APPENDIX B

SERVICE DESCRIPTION

CONTENTS

SO16048 Provision of Consultancy for Port Traffic Forecasts
Contract Ref: CCCC16AAG
Appendix B – Service Description

1. INTRODUCTION

1.1 The Department for Transport (DfT) works with its agencies and partners to plan, invest in and support the transport network to enable people and goods to travel around the country and internationally. Transport policy measures are developed based on a consideration of, among other things, their economic, social, and environmental impacts. The Department for Transport continually strives to ensure that our forecasts and forecast models are fit for purpose and has an ongoing programme of review and improvement to our modelling capability.

1.2 The National Policy Statement for Ports (NPS), February 2012, represents the Department's last published position on port freight forecasts. The NPS refers to forecasts of the demand for port capacity in the period up to 2030 by MDS Trans modal (MDST) which were published on behalf of the Department in 2006 and updated in 2007.

1.3 The NPS noted that the Government intended to commission updated forecasts and that those new forecasts could complement statements in the NPS on future port demand. In 2015 the Department for Transport commenced building its own forecasting model.

2. PURPOSE

2.1 The DfT is committed to evidence-based policy decisions. Economics, modelling and forecasts therefore play a pivotal role in decision making, and will be instrumental in establishing the evidence base for the future of the ports sector in the medium to long term. The purpose of this procurement is to seek external validation on the tools that make up the forecasting model.

2.2 In particular, the objectives of the project are two-fold:

2.2.1 To scrutinise the *process* through which the methodology for the forecasts is turned into a working tool, including quality assurance, to validate the Department's implementation of the approach;

2.2.2 To validate the *coding and programming* within the tool that the Department has built to ensure the tools produce the correct outputs.

2.3 The result of the project will aid the credibility of the forecasting model to the Department, HM Government, industry and the general public. It will also build consistency in the forecasting approach each time the port freight forecasts are updated.

2.4 This procurement is not intended to cast judgment on the forecasting methodology itself, since extensive development work has already been done to agree the methodology.

3. BACKGROUND TO REQUIREMENT

3.1 Since 2013, the Department for Transport has been developing a forecasting model that produces forecasts for demand at UK ports up to the year 2050. At the start of this project, the Department sought advice on a methodology for how the model should function, and what the key drivers are for each type of cargo that the Department

wishes to forecast. The Department contracted with a maritime management consultancy to review existing forecasts and specify the methodology for the forecasting model. A proposed methodology was submitted to the Department in late 2014, which was accepted.

3.2 In May 2015 the Department began work on building the forecasting tool, using the agreed methodology (discussed above). The model considers demand in fifteen cargo markets, brought together under four categories: passengers, unitised cargo (i.e. containers and roll-on, roll-off automotives), dry bulk (forestry products, iron and steel, coal, ores, agricultural products), and liquid bulks (crude oil, liquefied natural gas, oil products). Markets are subdivided further by examining domestic and international traffic separately, and again by inward and outward movement of goods (referred to as sub-markets).

3.3 In summary, the tool uses an Ordinary Least Squares approach, it estimates a linear relationship between port freight demand and associated factors (for instance, GDP).

3.3.1 The user applies transformations of the data, if desired, by taking natural logarithms or lags of the independent variables. The tool then runs OLS regressions using all the different combinations of independent variables. For instance, if one sub-market has four independent variables, the forecasting model produces 15 potential regression models.

3.3.2 For each regression estimation, the tool produces a series of statistical tests on that model which can be used to assess its performance.

3.3.3 The user then selects the preferred regression model.

3.3.4 Finally, the tool calculates the port freight demand forecasts by applying the chosen model to publicly available forecasts of the independent variables. This process is performed across each sub-market, and then aggregated into one single figure to represent total port demand for that cargo type.

3.4 The forecasting tool is written in a range of different software packages, including Microsoft Excel, Microsoft Access, Microsoft Visual Basic and R.

3.5 The Department is aiming to complete the building and quality assurance of the models by the 31st January 2016, with a view to publish the first forecasts in Spring 2016.

4. SCOPE OF REQUIREMENTS

4.1 The Department has nearly completed building the tool. Before using the tool to support creating the forecasts, the Department seeks external involvement in two areas:

4.1.1 Part One of the project is to validate the approach that the Department has taken to apply the methodology in creating the user tools. This is to ensure that the tool is working consistently with the methodology developed for the Department in late 2014.

4.1.2 Part Two of the project is to validate the coding within the tool such that the tool uses the correct data, applies the correct transformations, performs the correct tests and produces forecasts that are consistent with the methodology agreed in late 2014. This is to ensure the tool creates correct forecasts and no errors.

4.2 The key deliverable for each Part of the project are:

4.2.1 For Parts One and Two together, a short report in Microsoft Word format, covering the contractor's approach, any issues they found and recommendations for resolving the issues. (The contractor will not be responsible for resolving the issues themselves).

4.3 The final report and summary should be written to Plain English standards. A copy of the DfT's style guide, 'Writing publication - a style guide for DfT writers', is available on the DfT's website at https://www.gov.uk/guidance/content-design/writing-for-gov-uk. The contractor will be responsible for proofreading the final report.

4.4 The successful bidder will be provided with the following within 48 hours of award:

4.4.1 Methodology reports used to design the tools and modelling approach;

4.4.2 A full working copy of the tools and associated documentation.

4.5 All Intellectual Property Rights on materials collated and produced for this contract will be held by the contractor. However, paragraph 9.3 in Appendix C regarding licensing of the contractor's materials, shall apply.

4.6 As part of their tenders, bidders are required to demonstrate awareness of government guidance relating to appraisal and the Department for Transport's Analytical Assurance Framework wherever relevant and applicable. Relevant references include DfT's WebTAG guidance[1], DfT's analytical assurance guidance[2] and the quality assurance process underpinning the DfT Business Critical Analytical Model register. Innovative approaches are welcomed but where the approach is not compliant with this guidance contractors should indicate this and explain why there has been deviation.

4.7 The contractor will need to demonstrate the following mandatory requirements:

4.7.1 Knowledge and previous experience of validating forecasting models;

4.7.2 Advanced knowledge and application of econometric theory;

4.7.3 Advanced proficiency in the software packages MS Excel, Access, Visual Basic and R;

A desirable requirement for the contractor is knowledge of the maritime sector.

[1] https://www.gov.uk/guidance/transport-analysis-guidance-webtag

[2] https://www.gov.uk/government/publications/dft-analytical-assurance-framework-strength-in-numbers

5. SERVICE LEVELS AND PERFORMANCE

5.1 The Authority will measure the quality of the Supplier's delivery by:

5.1.1 The Plan as at the Effective Date is set out below:

Milestone	Deliverables	Milestone Date (Working Days)	Customer Responsibilities (if applicable)
	Project Initiation meeting	ASAP after tender award	Provide all necessary information
	Contractors submit draft report on Parts One and Two	10 days after receipt of all supporting documentation	Provide all necessary information
	Contractors submit final report on Parts One and Two	3 weeks after awarding	
Throughout the Plan, as per paragraph 5.6, the Contractors should maintain regular contact with DfT on progress against the Plan.			

5.1.2 If so required by the Customer, the Supplier shall produce a further version of the Plan (based on the above plan) in such further detail as the Customer may reasonably require. The Supplier shall ensure that each version of the Implementation Plan is subject to approval. The Supplier shall ensure that the Implementation Plan is maintained and updated on a regular basis as may be necessary to reflect the then current state of the implementation of the Services.

5.1.3 The Customer shall have the right to require the Supplier to include any reasonable changes or provisions in each version of the Implementation Plan.

5.1.4 The Supplier shall perform its obligations so as to achieve each Milestone by the Milestone Date.

5.1.5 Changes to the Milestones shall only be made in accordance with the variation procedure and provided that the Supplier shall not attempt to postpone any of the Milestones using the variation procedure or otherwise (except in the event of a Customer default which affects the Supplier's ability to achieve a Milestone by the relevant Milestone Date).

5.2 Contractors are expected to ensure and demonstrate that they have the expertise, capability and capacity to undertake this work as set out in Section 4. The team engaged on this project must be flexible, adaptable and responsive to changing circumstances, ensuring ample availability of personnel working on this project.

5.3 In order to meet the DfT timetable set out in paragraph 3.5, the completion dates in the table above are crucial to the success of the project.

5.4 Meetings will take place at the DfT's offices: Great Minster House, 33 Horseferry Road, London, SW1P 4DR.

5.5 The project should be completed by 25th April 2016. The DfT expects the project to proceed according to the timetable above (to be agreed at the Contract award and project initiation meeting). Contractors will be required to update the Contract Manager at least twice a week by email or phone on progress against the deliverables. The key deliverables and milestones for this project are set out in the table above.

6. LOCATION

6.1 The services will be carried out at the contractor's premises.

6.2 Some aspects of the project will require meetings at DfT's offices (address in paragraph 5.4); bids should be inclusive of all travel, subsistence and expenses.