the North Docks over the forecast, I find it difficult to incorporate this effect into my analysis. I also understand that the Welsh Government has sought such

⁷⁸ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. Section 5.5

⁷⁹ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. Section 6.

⁸⁰ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035'.

information.⁸¹

3.7.3 In the absence of more detailed data, I am unable to quantify the net impact of all these factors. As such, it is unclear whether there is a systematic bias in my estimate. However, I am able to use some analysis produced by Mr Vine to form an alternative scenario for the shipping impediment created by the Scheme. In particular, Mr Jonathan Vine's Proof of Evidence considers the possibility of replacement of impeded vessels by alternative vessels as well as diversion to South Dock. These relate to points a) and c) above.⁸²

3.7.4 In respect of alternative vessels, Mr Jonathan Vine concludes in his Proof of Evidence that vessels below 5,000 DWT could be chartered to pass under the proposed bridge.⁸³ Mr Vine's analysis shows that, over the past 11 years, visits by vessels above 5,000 DWT to North Dock were fairly infrequent. According to his analysis, this accounted for only 5.6% of vessel visits over that period.⁸⁴

3.7.5 In respect of spare berthing capacity at South Dock, Mr Vine estimates that over the last 11 years there was significant scope for increased use of South Dock. For example, he shows that, over this period, there would be capacity to accommodate at least one additional vessel in South Dock 96% of the time, with space for two vessels 87% of the time.⁸⁵

3.7.6 When taken together, the impact of alternative chartering and berth reallocation on the restriction is significant. Mr Vine has estimated that in 9 of the last 11 years, there would always have been quay space in the common user berths in the South Dock to accommodate the vessels over 5,000 DWT. Mr Vine shows that berth capacity for a

⁸¹ See Letter from Winckworth Sherwood to Martin Bates dated 26 September 2016.

⁸² Ports also compete for large vessels that use the respective port to transfer cargo to feeder vessels, which, in turn, serve small ports in the hinterland (transshipment traffic). However, such traffic is unlikely to be of importance to Newport Dock since, typically, containerised freight is prevalent there, rather than bulk freight or general cargos.

⁸³ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. para 9.1.6.

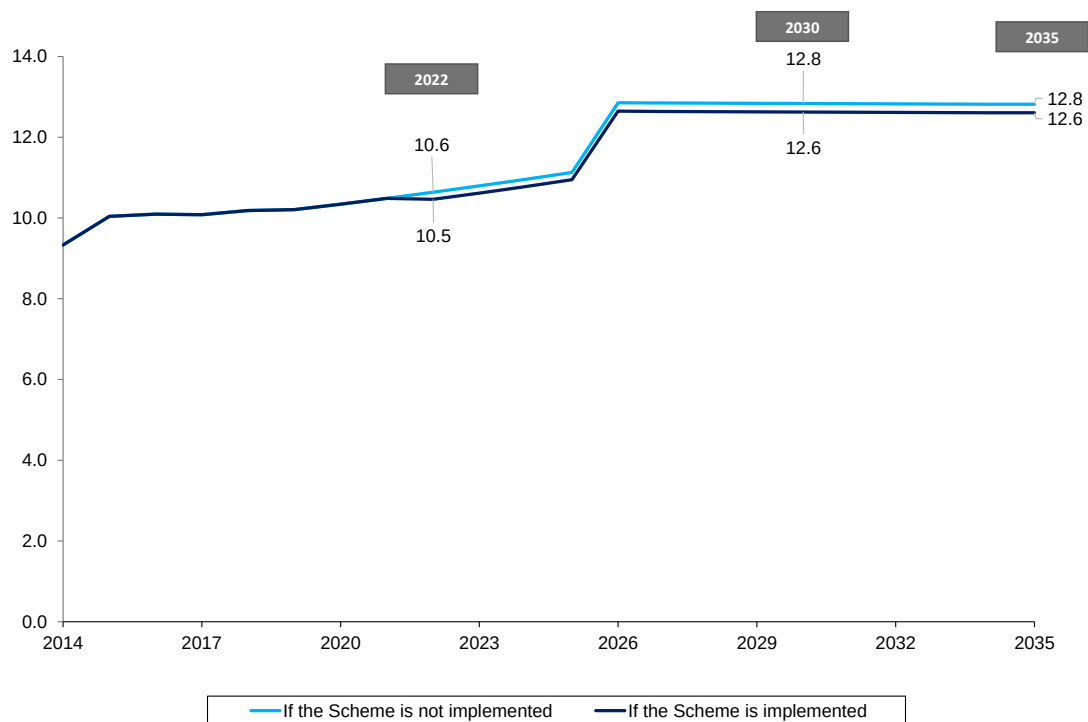
⁸⁴ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. para 5.5.13.

⁸⁵ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. Table 6-6.

vessel of this size would be needed on 242 days over the last 11 years, and that on all but 10 days, there was sufficient space at South Dock to accommodate this.⁸⁶

- 3.7.7 Therefore, as an alternative scenario, I consider a case where all vessels under 5,000 DWT are able to use the port and 96% of the vessels over 5,000 DWT could be handled by the South Dock. This approach would decrease both the lost shopping revenue and the overall detriment, as I describe further in section 6.
- 3.7.8 I note that Mr Vine's analysis is based on historical data and does not take into account the possibility of cargo growth or changes in vessel size. However, it could be argued that the lower estimate, including reallocation of traffic to South Dock, would be a more relevant starting point for calculating shipping revenue detriment. This approach would, however, require detailed projections of future vessel sizes which I am not able to comment on.
- 3.7.9 Figure 3.13 plots the forecast of Newport Docks' shipping revenue using historical impediment data both if the Scheme were not implemented, and if it were. In the alternative case with substitute vessels and berth reallocation, the impact of the Scheme is minimal and the impact on shipping revenues would be negligible. In other words, revenues would be unchanged from the case without the Scheme, which is why this alternative scenario is not shown in Figure 3.13.

⁸⁶ The Proof of Evidence of Mr Jonathan Vine, WG 1.7.1. Table 6-8.

Figure 3.13 Shipping revenue under the two scenarios (£m)

Source: Own calculations based on Global Maritime analysis.

3.8 Potential for substitution to other ABP assets

3.8.1 There are several ports near Newport Docks that some customers might use as an alternative, for example Cardiff Docks, Barry Docks, and Port Talbot (all owned by ABP), and the Port of Bristol.⁸⁷ These could therefore serve an area that overlaps with that served by Newport Docks. The extent to which these, or other, ports could serve as a viable substitute for Newport Docks depends on: the capacity available at these ports, the handling capability for the relevant cargo types, and the cost-effectiveness for the Tenants of the port, which would include the overall cost of onward transportation of the goods.

⁸⁷ With regard to bulk cargo (the one prevalent at Newport Dock), the OECD considered the relevant geographic market for bulk cargos to be within a 30-mile radius of the relevant port. See OECD (2011), 'Competition in Ports and Port Services Policy Roundtables'.

3.8.2 Where vessels substitute to Cardiff, Barry or Port Talbot, ABP would see no significant change in its revenues across its portfolio, assuming that the tariff structures are broadly similar across these ports.

3.8.3 I have not estimated this substitution and the associated offset to the impact of the Scheme on Newport Docks' shipping revenues. Nonetheless, I note that, in the event of such substitution, my approach is likely to overstate the impact of the Scheme on Newport Docks.

4. Quayside impact of the scheme

4.1 Overview

4.1.1 In this section, I assess the impact of the Scheme on Newport Docks' Tenants, leaseholders and freeholders (collectively referred to as 'the Tenants'). I do so to forecast future rental income at Newport Docks with and without the Scheme. Specifically, I consider:

- a) Newport Docks' rental income in 2015 and rental income forecasts if the Scheme is not implemented. In the absence of further information, I estimate the rental income by reference to ABP's group-level rental income;
- b) Tenants at Newport Docks and their activities. I provide an overview of ABP's Tenants and show that many Tenants' operations are not location-dependent;
- c) Land loss at Newport Docks. I assess the land loss as a result of the Scheme taking into account the temporary nature of some land loss;
- d) Rental income loss. I apply the land loss derived in step 3 to my estimate of Newport Docks' rental income from step 1 to forecast its future rental income losses. In doing so, I consider the total 'rentable' land at Newport Docks, and, as sensitivities, the potential non-linear impact of land loss on rental income loss and a possible delay associated with replacing affected Tenants.

4.1.2 I apply my estimate of the rental income loss to my forecast of Newport Docks' rental income if the Scheme were not implemented, in order to obtain forecasts of its rental income if the Scheme were implemented. This is then compared with the forecast without implementation of the Scheme, where no land loss occurs. I discuss each step in turn below.

4.2 Newport Docks' rental income in 2015 and rental income forecasts if the Scheme is not implemented

4.2.1 In this section, I first estimate Newport Docks' rental income in 2015. I then forecast its rental income if the Scheme is not implemented. This, combined with the land loss calculated in section 4.4, informs the rental income forecasts under the two scenarios.

4.2.2 Since I have not been provided with information on Newport Docks' actual rental income, I estimate its rental income using publicly available information from ABP. Specifically:

- a) I calculate ABP's rental income at the group level from its investors report;⁸⁸ and
- b) I apportion this income to Newport Docks based on its share of ABP's acreage.

4.2.3 Using this method, I estimate Newport Docks' rental income to be £3.0m in 2015. Table 4.1 presents my calculation.

Table 4.1 My estimate of Newport Docks' rental income

	Calculation	Unit	Value
ABP's rental income	[A]	£m (2015)	54.9
Newport's acreage	[B]	acres	685
ABP's acreage	[C]	acres	12,355
Newport's share of acreage	[D] = [B]/[C]	%	5.54
Newport's rental income	[E] = [A] x [D]	£m (2015)	3.0

Source: Own calculations based on Associated British Ports Holdings Limited (2015), 'Investor report', 31 December, p. 9, Associated British Ports (2016), 'Our locations', http://www.abports.co.uk/Our_Locations, accessed 6 September 2016, Associated British Ports (2016), 'More about Newport', <http://www.abports.co.uk/>

⁸⁸ Associated British Ports Holdings Limited (2015), 'Investor report', 31 December, p. 9. The rental income figure is based on the sum of 'Property income' and 'Other'. All other income categories appear to relate to shipping revenue.

Our_Locations/South_Wales/Newport/More_about_Newport, accessed 6 September 2016.

4.2.4 In doing so, I assume that Newport Docks' share of ABP's rental income can be approximated by Newport Docks' share of ABP's total UK port acreage. I consider this assumption to be appropriate since rental income is likely to vary in proportion with the acreage used to derive the rental income.⁸⁹ I note that Newport's acreage of 685 hectares provided by ABP is slightly less than the area calculated by Geraint Jones and Ben Sibert of Arup (692 hectares, the 'Sibert Note').⁹⁰ I choose to use ABP's number here to remain consistent with the total acreage reported by ABP—i.e. the numerator and denominator are from the same source.

4.2.5 To forecast Newport Docks' rental income in the scenario where the Scheme is not implemented, I inflate my estimate of Newport Docks' rental income in 2015 by two forecast indices:

- a) Consumer Price Index forecasts—this captures the 'nominal' change in rental income resulting from changes in the general price level of the economy;
- b) Growth rate in cargo handled at Newport in the scenario where the Scheme is not implemented (estimated in section 3.3)—this captures the 'real' change in rental income as a result of the change in the level of activity at Newport.

4.2.6 The results are summarised in section 4.5.

4.3 Tenants at Newport Docks and their activities

4.3.1 In this section, I describe the Tenants at Newport Docks and the nature of their activities. In particular, I consider the nature

⁸⁹ I note that the Port of Newport's and ABP's acreage includes water surfaces. While I have been provided with information on Newport's land-only area, I have not been provided with corresponding information on ABP's land-only area.

⁹⁰ File reference M4CaN-DJV-LSI-Z3_GEN-FN-YL-0001, 22 December 2016.

of the Tenants' activities in order to assess their location-dependency. I exclude Tenants not directly affected by the Scheme (e.g. some Tenants at the South Dock) for which I do not have the same level of information. Tenants that are not location-dependent could also operate elsewhere and, if the Scheme is implemented, have an option to relocate away from:

- a) their current site—in this case, Newport Docks would not necessarily lose the Tenant, despite losing the land to the Tenant's current site; or
- b) Newport Docks entirely—in this case, the Tenant would be lost, resulting in a financial impact on the owner of Newport Docks.⁹¹

4.3.2 Location-dependent Tenants may also remain at Newport Docks provided there is sufficient space and infrastructure elsewhere at Newport Docks, e.g. the South Dock. This flexibility implies that the rental income lost due to land loss may be partially offset by Tenants' relocation within Newport Docks boundaries, e.g. further away from the quays.⁹²

4.3.3 To determine the nature of the activity being undertaken by each Tenant, I use a number of sources, including the Land Reference Plan,⁹³ the Land Reference Sheet provided to me by Geraint Jones and Ben Sibert of Arup,⁹⁴ the draft CPO,⁹⁵ Companies House records (and other online sources such as the companies' websites), and objection letters from ABP and Other Objectors.

4.3.4 Based on these sources, I assess the location-dependency of each Tenant and categorise each as one of the following.

⁹¹ The detriment to the Tenant may be different subject to compensation for relocation costs, etc.

⁹² In Appendix A4, I consider the Newport Docks' spare capacity to accommodate Tenants that wish to relocate within the boundaries of the port.

⁹³ Drawing number M4CaN-DJV-LSI-ZG_GEN-DR-YL-1547. A larger version of the map is available separately for printing as an A3 printout.

⁹⁴ File reference M4CaN-DJV-LSI-Z3_GEN-FN-CB-0003.

⁹⁵ CPO (Table 1, Schedule 1).

- a) Required—location at Newport Docks with proximity to the quayside is essential to the Tenant and the Tenant could not reasonably operate elsewhere.⁹⁶ For example, being located at Newport Docks with proximity to the quayside is essential to WE Dowds Shipping Ltd for its shipping and storage operations;
- b) Not required—location at Newport Docks is not necessary for the Tenant, whose activities are unrelated to Newport Docks' activities. For example, New Adventure Travel Ltd (a private coach hire business) does not need to be located at Newport Docks since its business is unrelated to port activities.

4.3.5 Table 4.2 summarises the results of my activity analysis.⁹⁷

Table 4.2 Summary of Tenants' location-dependency

Location-dependency	Number of Tenants	Proportion of all Tenants
Required	8	33.3%
Not required	16	66.7%
Total	24	100.0%

Notes: Excludes Newport City Council since the land loss associated with Newport City Council is not taken into account in my analysis.

Source: Tenants based on Land Reference Sheet. Activities based on online search and company statutory accounts from Companies House (<https://www.gov.uk/government/organisations/companies-house>).

Location-dependency inside the port is based on my own judgement, taking into account the Tenants' activities and further materials such as objection letters.

4.3.6 Table 4.2 shows that a significant share of Newport Docks' Tenants are not location-dependent and could, in principle, operate outside

⁹⁶ Some of these Tenants are also needed by the Newport Docks—for example, for cargoing and stevedoring.

⁹⁷ I include a detailed activity analysis categorising Tenants as 'required and 'not required' in Appendix 3.

the port, or at least be moved without an ongoing impact on its functioning.

4.3.7 I now turn to the issue of the land loss for Newport Docks.

4.4 Land loss at Newport Docks

4.4.1 In this section, I estimate the total land loss at Newport Docks associated with the Scheme. In doing so, I take into consideration the temporary nature of some land loss. This is important because some land will be released back to Newport Docks after the Scheme has been implemented. In other words, some land loss associated with the Scheme is temporary.

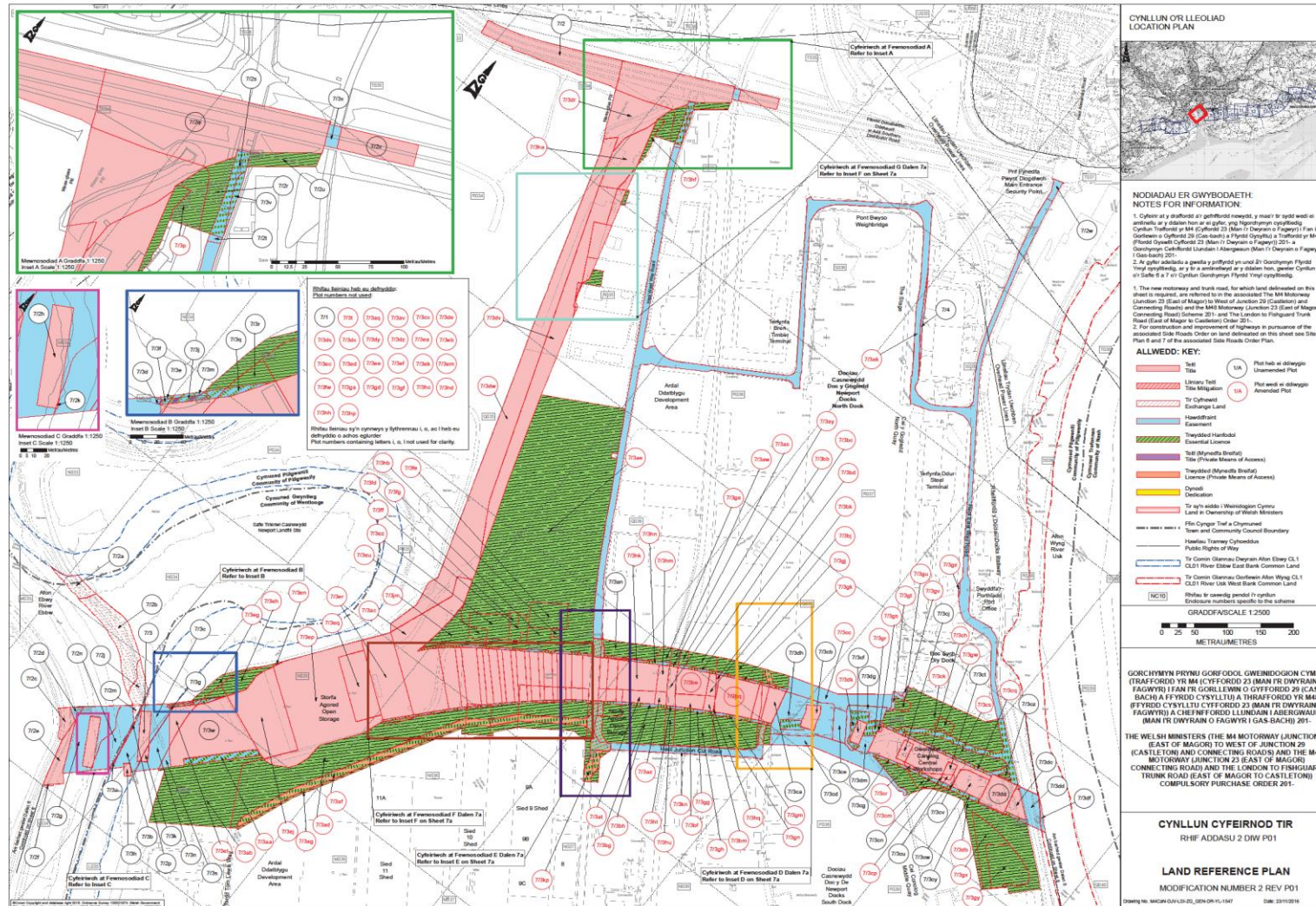
4.4.2 I assume that the temporary land loss occurs between 2018 and 2021,⁹⁸ and that before 2018 there is no effect of the Scheme on ABP's rental income. In addition, I derive upper and lower bounds for the share of rentable land at Newport Docks. Based on this, I estimate effective temporary and permanent land loss percentages.⁹⁹

4.4.3 To assess the temporary impact of the Scheme, I have been provided with a Land Reference Plan of the Scheme. This plan, prepared by the Welsh Government, sets out the Tenants and how their areas would be affected by the Scheme. A more detailed version of the map, printable in A3 format, is provided in a separate document.

⁹⁸ The M4CaN webpage (<http://gov.wales/topics/transport/roads/schemes/m4/corridor-around-newport/?lang=en>) gives spring 2018 as the start date of the Scheme construction with a completion date of autumn 2022. This end date is further specified: 'Completion of new section of motorway: autumn 2021' and 'Completion of reclassification of existing motorway: autumn 2022'. The assumed build time of 2018–21 is a simplification to my calculations in as far as the start and end dates will most likely not be the first or last day of the year. The projected bridge built time is not known to me, but is likely to be shorter than the whole Scheme construction phase. Thus, in assuming a temporary period of 2018–21, I adopt a rather conservative assumption.

⁹⁹ For simplicity, I do not assume different 'rentable' lands at Newport Docks over time.

Figure 4.1 Impact of the Scheme on Newport Docks and its Tenants



Source: Land Reference Plan, drawing number M4CaN-DJV-LSI-ZG_GEN-DR-YL-1547.

- 4.4.4 I understand from the Welsh Government that the pink ‘Title’ category refers to permanent land loss.
- 4.4.5 The blue ‘Easement’ category has permanent economic implications, such as constraints on the types of material that can be stored in the vicinity of the bridge and the types of ship that can pass through the junction cut. Based on information provided to me, I find that the large ‘Easement’ areas relate to:
- a) Land used by Newport Docks itself—specifically, the junction cut and parts of the North Dock that are not rented out;
 - b) Land in the western part of the map, which is used by the Newport City Council and does not belong to ABP.¹⁰⁰
- 4.4.6 I understand the green ‘Essential Licence’ category would be used temporarily—i.e. only during implementation of the Scheme.
- 4.4.7 Based on this categorisation and the data provided to me by Geraint Jones and Ben Sibert of Arup (Sibert Note and the Land Reference Sheet), I estimate the temporary and permanent land loss.
- 4.4.8 The data provided to me by Geraint Jones and Ben Sibert of Arup describes the land use slightly differently by combining various categories. Table 4.3 lists the categories used in the data provided to me.

¹⁰⁰ Newport City Council is excluded from my analysis. This is consistent with my analysis in the previous section, where I calculated the number of plots that are location-dependent.

Table 4.3 Legend categories in the Land Reference Sheet

Legend categories
Title
Essential Licence
Essential Licence/Licence (Private Means of Access)
Easement
Easement (S250 Right)
Easement (S250 Right)/Essential Licence
Easement (S250 Right)/Essential Licence/Licence (Private Means of Access)
Easement (S250 Right)/Essential Licence/Title (Private Means of Access)
Easement (S250 Right)/Title (Private Means of Access)

Source: Land Reference Sheet.

4.4.9 By matching the categories with those in the map (Figure 4.1), I consider 'Title', 'Easement', and the five categories containing 'Easement (S250 Right)' to be categories associated with permanent land loss.

4.4.10 I understand that parts of the land covering some of the permanent 'Title' footprint east and west of the junction cut beneath the bridge could be re-let to Newport Docks once the Scheme has been implemented. In the absence of further information, I take a conservative view and do not make any adjustments for this area, for which I have no further information usable for calculations. This is likely to overstate the land loss at Newport Docks associated with the Scheme.

4.4.11 Table 4.4 presents my estimate of the temporary and permanent land loss. It shows that the temporary land loss of the Scheme is 18.8% of ABP's land and that it drops to 9.9% after the bridge has been built. I understand that the Welsh Government is currently working in a modified CPO which could have a small impact on the land areas once it is finalised. This modification was not available to me at the time of preparing my Proof of Evidence.

Table 4.4 Land loss at Newport Docks (%)

	Unit	Value
Total land at Newport Docks, of which:	Hectares	179.7
temporary land loss	Hectares	33.7
permanent land loss	Hectares	17.9
Land loss percentage		
Temporary	%	18.8%
Permanent	%	9.9%

Source: Own calculations based on the Land Reference Sheet and the Sibert Note.

4.4.12 The above table measures the total land at Newport Docks at 179.7 hectares. Of this, 33.7 hectares will be taken by the Scheme temporarily—i.e. during the construction time of the bridge. This is 18.8% of the total land. Following the end of construction, the permanent land loss is 17.9 hectares—i.e. 9.9% of the total land. The next two paragraphs explain the derivation of these results in more detail.

4.4.13 The first number in Table 4.4—total land at Newport Docks—is derived by taking the total accessible land as stated in the Sibert Note, 182 hectares, but subtracting the accessible area of Newport City Council, which I exclude from my analysis. This gives a total land of 179.7 hectares. This area is much smaller than the 692 acres (280 hectares) noted earlier in my Statement since that number included inaccessible land such as water surface.

4.4.14 The second number in Table 4.4—the temporary (or total) land loss—is calculated from the Land Reference Sheet, excluding Newport City Council (as well as Island Steel, which was already excluded in above 182 hectares). The permanent land loss is calculated likewise. The loss shares are 18.8% and 9.9%, respectively.

4.4.15 The land loss shares in the Sibert Note are 20.3% and 11.6% respectively. The difference to my numbers is largely due to

my exclusion of Newport City Council (and Island Steel), as otherwise I would get 20.2% and 11.5% respectively. These numbers do not sum to 100% due to the way the datasets are constructed. I understand that some information in the Land Reference Sheet and the CPO comes from different sources (e.g. land registry) but do not always overlap entirely, which explains the small deviations.

4.4.16 I note that ABP has estimated the land loss to be around 35.2 hectares (87 acres) or around 20% of Newport Docks' land.¹⁰¹ This estimate is similar but not identical to mine.

4.4.17 I also note that the quantities associated with the explosives licences currently held by ABP would be impaired if the Scheme were to proceed. In a supplement to the Environmental Statement, the Welsh Government notes that the quantity of explosives that could be handled at the North Quay Berth would need to be reduced from 50,000kg to 6,800kg, and from 110,000kg to 12,000kg at South Quay Berth.¹⁰² Given that this does not result in a direct loss of land, I am not able to include it in the quantitative assessment. However, I would note that the financial loss of this business to ABP would depend on the extent to which the licence is used.

4.5 Rental income forecasts if the Scheme is implemented

4.5.1 In this section, I forecast Newport Docks' rental income if the Scheme is implemented. To do so, I adopt a two-step approach:

¹⁰¹ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', paragraph 8.11. See also ABP objection letter, paragraphs 4.2, 10.3 and 10.7.

¹⁰² Welsh Government (2016), 'December 2016 Environmental Statement Supplement Appendix SS 2.2: Hazardous Installations Affected by the Scheme', M4CaN-DJV-EGT-ZG_GEN-AX-EN-0004, December.

- a) Translating the temporary and permanent land loss percentages estimated in the section 4.4 into rental income loss percentages;
- b) Applying these rental income loss percentages to my forecast of Newport Docks' rental income if the Scheme is not implemented to obtain Newport Docks' rental income if the Scheme is implemented.

4.5.2 In translating the land loss percentages into rental income loss percentages, I factor in:

- a) Newport Docks' overall 'rentable' land
- b) The non-linear impact of land loss on Newport Docks' rental income
- c) The delay associated with replacing affected Tenants; and discuss each in turn below

4.6 Newport Docks' overall 'rentable' land

4.6.1 I understand that some land at Newport Docks cannot be rented out—for example, because Newport Docks needs some land for the provision of infrastructure or other services; the precise land share needed for this being unknown to me. Estimating the amount of 'rentable' land at Newport Docks is important because it affects the total rental income loss associated with a given land loss. The higher the rentable land, the lower the income loss to ABP at the estimated rental income level from section 4.2. This is because a higher rentable land share implies that, at the current level of activity, more space is available for relocating affected Tenants within Newport Docks' boundaries. The high share of non-location-dependent Tenants (see section 4.3 and Appendix A3) can facilitate such relocation.

4.6.2 Since I have not been provided with information on Newport Docks' overall 'rentable' land, I estimate lower and upper bounds for this rentable land.

- a) For the lower bound, I consider the area currently rented to affected Tenants. According to the Sibert Note, ABP's accessible area is 450 acres (182 hectares), of which 192 acres (78 hectares) are accessible leasehold agreements (43%). As my calculations do not cover Newport City Council, I exclude their accessible area of 2 hectares. This leaves 180 hectares of ABP land, of which 75 hectares (differences due to rounding) are leasehold agreements. Thus, 41.9% of ABP's total accessible area is under leasehold agreements. Since Newport Docks has current spare capacity, this is likely to underestimate the amount on rentable land at the port.
- b) For the upper bound, I consider the total area of Newport Docks. This encompasses an area equal to 179.7 hectares, or 100% of ABP Newport's total area. Since this includes land required by Newport Docks for operational reasons, this is likely to overestimate the amount of rentable land at the port.

4.6.3 In addition, I understand that Newport Docks has spare capacity that is currently not let;¹⁰³ and offers storage areas for Tenants. Both factors would increase the share of rentable land at Newport Docks above 41.9%, but since I have not been provided with sufficient data on these, I do not make any adjustments to my lower bound.

Non-linear impact of land loss on Newport Docks' rental income

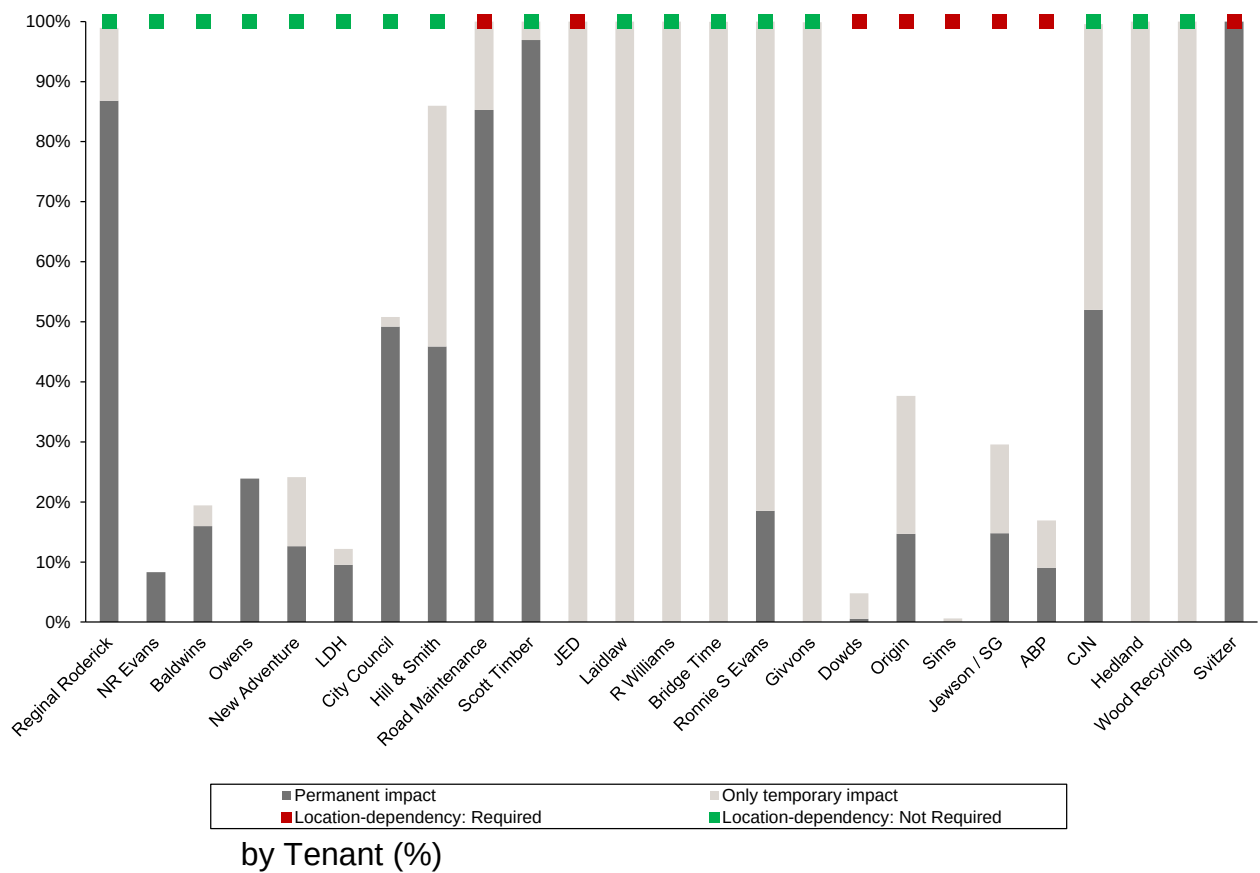
4.6.4 Land loss may not affect ABP's income profile in a linear fashion, but may depend on the individual Tenant's land loss percentage, as well as operational constraints (some of which have been raised in objection letters by the Tenants themselves, e.g. the functionality of Dowds' wireless stock control system¹⁰⁴).

¹⁰³ See Appendix A3 for my discussion of ABP's Consultation Draft Master Plan.

¹⁰⁴ WE Dowds Shipping Ltd, statement of objections, 26 April.

4.6.5 To take this non-linearity into account, I consider the tenant-specific footprint of the Scheme. I find a high degree of variation in the effect of the Scheme on the Tenants. While some areas are affected largely permanently, others are affected largely temporarily, or hardly at all. Figure 4.2 presents the distribution of permanent and temporary land loss percentages for the individual Tenants (ordered from the north-west to the east of Newport, although some Tenants are situated in several place)

Figure 4.2 Permanent, temporary and no effect on land loss



Notes: See notes to Table 4.2. The figure also shows Newport City Council, which is not used in my further analysis.

Source: See sources to Table 4.2; own calculations based on the Land Reference Sheet and the Sibert Note.

4.6.6 As Figure 4.2 demonstrates, most Tenants in the north-western and north-eastern parts of Newport Docks are only partly affected by the Scheme. In contrast, most Tenants west and east of the junction cut are fully affected in the short term (the sum of the permanent and temporary loss). This is consistent with Figure 4.2 above.¹⁰⁵

4.6.7 Thus, the rental income loss associated with the Scheme may depend on the proportion of land taken in the area occupied by each Tenant:

- a) A Tenant whose area is affected only to a small degree might not be operationally restrained. Therefore, there would be no loss of rental income for Newport Docks associated with such a Tenant;
- b) A Tenant whose area is affected to a large degree by the Scheme might cease operations entirely. Therefore, Newport Docks would lose the entire rental income associated with such a Tenant.

4.6.8 The non-linearity should be seen as a sensitivity to test my previous findings. I do not take the view that ABP does lose all rental income if all Tenants are affected to a large degree individually. The non-linearity may also be able to capture some of the operational restraints that some of ABP's Tenants say they will face should the Scheme be constructed. I discuss this in greater detail in Appendix A3.

4.6.9 To account for such a non-linear impact, I define three levels of impact, as follows. In deriving these three levels I have used my own judgement but acknowledge that the thresholds are abstract.

- a) Low impact. I assume that if the percentage land loss for a given Tenant area is 5% or less, the Tenant is not restrained in its business. For example, Sims Group would suffer from a 0.6% temporary land loss. In such a case, the

¹⁰⁵ Since the distribution is in relative terms, it does not reveal anything about the importance of the plots.

business is likely to continue operations without the need for a reduction in scale. Accordingly, there is no rental income loss for that Tenant.

- b) Medium impact. I assume that if the percentage land loss for a given Tenant is higher than 5% but lower than 50%, the percentage rental income loss associated with the Tenant is proportionate to the percentage land loss—for example, Owens Road Services, with 23.9% land loss.
- c) High impact. I assume that if the percentage land loss for a given Tenant is 50% or more, the Tenant cannot reasonably use any remaining space and would relocate. For example, Reginald Roderick t/a A1 Skips would suffer from a 98.9% temporary and 86.8% permanent land loss. In such a case, the business is unlikely to continue operations at that site. Accordingly, there is full rental income loss for that Tenant.

4.6.10 Regarding the lower 5% threshold, it is possible that tenants would argue for a discount proportionate to their share of lost land. I assume this is not the case, although, equally, I also assume that a land loss above 50% would result in full loss of that plot. Nevertheless, adopting a proportionate discount even for land losses below 5% would not make a significant difference to my overall conclusion.

4.6.11 Based on the distribution of the impact of the Scheme over the Tenants (Figure 4.2 above) and the asymmetric impact of my assumed thresholds, I consider this approach to be conservative.

4.6.12 Table 4.5 provides a breakdown of Newport Docks' Tenants by the level of impact.

Table 4.5 Summary of impact levels on Newport Docks'**Tenants**

	Temporary		Permanent	
	Number	%	Number	%
High impact	14	58%	5	21%
Medium impact	8	33%	10	42%
Low impact	2	8%	9	38%
Total	24	100%	24	100%

Source: Own calculations based on the Land Reference Sheet and the Sibert Note.

4.7 Delay associated with replacing affected Tenants

4.7.1 Newport Docks may not be able to reach the pre-Scheme level of rental income immediately after the end of the temporary period (the bridge build time period). This may be due to not all land being returned to ABP immediately after the opening of the Scheme in 2021. In addition, this might be the case if, for example, Tenants affected by the Scheme with a temporary high impact:

- a) Choose to relocate to Newport Docks and may need additional time after the bridge build time to refill the land; or
- b) Relocate away from Newport Docks entirely, and ABP may need additional time to find new Tenants.¹⁰⁶

4.7.2 This delay in replacing affected Tenants may have an impact on Newport Docks' rental income following the end of the temporary period. In the absence of the necessary information, I assume the average time to regain lost Tenants to be three years (i.e. the time required to implement the Scheme) after the implementation of the Scheme. I consider this assumption to be conservative. Thus, whenever the temporary land loss of a Tenant is 50% or more, I will assume that the total Tenant area is lost for an additional three years

¹⁰⁶ For simplicity, I assume that the rent charged to these Tenants would be identical to the Tenants they are replacing.

before adopting the permanent land loss. Otherwise, if the temporary land loss is less than 50%, the intermediate scenario is equal to the permanent one. As a result, I consider an intermediate period in addition to the temporary and permanent periods outlined in section 4.4.

4.8 Rental income forecasts

4.8.1 In the absence of further information, I consider a range of assumptions (see Table 4.6) on each of the factors discussed above to arrive at upper and lower bounds on the rental income loss associated with the Scheme.

Table 4.6 Assumptions for my range of rental income losses

Assumption	Upper bound	Lower bound
Newport Docks' overall rentable land	Area currently rented to affected Tenants (at North Dock only)	Total area of Newport Docks
Non-linear impact of land loss	Non-linear impact with the assumed thresholds	No non-linear impact
Delay in replacing affected Tenants	Three years	No delay

4.8.2 Based on these upper- and lower-bound assumptions, I obtain temporary, intermediate and permanent rental income loss percentages (Table 4.7).

Table 4.7 Rental income loss percentages (%)

Period	Upper bound	Lower bound
Temporary	14.7	6.0
Intermediate	11.7	3.1
Permanent	7.9	3.1

Note: Since I do not consider any delay in the lower bound, the intermediate and permanent rental income losses are the same.

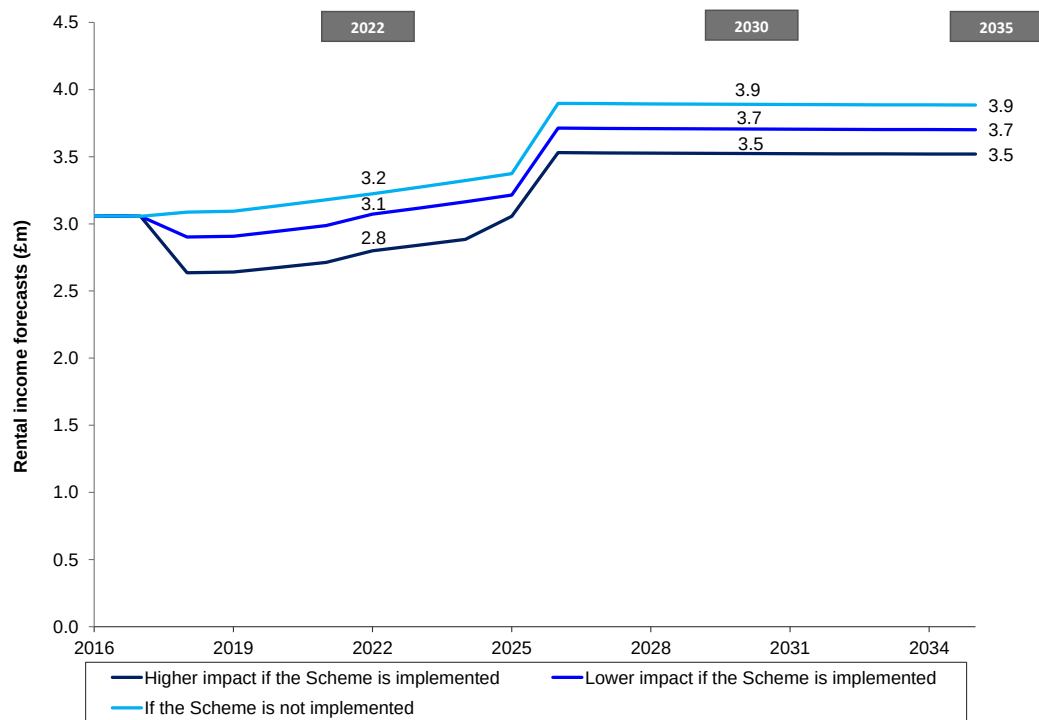
Source: Own calculations based on document the Land Reference Sheet and the Sibert Note.

- 4.8.3 For example, the temporary, upper-bound rental income loss of 14.7% is calculated as the temporary land loss of Tenants using the non-linear method divided by the rented land area.¹⁰⁷ The temporary, lower-bound rental income loss of 6.0% is calculated as the temporary land loss of Tenants using the linear method divided by the total land area (i.e. including ABP land).
- 4.8.4 Rental income at the port would be related to the cargo transiting through the docks either directly in contractual terms or indirectly through changes in the value of space to tenants. Therefore, to forecast Newport Docks' rental income in the scenario that the Scheme is implemented, I take into account the impact of the Scheme on Newport Docks' shipping forecasts made in section 3.6.¹⁰⁸ I do this separately with and without the analysis of alternative vessels and berth reallocation described in section 3.6.
- 4.8.5 I do not take into account any compensation payments as part of this calculation, although I note that such payments would offset the level of detriment. It is also important to recognise that rental loss is included in the definition of 'serious detriment' defined under the 1981 Act only to the extent that the land cannot be replaced.¹⁰⁹ Figure 4.3 illustrates my rental income forecasts under the two scenarios and compares them with the rental income forecast if the Scheme is not implemented.

¹⁰⁷ Alternatively, one could argue that the need for land for the provision of infrastructure at the Port of Newport means that any ABP land loss should also be taken into account because the loss of infrastructure land could have a proportional effect on the Port of Newport's capacity to make land available for Tenants. This can be modelled by calculating the maximum relative loss of rented land (relative to the total Tenant plot area, as above) and ABP land (relative to total ABP land at the Port of Newport). This approach to modelling would increase the detriment, as explain in section 6.

¹⁰⁸ Since the cargo forecasts are different in the scenario in which the Scheme is implemented, the real growth of rental income is also different. I also adjust for this when forecasting Newport's rental income in the scenario where the Scheme is implemented.

¹⁰⁹ In the short and medium term, ABP's plans to develop the site implies a degree of spare land.

Figure 4.3 Rental income under the two scenarios (£m)

Source: Own calculations based on document the Land Reference Sheet and the Sibert Note.

5. Other impacts of the Scheme

5.1 Overview

5.1.1 In addition to the impacts on Newport Docks' shipping and rental incomes, other impacts of the Scheme on the port include:

- a) Time and financial benefits associated with the Scheme for Tenants of Newport Docks, which are subsequently passed on to ABP in the form of higher rent;
- b) Cost savings associated with the Scheme for Newport Docks.

5.1.2 In this section, I look at these impacts in turn.

5.2 Time and financial benefits of the Scheme

5.2.1 I understand from ABP that Newport Docks 'enjoys an excellent location...due to its proximity to the key delivery corridors of the M4 and M5'.¹¹⁰ Nevertheless, ABP also states that 'the benefit of this junction [i.e. the Scheme] is of no or limited value to the Port'.¹¹¹ I also understand that journey times for Tenants of Newport Docks would be reduced if the Scheme were implemented. In this case, it is appropriate to consider: (i) the time and financial benefits (collectively referred to as 'Betterments') that Tenants derive if the Scheme is implemented;¹¹² and (ii) the extent to which these benefits can be passed through to Newport Docks.¹¹³

5.2.2 The idea that new transport links can affect real estate markets is well established in economic literature. For example, a study found that three out of four evaluation studies looking at the impact of road

¹¹⁰ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', paragraph 4.33.

¹¹¹ ABP letter to the Welsh Government, 26 September 2016, paragraph 38.

¹¹² I understand that ABP has not considered this impact in its objection to the Scheme. See ABP letter to the Welsh Government, 23 December 2015.

¹¹³ Time and financial benefits can be passed through to the Port of Newport in the form of higher rents, fees and surcharges. I do not consider the precise nature of the pass-through, as my conclusions are not affected by this.

infrastructure on property prices showed positive effects, while the fourth found mixed results, driven by a depreciation of property prices in the area closest to the road.¹¹⁴ The study considers that ‘observations very close [to the road] often face the joint influences of accessibility and noise’ in the case of residential property. However, as an industrial site, Newport Docks is less likely to suffer from depreciation of prices due to noise. It would therefore be reasonable to expect that property prices and rents could increase at Newport Docks as a result of the Scheme being implemented.

- 5.2.3 I quantify these Betterments based on the DfT’s Web-based Transport Appraisal Guidance (WebTAG). Specifically:
- a) I calculate the time savings per journey, the distances, and the average speeds based on data provided to me by the Welsh Government;¹¹⁵
 - b) I calculate the monetary value of the associated time savings (based on the value of time), fuel savings (based on fuel costs and fuel consumption), and non-fuel operating costs (based on the distance).

5.2.4 Each step is discussed in turn below.

Step 1: Time savings per journey, distances, and average speeds

- 5.2.5 I understand that, in his Proof of Evidence, Mr Bryan Whittaker has described the travel times and distances for key routes to and from Newport Docks.¹¹⁶ **Error! Reference source not found.** to Table 5.5 below present these distance and journey times by route and direction of travel. The journey times are displayed for 2022 (with and without the Scheme) and 2037 (with and without the Scheme), and are split by the time periods AM (Morning Peak), IP (Inter Peak), and

¹¹⁴ What Works Centre for Local Economic Growth (2015), ‘Evidence Review 7: Transport’, July.

¹¹⁵ This includes Document M4CaN-DJV-HTR-ZG_GEN-FN-TR-0008 (which details journey times for important routes to and from the Port of Newport), and the Statement of Evidence of Mr Bryan Whittaker.

¹¹⁶ This includes Document M4CaN-DJV-HTR-ZG_GEN-FN-TR-0008 (which details journey times for important routes to and from the Port of Newport), and the Statement of Evidence of Mr Bryan Whittaker.

PM (Evening Peak).

Table 5.1 Routes to/from the A48(M) Junction 29a

Direction	Route	Distance (km)	Time period	2022		2037	
				Without the Scheme	With the Scheme	Without the Scheme	With the Scheme
Eastbound (to Docks)	Via Existing M4 J28 and A48 SDR	10.0	AM	11:02	10:52	11:58	11:25
			IP	09:41	10:03	10:00	10:22
			PM	10:42	10:37	12:06	11:12
	Via New M4 and Docks Way Junction	11.9	AM	n/a	09:39	n/a	09:54
			IP	n/a	09:20	n/a	09:39
			PM	n/a	09:33	n/a	09:47
Westbound (from Docks)	Via Existing M4 J28 and A48 SDR	9.7	AM	09:32	09:27	10:19	09:35
			IP	08:54	09:11	09:10	09:26
			PM	10:11	09:44	11:59	09:55
	Via New M4 and Docks Way Junction	11.9	AM	n/a	09:46	n/a	09:55
			IP	n/a	09:30	n/a	09:47
			PM	n/a	10:14	n/a	10:27

Source: M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

Table 5.2 Routes to/from the M4 West (M4 Junction 30)

Direction	Route	Distance (km)	Time period	2022		2037	
				Without the Scheme	With the Scheme	Without the Scheme	With the Scheme
Eastbound (to Docks)	Via Existing M4 J28 and A48 SDR	9.9	AM	10:47	10:35	11:58	11:23
			IP	09:33	09:53	09:52	10:11
			PM	10:29	10:24	12:02	11:07
	Via New M4 and Docks Way Junction	11.8	AM	n/a	09:17	n/a	09:46
			IP	n/a	09:08	n/a	09:25
			PM	n/a	09:14	n/a	09:36
Westbound (from Docks)	Via Existing M4 J28 and A48 SDR	9.9	AM	09:54	09:43	11:07	10:30
			IP	09:03	09:15	09:22	09:31
			PM	10:14	09:38	12:27	10:21
	Via New M4 and Docks Way Junction	12.1	AM	n/a	09:57	n/a	10:41
			IP	n/a	09:30	n/a	09:48
			PM	n/a	10:03	n/a	10:46

Source: M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

Table 5.3 Routes to/from the A449 north of Coldra

Direction	Route	Distance (km)	Time period	2022		2037	
				Without the Scheme	With the Scheme	Without the Scheme	With the Scheme
North-bound (from Docks)	Via J24 and A48 SDR	9.9	AM	13:06	12:13	16:41	13:34
			IP	12:43	12:01	14:01	12:43
			PM	13:29	12:31	17:43	14:02
South-bound (to Docks)	Via J24 and A48 SDR	9.9	AM	14:34	14:05	22:28	18:40
			IP	12:00	12:07	13:01	12:59
			PM	12:06	12:16	15:38	14:50

Source: M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

Table 5.4 Routes to/from the M48 J2

Direction	Route	Distance (km)	Time period	2022		2037	
				Without the Scheme	With the Scheme	Without the Scheme	With the Scheme
Eastbound (to Docks)	Via Existing M4 J24 and A48 SDR	27.8	A	24:52	24:10	28:58	26:09
			M				
			IP	24:06	23:33	25:42	24:31
	Via New M4 and Docks Way Junction	26.8	P	24:55	24:08	29:21	25:51
			M				
			IP	n/a	18:38	n/a	19:15
Westbound (from Docks)	Via Existing M4 J24 and A48 SDR	27.5	A	23:14	24:07	25:55	25:16
			M				
			IP	22:11	23:27	23:04	24:21
	Via New M4 and Docks Way Junction	27.1	P	23:00	23:51	25:36	25:11
			M				
			IP	n/a	19:11	n/a	19:42
			P	n/a	19:31	n/a	20:27
			M				
			IP				

Source: M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

Table 5.5 Routes to/from the M4 East (Toll Plaza of Second Severn Crossing)

Direction	Route	Distance (km)	Time period	2022		2037	
				Without the Scheme	With the Scheme	Without the Scheme	With the Scheme
Eastbound (to Docks)	Via Existing M4 J24 and A48 SDR	19.4	AM	20:31	21:00	24:44	22:37
			IP	19:41	20:14	21:25	21:08
			PM	20:23	20:39	24:53	22:26
	Via New M4 and Docks Way Junction	18.4	AM	n/a	13:54	n/a	14:35
			IP	n/a	13:53	n/a	14:24
			PM	n/a	13:57	n/a	14:29
Westbound (from Docks)	Via Existing M4 J24 and A48 SDR	19.1	AM	18:34	18:12	21:18	19:19
			IP	17:28	17:48	18:24	18:34
			PM	18:07	18:26	20:46	19:27
	Via New M4 and Docks Way Junction	18.6	AM	n/a	14:10	n/a	14:42
			IP	n/a	13:45	n/a	14:08
			PM	n/a	14:11	n/a	14:48

Source: M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

- 5.2.6 I estimate the time savings for a given route as being the difference between the journey time on the route without the Scheme and the journey time via the new M4 with the Scheme. I interpret the difference in journey time as a time saving. As an example, the time saving for eastbound traffic from M4 Junction 30 in the Morning Peak (**Error! Reference source not found.**) is 1 minute 23 seconds per journey, as the difference between 11 minutes 02 seconds (via the old route) and 9 minutes 39 seconds (via the new M4).
- 5.2.7 I use this approach to estimate the time savings for routes, time periods, and the years 2022 and 2037. In doing so, I assume that the fastest route is always chosen if the Scheme is implemented—i.e. all traffic will always choose the new M4 route.¹¹⁷
- 5.2.8 To arrive at a profile of the average time savings associated with the Scheme:
- a) I assume that: (i) there would be no time savings before 2022; (ii) time savings would follow a linear path between 2022 and 2037; and (iii) time savings would remain at the 2037 level going forward. In the absence of further information, I consider this assumption to be appropriate;
 - b) I average the time savings for each route, weighted by the 2014 traffic on each route.¹¹⁸ This puts most weight on the North/South routes to the Midlands (Table 5.3), which is consistent with ABP's view that 'much of the road traffic generated by the Port travels on a north/south axis to the English Midlands (hence, not using the new M4 route) rather than on an east/west axis'.¹¹⁹ However, ABP's Tenants do benefit from the North/South routes as well (see Table 5.3 above) because to get to the Midlands they

¹¹⁷ I take other features, such as driving distance and average velocity, into account separately, which will have an effect on fuel costs and non-fuel operating costs.

¹¹⁸ I use the distribution of two-way heavy goods vehicle traffic to and from Newport Docks for 2014 for the routes described in Tables 5.1–5.5, using data provided by the Welsh Government. See M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

¹¹⁹ ABP letter to Welsh Government, 26 September 2016, paragraph 38.

would need to take M4 first.

5.2.9 I use the same weights to calculate the weighted average distances and speeds with and without the Scheme for both 2022 and 2037.

Table 5.6 presents my weighted average estimates of time savings, distances and speeds.

Table 5.6 Weighted average time savings, distances and speeds

	Time savings (mm:ss)	Distance (km)	Speed (km/hr)
2022			
Without the Scheme		10.5	49.1
With the Scheme	00:54	11.0	56.1
2037			
Without the Scheme		10.5	40.9
With the Scheme	02:21	11.0	51.2

Note: The weighted average distances with and without the Scheme do not vary with time.

Source: Own calculations, based on M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

Step 2: Monetary value of savings

5.2.10 In the second step, I monetise the savings in time, fuel and non-fuel operating costs. I discuss my approach to each in turn.

Monetising time savings

5.2.11 I monetise the time savings associated with the Scheme using literature on the value of time (VoT), a measurement of users' willingness to pay for working travel time savings.¹²⁰

5.2.12 Specifically, I estimate the value of time savings as the product of: (i) the weighted average time saving for each user (estimated in step 1); (ii) the number of users benefiting from time savings; and (iii) the value of the users' time.

5.2.13 For simplicity, I monetise the time savings only for vehicles that are used to transport cargo to/from Newport Docks (cargo vehicles).¹²¹ However, I note that, since non-cargo vehicles used by Tenants of Newport Docks would also benefit from these time savings, my estimate of Betterments is conservative.

5.2.14 I forecast the number of cargo vehicles benefiting from the Scheme based on:

- a) The forecast cargo handled at Newport Docks.¹²² I take my total forecasts from section 3.3—i.e. I do not distinguish by commodity;
- b) The share of this cargo that is likely to be transported via the new M4. I estimate this based on: (i) the M4's share of overall cargo vehicle traffic to and from Newport Docks (45%);¹²³ and (ii) roads' share of cargo transport from major

¹²⁰ Department for Transport (2014), 'Values of Time and Vehicle Operating Costs. TAG Unit 3.5.6', Transport Analysis Guidance (TAG), January.

¹²¹ Specifically, Light Goods Vehicles, Other Goods Vehicle category 1, and Other Goods Vehicles category 2, based on the DfT's categorisation. See Department for Transport (2004), 'The COBA Manual Part 4', 27 August.

¹²² Assuming no berth reallocation or alternative vessels. The benefits are proportionate to the volume of cargo and would therefore be greater in the alternative shipping scenario with substitute vessels and berth reallocation. As the amount of difference will not be significant, I have proceeded using the conservative scenario.

¹²³ I use the distribution of two-way heavy goods vehicle traffic to and from Newport Docks for 2014 for the routes described in Tables 5.1–5.5, using data provided by the Welsh Government. See M4CaN-DJV-HTR-ZG_GEN-FN-TR-0011.

container ports in the UK.¹²⁴ I assume that cargo that is not transported by rail is transported by road. Rail market share based on tonnes at these ports was 19% in 2011 and is expected to reach 46% in 2033. I consider the growth in rail market share to be linear between 2011 and 2033, and that it can be extrapolated out to 2035;

- c) The average cargo transported by each cargo vehicle. I estimate this to be 21.1 tonnes, as the maximum cargo tonnage by vehicle multiplied by the loading factor. I compute the maximum cargo tonnage by vehicle as the average of the maximum allowed weight for the various vehicle categories I consider, weighted by the number of heavy goods vehicles of each category on segments of the existing M4 affected by the Scheme.¹²⁵ I use the 2014 loading factor for heavy goods vehicles published by the DfT.¹²⁶ The loading factor is the ratio of actual goods moved to the maximum tonne-km achievable if the vehicles, whenever loaded, were loaded to their maximum carrying capacity.

5.2.15 I consider my estimate of the share of cargo transported via the new M4 to be conservative as Network Rail does not identify Newport Docks as a port that has, or is forecast to have, significant intermodal rail traffic. I note that the average cargo transported by each cargo vehicle may be different from the maximum allowed weight. However, in the absence of further information, I consider this approach to be appropriate.

¹²⁴ Network Rail (2013), 'Long Term Planning Process: Freight Market Study', October, p. 32. Major container ports are defined as those that have, or are forecast to have, significant intermodal rail traffic. These are Bathside Bay, Bristol, Felixstowe, Grangemouth, Liverpool, London Gateway, Thamesport, Teesport, Tilbury and Southampton.

¹²⁵ I estimate this share using Traffic Counts data from the DfT. This share is assumed to be constant. In particular, because I do not distinguish the cargo forecast by commodity, it means that I do not forecast a varying lorry type share over time as a simplifying assumption.

¹²⁶ I use data from table RFS0117 of the DfT's Road Freight Statistics, <https://www.gov.uk/government/statistical-data-sets/rfs01-goods-lifted-and-distance-hauled>, accessed 9 January 2017.

5.2.16 Finally, I use annual VoT estimates (in £ per hour) from WebTAG Table A1.3.2 between 2022 and 2035.¹²⁷ A product of the time savings, the forecast number of cargo vehicles at Newport Docks, and their average VoT yields a profile of total time savings for Tenants.

5.2.17 For completeness, I also note some deviations of my assumptions and analysis to the Proof of Evidence from Mr Stephen Bussell of Arup.¹²⁸

Monetising fuel cost savings

5.2.18 I estimate the fuel cost savings associated with the Scheme as the product of: (i) the difference in the average fuel consumption for cargo vehicles using the Scheme; (ii) the forecast fuel price for these cargo vehicles; and (iii) the number of cargo vehicles benefiting from these fuel cost savings. Specifically:

- a) I calculate fuel consumption for existing routes and the new M4 routes separately based on the diesel parameters in WebTAG Table A1.3.11.¹²⁹ In doing so, I take into account the corresponding average speed rates;¹³⁰
- b) I forecast the fuel price for cargo vehicles based on the average diesel prices from WebTAG Table A1.3.7;
- c) I use the number of cargo vehicles benefiting from the Scheme as forecast above.

5.2.19 Multiplying the difference in the average fuel consumption, the price of fuel, and the number of cargo vehicles benefiting from the Scheme

¹²⁷ WebTAG Table A1.3.2 provides separate VoT estimates for 'Light Goods Vehicles' (LGVs) and 'Other Goods Vehicles' (OGVs). I calculate a weighted average VoT estimate using the DfT Traffic Counts data.

¹²⁸ I use ABP's WACC as the discount rate rather than a social time preference rate. I discount to the year 2016 and not to the standard transport appraisal base year 2010. I take into account benefits according to the Gordon Growth Model (explained in section 6, consistent with my other analyses) rather than adopting a standard 60-year appraisal period running until 2081. I adopt some simplifying assumptions: I deviate from WebTAG Table A1.3.4 by weighting the periods AM, IP, PM equally. I do not calculate any market price values of time per vehicle (WebTAG Tables A1.3.5 and A1.3.6). Finally, I do not calculate any benefits or disbenefits arising from the construction and maintenance of the M4, the possible change in the number of accidents, greenhouse gas emissions and wider impacts.

¹²⁹ WebTAG Table A1.3.11 provides separate parameters for OGVs (OGV1 and OGV2). I calculate a weighted average fuel consumption using the DfT Traffic Counts data.

¹³⁰ I do not consider the distribution of speed or any applicable constraints on maximum speed.

yields a profile of total fuel cost savings for Tenants.

Monetising non-fuel operating costs savings

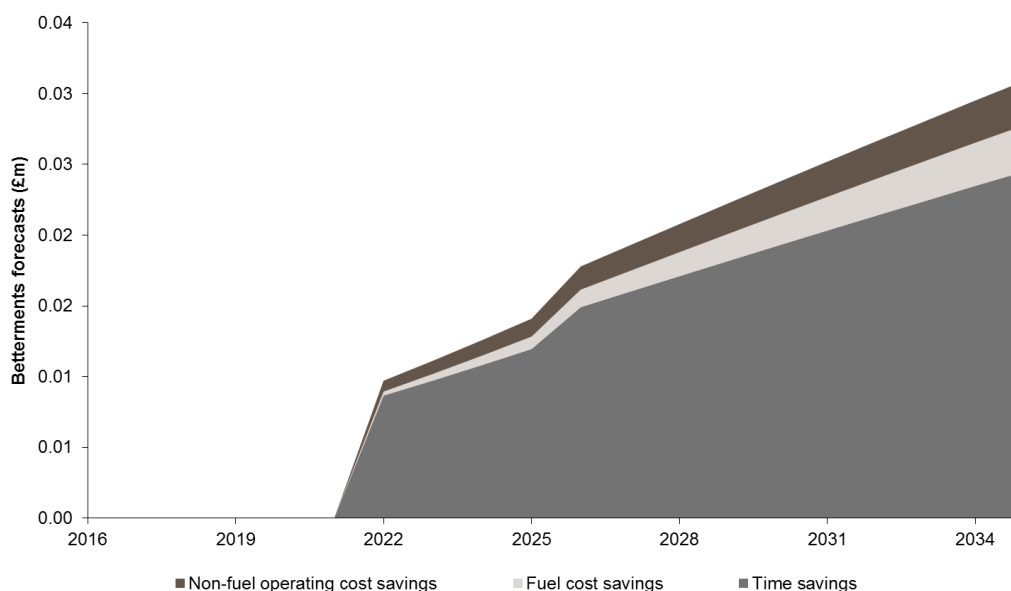
5.2.20 Non-fuel operating costs include oil, tyres, maintenance, depreciation and vehicle capital savings. I estimate the savings associated with the Scheme as the difference in the non-fuel operating costs under the scenarios with and without the Scheme. I estimate the non-fuel operating costs under each scenario based on:

- a) Vehicle operating cost parameters from WebTAG Table A1.3.14;
- b) Average speeds and distances for the given scenario (estimated in step 1).

5.3 Overall Betterments to Tenants at Newport Docks

5.3.21 I estimate the total Betterments to Tenants at Newport Docks as the sum of the time, fuel cost and non-fuel cost savings estimated separately above (see Figure 5.1).

Figure 5.1 Overall Betterments to Tenants at Newport Docks



Source: Own calculations.

5.3.22 The extent to which these Betterments are passed through to Newport Docks depends on the relative bargaining position of ABP and its Tenants. I have not been provided with sufficient information to assess their relative bargaining strengths. In the absence of further information, I assume that 50% of the Betterments estimated above are passed through to Newport Docks by its Tenants. I consider this a conservative approach since other benefits associated with time savings could allow ABP to increase its bargaining power and therefore the pass-on. Demand for land at the port is likely to increase as a result of improved accessibility of the area. Scarcity of land would then allow ABP to increase its rental income.¹³¹

5.4 Cost savings for Newport Docks

5.4.1 The Scheme may result in a reduction in activity at Newport Docks, as: (i) some vessels are impeded from visiting the North Dock; and (ii) some Tenants may relocate away from Newport Docks entirely. In such a case, I consider it appropriate to consider the Scheme's impact on Newport Docks' operating expenditure (OPEX) and capital expenditure (CAPEX). I discuss each in turn.

Operating expenditure

5.4.2 I estimate a profile of OPEX savings for Newport Docks as being the difference between Newport Docks' OPEX under the two scenarios: one in which the Scheme is implemented; and one in which it is not implemented.

5.4.3 I have not been provided with data on Newport Docks' OPEX. In the absence of further information, I assume that Newport Docks' cost-to-revenue ratio is equal to the ABP group's cost-to-revenue ratio. Therefore, I can compute Newport Docks' OPEX by applying ABP's

¹³¹ The new junction on the M49 at Avonmouth near Bristol is expected to attract new economic activity and benefit the Enterprise Area nearby. See <http://roads.highways.gov.uk/projects/m49-avonmouth-junction/>, accessed 16 December 2016. Local newspapers also mention an increase in demand for land around the new junction. See Commercial news media (2014), 'Demand for land rockets at Rockingham Park in Avonmouth', July 1, <http://www.commercialnewsmedia.com/archives/26875>, accessed 16 December 2016.

operating cost-to-revenue ratio to Newport Docks' revenue.

Accordingly, to estimate Newport Docks' OPEX under the two scenarios, I:

- a) calculate ABP's group cost-to-revenue ratio based on publicly available information;¹³²
- b) apply this ratio to my estimates of Newport Docks' shipping and rental income under the two scenarios.

5.4.4 In the absence of any Port of Newport-specific data, I consider this approach to be appropriate.

Capital expenditure

5.4.5 As with OPEX savings, I estimate a profile of CAPEX savings for Newport Docks as being the difference between its CAPEX under the two scenarios.

5.4.6 I understand from ABP's draft Master Plan that it undertook CAPEX equal to £19.2m at Newport Docks in 2014 and 2015.¹³³ Based on my review of ABP's Master Plan 2016 (consultation draft),¹³⁴ I find that:

- a) ABP undertook consistent investment into the redevelopment of the Atlantic Shed, quay-strengthening works, and the refurbishment of quayside cranes. Thus, I consider this investment to be required to maintain existing assets at Newport Docks (maintenance CAPEX). This investment accounts for £5.4m of the CAPEX.
- b) ABP undertook one-time investment or investment into new assets at Newport Docks (enhancement CAPEX). This includes investment into new warehousing facilities for agri-bulk cargo, renewable energy projects, new mobile harbour cranes, and a new rail bridge within Newport Docks. This

¹³² Specifically, I consider the Annual Reports for ABP for the years 1986–2015.

¹³³ Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035', paragraph 5.3.

¹³⁴ Associated British Ports (2010), 'Preliminary Draft Master Plan - Port of Newport', pp. 28–29, 35–36.

investment accounts for £13.8m of the CAPEX.

5.4.7 To estimate Newport Docks' maintenance CAPEX under the two scenarios, I inflate the historical annual maintenance CAPEX at Newport Docks (£2.7m) by:¹³⁵

- a) Consumer Price Index forecasts. This captures the 'nominal' change in maintenance CAPEX as a result of changes in the general price level of the economy; and
- b) the growth rate in cargo handled at Newport Docks (estimated in section 3.3). This captures the 'real' change in maintenance CAPEX as a result of the change in the level of activity at Newport Docks.

5.4.8 I have not been provided with sufficient information to enable me to make an accurate forecast of future enhancement CAPEX for Newport Docks. To do this, I would need to make assumptions about (i) the total amount of future enhancement CAPEX; (ii) the profile of this investment over time; (iii) the life of the new assets; and (iv) the impact these investments would have on future revenues and costs at the port. Therefore, I have not considered enhancement CAPEX explicitly in my financial projections. However, this does not mean that I have assumed that no enhancement CAPEX will be undertaken. My analysis instead assumes that any enhancement CAPEX undertaken generates a return to Newport Docks exactly equal to the WACC, thereby generating a net present value of zero. Taking this approach means that my estimate of the detriment is not sensitive to any assumption I make about the absolute level of enhancement CAPEX.

5.4.9 I consider this approach to be appropriate. This is because the level of any future enhancement CAPEX is highly uncertain and the returns generated by any such investment are also uncertain. An enhancement will generally be undertaken if it is expected that it will generate a return equal to or in excess of the WACC for the project,

¹³⁵ £2.7m = £5.4m/2.

or is required in order to meet a regulatory requirement (e.g. safety or environmental legislation). Given that insufficient information is available to me to support an assumption about returns on enhancement CAPEX different from the WACC, and any such assumption would increase the sensitivity of my estimate of the detriment to my assumption around the absolute level of enhancement CAPEX, I consider the most appropriate assumption to make is that the returns on enhancement CAPEX are exactly equal to the WACC (the threshold beyond which an enhancement would be considered commercial).

5.4.10 Therefore, based on my assumptions, the impact of future enhancement CAPEX on my estimate of the present value of the detriment caused to Newport Docks is zero, regardless of any assumption I make about the absolute level of future enhancement CAPEX.

6. Detriment to ABP's undertakings at Newport docks

6.1 Overview

6.1.1 In this section, I evaluate the overall detriment caused to Newport Docks as a result of the impact of the Scheme on Newport Docks': (i) shipping revenues; (ii) rental income; and (iii) OPEX and CAPEX; and iv) any Betterments passed on to ABP.

6.1.2 It is good practice first to sense-check the estimated base-year revenues from shipping (£9.3m) and rent (£3.0m). Newport Docks' rental income share appears relatively high but can be justifiable given the port's high acreage. The estimated shipping income depends on the accuracy of tariff and fee schedules (underestimation if missing tariffs; overestimation if double-counting) and the extent of any bespoke contractual arrangements in place that might allow for a discounted fee (overestimation), among others. Under the assumption that all income was generated from shipping, I can calculate an alternative total income measure of £10.2m by multiplying Newport Docks' tonnage share of all ABP UK tonnage (1.85m tonnes divided by 94.5m tonnes), 2.0%, by ABP UK total

income (£519.1m).¹³⁶ This top-down approach is less than £9.3m+£3.0m=£12.3m and shows that my main approach is conservative.

6.1.3 To calculate the overall detriment, I employ a discounted-cash-flow (DCF) analysis to estimate the present value of Newport Docks under the two scenarios. The difference between the two present values represents my estimate of the total detriment caused to Newport Docks.

6.1.4 In this section, I present in turn:

- a) An overview of the DCF approach;
- b) My estimate of Newport Docks' WACC;
- c) My estimate of Newport Docks' terminal value;
- d) My estimates of Newport Docks' net present value under the two scenarios, and the amount of detriment.

6.2 My estimate of Newport Docks' terminal value

6.2.1 I am able to forecast Newport Docks' cash flow over an explicit horizon, until 2035. I estimate its terminal value¹³⁷ to capture the value of the business beyond the projection period.

6.2.2 I use the Gordon Growth Model to estimate Newport Docks' terminal value. This frequently employed method relies on the assumption that the firm being valued has reached steady state beyond the forecast period.¹³⁸ Hence, all future cash flows beyond the forecast period would, on average, grow at the steady state rate of growth (the 'terminal' growth rate).

¹³⁶ £519.1m and 94.5m tonnes from ABP investor report 2014. 1.85m tonnes from Associated British Ports (2016), 'The Port of Newport Draft Consultation Master Plan 2015–2035'. All numbers in 2014.

¹³⁷ The value of a firm beyond the forecast horizon, where projections of its cash flows would be too arbitrary to be reliable. The terminal value represents all future cash flows that the firm is expected to generate or the value of the firm if it is sold.

¹³⁸ Damodaran, A. (2002), *Investment valuation*, John Wiley & Sons, p. 323.

- 6.2.3 In Newport Docks' case, I consider the appropriate terminal growth rate of future cash flows to be 2.18%,¹³⁹ based on:
- a) The long-term inflation in the UK of 2.00%.¹⁴⁰ This captures the 'nominal' change in cash flows as a result of changes in the general price level of the economy;
 - b) The terminal growth rate in cargo handled at Newport Docks (estimated in section 3.3) of 0.18% This captures the 'real' change in cash flows as a result of the change in the level of activity at Newport Docks.

6.3 Overview of the DCF approach

- 6.3.1 As described above, I estimate the present value of the detriment as the difference between the present value of Newport Docks under the two scenarios. This requires estimating its present value based on the impacts I discussed above.
- 6.3.2 The future impacts of the Scheme on Newport Docks' shipping and rental revenues are distributed over time. To assess the associated level of detriment caused to Newport Docks, it is important to estimate the total present value of these future impacts. A commonly used approach to conduct this valuation is the DCF approach. This estimates the value of a business at a given point in time (the valuation date) as the present value of all expected cash flows of the business in the future. Specifically, it involves discounting all future cash flows to the valuation date at an appropriate discount rate that reflects the riskiness of the expected future cash flows.
- 6.3.3 The approach relies on three key factors: (i) future cash flows over the forecast period (in my case, 2035); (ii) future cash flows beyond the forecast period; and (iii) the appropriate discount rate.

¹³⁹ Calculated as: $2.18\% = ((1 + 2.00\%) \times (1 + 0.18\%)) - 1$.

¹⁴⁰ Based on forecasts by Oxford Economics, and the inflation target of the Bank of England.

6.3.4 I use the forecast made above to calculate the future cash flows over the forecast period.¹⁴¹ To estimate the value of all future cash flows beyond the forecast period, I use a terminal value. This value reflects the ongoing value of the business at the end of the forecast period as described in section 6.2.

6.3.5 The appropriate rate for discounting all future cash flows set out above depends on the rate of return required by those entitled to those cash flows. In turn this rate of return depends on:

- a) The time value of money—the concept that a given level of income is worth more today than at a future date;
- b) The riskiness of the cash flows—the concept that uncertain future cash flows are less valuable today than certain future cash flows.

6.3.6 I discount future cash flows at Newport Docks' WACC. The WACC of a firm being valued is a commonly used discount rate¹⁴² because it reflects both the time value of money and the risk of the future cash flows assumed by the investors in the firm.

6.4 **My estimate of Newport Docks' weighted average cost of capital**

6.4.1 The cost of capital is the rate of return required by investors to make a given investment rather than investing in other opportunities. It can also be interpreted as the cost at which a company can raise finance from its investors. The capital base of a company generally consists of two parts: debt and equity. Therefore, the cost of capital is often estimated as the average of the cost of debt and the cost of equity, weighted by the relative sizes of debt and equity in the firm's capital structure.

6.4.2 The cost of equity (CoE) captures the returns required by equity investors. I employ the capital asset pricing model (CAPM) to

¹⁴¹ See sections 4.4, 4.5, 5.2, 5.5, 6.1 and 6.2.

¹⁴² Tham, J. and Velez-Pareja, I. (2004), *Principles of Cash Flow Valuation*, Elsevier, p. 23.

estimate these returns. This model assumes that equity investors are compensated for assuming 'systematic' risks of investment in addition to a 'risk-free' return. Therefore, I estimate the CoE as:

Cost of equity = risk-free rate + beta × equity risk premium

where: (i) the risk-free rate represents the return on a risk-free asset; (ii) the equity risk premium reflects the additional return over the risk-free rate demanded by investors for investing in the entire market; and (iii) the beta measures the sensitivity of the returns of a specific company to the market.

- 6.4.3 The cost of debt represents the return required by debt investors. It is generally lower than the cost of equity since creditors are paid before equity investors and therefore face lower risk. I estimate the cost of debt as:

Cost of debt = risk-free rate + debt premium

where: (i) the risk-free rate is the same as in the cost of equity; and (ii) the debt premium represents the additional return required by investors to hold debt over risk-free assets. The debt premium is higher for companies that are considered by investors to be more risky.

- 6.4.4 To estimate individual parameters of Newport Docks' WACC, I consider market evidence on long-term inflation, the tax rate, equity risk premium, Newport Docks' gearing, its equity beta and its debt premium.¹⁴³ Table 6.1 summarises market evidence on Newport Docks' WACC.

¹⁴³ For further discussion, see Appendix A5.

Table 6.1 Evidence on Newport Docks' WACC

	Unit	
Inflation	%	2.0
Nominal risk-free rate	%	1.2–2.0
Gearing	%	11.8
Tax rate	%	20.0
Cost of equity		
Equity risk premium	%	5.0
Equity beta	n/a	0.50
Nominal post-tax cost of equity	%	3.7–4.4
Cost of debt		
Debt premium	%	1.4–1.9
Nominal post-tax cost of debt	%	2.1–3.1
Nominal post-tax cost of capital	%	3.5–4.3

Source: Own calculations based on sources cited in Appendix A5.

6.4.5 Based on this, I consider Newport Docks' WACC to lie in a range between 3.5% and 4.3%. Accordingly, I adopt a WACC of 3.9% as my central estimate.

6.5 My estimate of Newport Docks' present value and quantum of detriment

6.5.1 I estimate Newport Docks' present value based on my estimates of its future cash flows, terminal value and WACC, under both scenarios (see Table 6.2). As noted earlier, I estimated an upper and lower bound on rental income losses in the absence of sufficient information. Accordingly, I estimate an upper and a lower bound on Newport Docks' present value if the Scheme is implemented.¹⁴⁴

¹⁴⁴ Assuming no berth reallocation or alternative vessels.

Table 6.2 My estimate of Newport Docks' present value (£m)

If the Scheme is not implemented				
		Terminal growth rate (%)		
		2.0	2.2	2.5
WACC (%)	3.5	160.4	177.6	222.0
	3.9	127.2	137.1	160.3
	4.3	105.2	111.4	125.3
If the Scheme is implemented				
		Terminal growth rate (%)		
		2.0	2.2	2.5
WACC (%)	3.5	151.2–155.5	167.4–172.1	209.2–215.2
	3.9	119.9–123.3	129.2–132.9	151.1–155.4
	4.3	99.1–102.0	105.0–108.0	118.1–121.5

Source: Own calculations.

6.5.2 I estimate the quantum of detriment as the difference in the present value of Newport Docks under the two scenarios (see Table 6.3).

Table 6.3 My estimate of detriment to Newport Docks (£m)

		Terminal growth rate (%)		
		2.0	2.2	2.5
WACC (%)	3.5	4.9–9.2	5.5–10.2	6.8–12.8
	3.9	3.9–7.3	4.2–7.9	4.9–9.2
	4.3	3.2–6.1	3.4–6.4	3.8–7.2

Source: Own calculations.

6.5.3 As Table 6.3 outlines, I estimate the lower and upper bound of the detriment to Newport Docks to be £4.2m and £7.9m respectively, in my central case on Newport Docks' WACC and terminal growth. This translates to 3.1% and 5.8% of Newport Docks' present value. I consider two possible alternative assumptions independently:

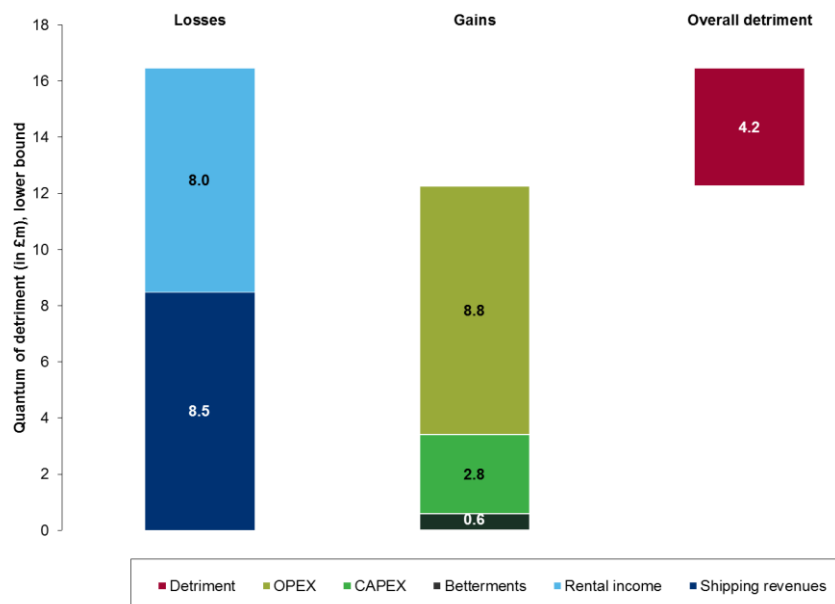
- a) To replace the detriment derived using the upper land loss by the land loss using the ABP's non-leasehold land loss (as a percentage of ABP's non-leasehold area) as described in footnote 106. This would increase the upper-bound detriment from £7.9m to £10.7m.

- b) To take into consideration the likely reallocation of vessels to the South Docks and use of alternative vessels using Mr Jonathan Vine's Proof of Evidence as described in 3.7.5. This would decrease the range of detriment to £2.2m to £6.0m.

6.5.4 Figure 6.1 presents the breakdown of the detriment to Newport Docks into the different impacts that I have identified for my analysis.

6.5.5 Figure 6.1 below illustrates the lower-bound estimate of the detriment to Newport Docks in the first scenario from the table above. The Scheme leads to a detriment due to loss in shipping revenue and rental income of £16.5m, and to gains from Betterments and cost savings of £12.3m. Overall, I estimate the lower bound of the net detriment to Newport Docks to be £4.2m.

Figure 6.1 Lower-bound estimate of the overall detriment to Newport Docks



Source: Own calculations.

6.5.6 Figure 6.2 illustrates the upper-bound estimate of the detriment to Newport Docks in the first scenario from the table above. The Scheme leads to a detriment due to loss in shipping revenue and rental income of £24.8m, and to gains from Betterments and cost savings of £16.9m. Overall, I estimate the lower upper bound of the net detriment to Newport Docks to be £7.9m.

Figure 6.2 Upper-bound estimate of the overall detriment to Newport Docks



Source: Own calculations.

6.5.7 The detriment calculation is useful to assess whether ABP will be able to provide port facilities at Newport with due regard to efficiency. Based on the Transport Act 1981, I understand that ABP has other duties such as having regard to the safety of operation and to the interest in general of its employees and the employees of its subsidiaries. My analysis does not provide the information required to assess ABP's ability to perform these duties if the Scheme is implemented. I understand that impacts on other activities at Newport Docks are being addressed by other witnesses including Mr Jonathan Vine (shipping), Mr Ben Sibert (port organisation and bridge design) and Mr Andy Clifton (explosives licence).

7. Conclusions

7.1 Conclusion

- 7.1.1 The term ‘serious detriment’ from the 1981 Act has not been clearly defined in case precedent and does not have an obvious economic definition. My Proof of Evidence therefore focuses on using the available information and reasonable assumptions, alongside economic tools to estimate the level of detriment. For this, I use forecast data up to 2035 and a growth model beyond. The detriment is valued in present terms and aggregated over time. Available information includes ABP’s Master Plan 2016, which describes future prospects for the port.
- 7.1.2 To deal with the uncertainty inherent in such an exercise, I have used the best available evidence to inform my assumptions. However, in cases where I consider there to be significant uncertainty over an input assumption, I consider a range of feasible values. In this way, I generate a range of estimates of the detriment. I have also conducted my assessment for a range of scenarios.
- 7.1.3 The upper bound of the range is based on combining several assumptions that would yield a higher estimate of detriment; the lower bound is based on combining assumptions that would yield lower estimates.
- 7.1.4 I have considered the impact of changes to shipping traffic to ABP drawing on Mr Jonathan Vine’s Proof of Evidence. On the basis of the impediment to historical vessel traffic, I find that the reduction in vessel traffic would lead to a total loss of revenue of up to £8.5m in present terms. Using Mr Vine’s assessment of the potential for alternative vessels under 5,000 DWT and substitution of traffic to the South Dock, the revenue loss from shipping would be negligible.
- 7.1.5 My analysis also suggests that the loss of land and associated rental income to ABP would result in a total loss of value equivalent to £8.0m–£16.4m in present-value terms.¹⁴⁵ I would note here that,

¹⁴⁵ Assuming no berth reallocation or alternative vessels. With berth reallocation and alternative vessels, the loss arising from the loss of land is lower—with a range of £5.5m–£14.0m.

under a CPO, ABP would receive a compensation payment in respect of the land loss which would offset the detriment estimated in my Proof of Evidence. My analysis also assumes that there is no spare land at the site, although the plans to develop currently unused sites as part of ABP's Draft Master Plan imply otherwise. Any losses that could be offset by relocations would fall outside the scope of 'serious detriment' under the 1981 Act. I have discussed this in more detail in section 4.

- 7.1.6 The time savings resulting from the Scheme would also result in Betterment for all undertakings at the port.¹⁴⁶ This would be expected to be reflected in an increase in Tenants' willingness to pay for land. I value the total Betterment at £0.6m in present-value terms.¹⁴⁷ I discussed this in more detail in section 5.2.
- 7.1.7 I also estimate that the reduced activity at the port would generate some cost savings for ABP. For this, I estimate a profile of OPEX and CAPEX savings. I value the total cost savings at £11.7m–£16.3m in present-value terms.¹⁴⁸ I have discussed this in more detail in section 5.4.
- 7.1.8 Overall, I estimate the lower and upper bound of the detriment to Newport Docks to be £4.2m and £7.9m respectively in my central case for Newport Docks' WACC, which translates into 3.1% and 5.8% of the port's present value.¹⁴⁹ I have discussed this in more detail in section 6.
- 7.1.9 With the alternative shipping scenario, including the use of alternative vessels and berth reallocation described in section 3.7, my estimate

¹⁴⁶ My analysis is based on Mr Whittaker's evidence. This includes Document M4CaN-DJV-HTR-ZG_GEN-FN-TR-0008 (which includes journey times for important routes to and from the Port of Newport), and the Statement of Evidence of Mr Bryan Whittaker.

¹⁴⁷ Assuming no berth reallocation or alternative vessels.

¹⁴⁸ Assuming no berth reallocation or alternative vessels.

¹⁴⁹ I derive this figure based on the implied value of the site, which arises from the DCF analysis described in section 6.2.

of the detriment would be £2.2m–£6.0m. This would be equivalent to 1.6–4.3% of the port's present value.¹⁵⁰

7.1.10 I do not have any legal insight into whether this level of detriment would be considered 'serious', but note that these estimates would represent a relatively small proportion of the value of the port.

7.1.11 I also understand that ABP and its Tenants would be entitled to statutory compensation, which would offset this figure further.

7.2 Statement of Truth

7.2.1 My Proof of Evidence includes all facts that I regard as being relevant to the opinions that I have expressed. The Public Local Inquiry's attention has been drawn to any matter that would affect the validity of those opinions.

7.2.2 I believe the facts that I have stated in this Proof of Evidence are true and that the opinions expressed are correct.

7.2.3 I understand my duty to the Public Local Inquiry to assist it with matters within my expertise and I believe that I have complied with that duty.

¹⁵⁰ This takes into account changes in other impacts such as rental losses and betterment resulting from the alternative shipping scenario.