



CONTRACT FOR SUPPLIER SERVICES

Section 1 - FORM OF CONTRACT

CONTRACT FOR: Programme Management Unit (PMU) for an Applied

Research Programme in High Volume Transport

(HVT)

PURCHASE ORDER NUMBER: PO7558

THIS CONTRACT is made

BETWEEN : The Secretary of State for International Development at the Department for

International Development, 22 Whitehall, Westminster, SW1A 2EG ("DFID");

AND : IMC Worldwide Ltd ("Supplier") whose principal place of business whose

registered office is situated at 64-68 London Road, Redhill, Surrey, RH1 1LG,

(together "the Parties").

WHEREAS:

A. DFID requires the Supplier to provide the services as defined in Section 3 (the "Services") to (the "Recipient") as defined in Section 3 Terms of Reference.; and

B. the Supplier has agreed to provide the Services on the terms and conditions set out in this Contract.

IT IS HEREBY AGREED as follows:

1. Documents

This Contract shall be comprised of the following documents:

Section 1	Form of Contract
Section 2	General Conditions
Section 3	Terms of Reference
Section 4	Special Conditions
Section 5	Schedule of Prices

This Contract constitutes the entire agreement between the Parties in respect of the Suppliers obligations and supersedes all previous communications between the Parties, other than as expressly provided for in Section 3 and/or Section 4.

2. Contract Signature

If the Original Form of Contract is not returned to the Contract Officer (as identified in Section 4) duly completed (including the applicable Purchase Order Number at the top of Section 1), and signed and dated on behalf of the Supplier within **15 working days** of the date of signature on behalf of DFID, DFID will be entitled, at its sole discretion, to declare this Contract void.

No payment will be made to the Supplier under this Contract until a copy of the Form of Contract, signed on behalf of the Supplier, is returned to the Contract Officer.





3. Commencement and Duration of the Services

The Supplier shall start the Services on 30th October 2017 (the "Start Date") and shall complete them 30th January 2023 (the "End Date") unless this Contract is terminated earlier in accordance with its terms and conditions.

4. Financial Limit

Payments under this Contract shall not, in any circumstances, exceed £15,854,913.43 exclusive of any government tax, if applicable (the "Financial Limit").

5. Time of the Essence

Time shall be of the essence as regards the performance by the Supplier of its obligations under this Contract.

For and on behalf of The Secretary of State for	Name:
International Development	Position:
	Signature:
	Date:
For and on behalf of	Name:
	Position:
	Signature:
	Date:

CB116 (March 2014)





Department for International Development (DFID)

Standard Terms and Conditions – Service Contracts

SECTION 2 - GENERAL CONDITIONS OF CONTRACT

Introduction

- 1. Definitions and Interpretation
- 2. Entire Agreement
- 3. Applicable Provisions and Financial Limit

Provision of services

- 4. Obligations of the Supplier
- Warranties
- 6. Personnel
- 7. Duty of Care
- 8. Sub-Contractors
- 9. Procurement of Equipment
- 10. Use of and Responsibility for Equipment
- 11. Monitoring of Contract Performance
- 12. Progress and Financial Reports
- 13. Re-Tendering and Handover

Payment

- 14. Fees
- 15. Expenses
- 16. Milestone Payments
- 17. Satisfactory Performance
- 18. Recovery of Sums due to DFID
- 19. Payments and Invoicing Instructions
- 20. United Kingdom Income Tax and National Insurance Contributions

Protection of Information

- 21. Intellectual Property Rights
- 22. Security Requirements
- 23. Malicious Software
- 24. Transparency
- Confidentiality
- 26. Official Secrets Acts
- 27. Disclosure of Information
- 28. Freedom of Information
- 29. DFID Data
- 30. Protection of Personal Data
- 31. Access and Audit

Compliance with Legal Obligations

- 32. Prevention of Fraud and Bribery
- 33. Anti-Terrorism Regulations
- 34. Discrimination
- 35. Tax Compliance

Liabilities

- 36. Limit of Liability
- 37. Indemnity
- 38. Insurance

Control of Contract

- 39. Variations
- 40. Assignment and Novation
- 41. Waiver

Default and Termination

- 42. Force Majeure
- 43. Suspension or Termination without Default of the Supplier
- 44. Suspension or Termination with Default of the Supplier

Dispute Resolution

45. Dispute Resolution

Law

46. Law and Jurisdiction

Compliance with Environmental Requirements

47. Environmental Requirements

Conflicts of Interest

48. Conflict of Interest

Retention of Rights

49. Consequences of Expiry or Termination

Schedule 1 Definitions

Appendix A Contract Amendment Letter

Appendix B Terms & Conditions Cross-reference (old reference linked to new)

Introduction

1. DEFINITIONS AND INTERPRETATION

- 1.1 In this Contract, unless otherwise provided or the context otherwise requires, capitalised expressions shall have the meanings set out in Schedule 1 (Definitions) or the meaning set out in the relevant Schedule in which that capitalised expression appears.
- 1.2 The interpretation and construction of the Contract shall be subject to the following provisions:
 - (a) clause headings shall not affect the interpretation of the Contract;
 - (b) a reference to any statute, enactment, order, regulation or similar instrument is a reference to it as in force from time to time taking account of any amendment or re-enactment;
 - a reference to a statute or statutory provision shall include any subordinate legislation made under that statute or statutory provision;
 - (d) references to a "person" includes a natural person and a corporate or unincorporated body;
 - (e) words in the singular shall include the plural and vice versa;
 - (f) a reference to one gender shall include a reference to the other genders; and
 - (g) where the context allows, references to clauses are to clauses in this Contract and references to Sections are the sections of this Contract.
- 1.3 In entering into this Contract DFID is acting as part of the Crown.

2. ENTIRE AGREEMENT

- 2.1 The Contract constitutes the entire agreement between the Parties relating to the subject matter of the Contract. The Contract supersedes all prior negotiations, representations and undertakings, whether written or oral, except that this Clause 2.1 shall not exclude liability in respect of any fraudulent misrepresentation.
- 2.2 If there is any conflict between the sections or other documents referred to in the Contract, the following order or precedence shall apply:
 - Section 1 Form of Agreement
 - Section 4 Special Conditions
 - Section 2 Standard Terms & Conditions
 - Section 3 Terms of Reference
 - Section 5 Schedule of Prices
- 2.3 Except as expressly provided in Clause 9 the Supplier is not the agent of DFID and has no authority to represent and shall not purport to represent or enter into any commitments on behalf of DFID in any respect.
- 2.4 Nothing in this Contract is intended to make nor shall it make DFID the employer of the Supplier or any of the Supplier's Personnel.
- 2.5 All communications by the Supplier relating to the Contract must be addressed to the DFID Contract Officer whose name and address are given in Section 4.

3. APPLICABLE PROVISIONS AND FINANCIAL LIMIT

- 3.1 Unless different provisions are substituted in Section 4, Clauses 3, 14, 15, 16, 17,18 and 19 inclusive shall apply in relation to price and payment.
- 3.2 The components which comprise the Financial Limit are set out in the Schedule of Prices, Section 5. No expenditure may be incurred in excess of the Financial Limit and no virements between components shown in the Schedule of Prices in Section 5 are permitted without the prior written authority of the Contract Officer.

Provision of services

4. OBLIGATIONS OF THE SUPPLIER

- 4.1 The Supplier shall perform all its obligations under this Contract (including the provision of the Services) with all necessary skill, diligence, efficiency and economy to satisfy generally accepted professional standards expected from experts.
- 4.2 If the Supplier is a joint venture or an Unincorporated Consortium then each of the joint venture or consortium partners shall bear joint and several liability where liability may arise in respect of the Supplier under this Contract.

5. WARRANTIES

- 5.1 The Supplier represents and warrants that:
 - (a) it is validly incorporated, organised and subsisting in accordance with the Laws of its place of incorporation;
 - (b) it has full capacity and authority to enter into and to perform this Contract;
 - (c) this Contract is executed by its duly authorised representative;
 - (d) it has all necessary consents and regulatory approvals to enter into this Contract;
 - (e) there are no actions, suits or proceedings or regulatory investigations before any court or administrative body or arbitration tribunal pending or, to its knowledge, threatened against it or any of its Affiliates that might affect its ability to perform its obligations under this Contract;
 - its execution, delivery and performance of its obligations under this Contract will not constitute a breach of any Law or obligation applicable to it and will not cause or result in a default under any agreement by which it is bound;
 - (g) its obligations under this Contract constitute its legal, valid and binding obligations, enforceable in accordance with their respective terms subject to applicable bankruptcy, reorganisation, insolvency, moratorium or similar Laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or law);
 - (h) all written statements and representations in any written submissions made by the Supplier as part of the procurement process, including without limitation its response to the PQQ and ITT (if applicable), its tender and any other documents submitted remain true and accurate except to the extent that such statements and representations have been superseded or varied by this Contract or to the extent that the Supplier has otherwise disclosed to DFID in writing prior to the date of this Contract;
 - (i) it has notified DFID in writing of any Occasions of Tax Non-Compliance and any litigation in which it is involved that is in connection with any Occasion of Tax Non-Compliance;
 - it has all necessary rights in and to the Licensed Software, the Third Party IPRs, the Supplier Background IPRs and any other materials made available by the Supplier (and/or any Sub-contractor) to DFID which are necessary for the performance of the Supplier's obligations under this Contract and/or the receipt of the Services by DFID;
 - (k) the Contract Inception Report is/will be a true and accurate reflection of the Costs and supplier profit margin forecast by the Supplier and the Supplier does not have any other internal financial model in relation to the Services inconsistent with the Financial Model;
 - (I) it is not subject to any contractual obligation, compliance with which is likely to have a material adverse effect on its ability to perform its obligations under this Contract;
 - (m) no proceedings or other steps have been taken and not discharged (nor, to the best of its knowledge, are threatened) for the winding up of the Supplier or for its dissolution or for the appointment of a receiver, administrative receiver, liquidator, manager, administrator or similar officer in relation to any of the Supplier's assets or revenue.
- The representations and warranties set out in Clause 5.1 shall be deemed to be repeated by the Supplier on the Commencement Date (if later than the date of signature of this Contract) by reference to the facts then existing.
- 5.3 The representations and warranties set out in this Clause 5 shall be construed as a separate representation and warranty and shall not be limited or restricted by reference to, or inference from, the terms of any other representation, warranty or any other undertaking in this Contract.

- 5.4 If at any time a Party becomes aware that a representation or warranty given by it under Clause 5.1 has been breached, is untrue or is misleading, it shall immediately notify the other Party of the relevant occurrence in sufficient detail to enable the other Party to make an accurate assessment of the situation.
- 5.5 The Supplier's system and assets used in the performance of the Services:
 - (a) will be free of all encumbrances [any exceptions must be agreed in writing with DFID];
 - (b) will be Euro Compliant.
- 5.6 The supplier shall at all times comply with Law and Regulations in carrying out its obligations under this Contract.
- 5.7 For the avoidance of doubt, the fact that any provision within this Contract is expressed as a warranty shall not preclude any right of termination which DFID may have in respect of breach of that provision by the Supplier.
- 5.8 Except as expressly stated in this Contract, all warranties and conditions whether express or implied by statute, common law or otherwise are hereby excluded to the extent permitted by Law.

6. PERSONNEL

- 6.1 All members of the Supplier's Personnel shall be appropriately qualified, regulatory approved, experienced and in a suitable physical condition so as to ensure that the Supplier complies with all the Supplier's obligations under this Contract.
- 6.2 No changes or substitutions may be made to members of the Supplier's Personnel identified as key personnel in Section 4 of this Contract without DFID's prior written consent.
- 6.3 If DFID considers any member of the Supplier's Personnel unsuitable, the Supplier shall substitute such member as quickly as reasonably possible with a replacement acceptable to DFID without direct or indirect charge to DFID and the supplier hereby agrees to full indemnify and hold DFID harmless against any claims of any kind that many arise with regard to the substitution of such Supplier Personnel considered to be unsuitable by DFID.
- The Supplier shall comply with the Staff Vetting Procedures in respect of all Supplier's Personnel employed or engaged in the provision of the Services. The Supplier confirms that all Supplier's Personnel employed or engaged by the Supplier at the agreed start date of this Contract were vetted and recruited on a basis that is equivalent to and no less strict than the Staff Vetting Procedures, as provided within DFID's Security Policy.

7. DUTY OF CARE

- 7.1 The Supplier owes a duty of care to the Supplier's Personnel and is responsible for the health, safety, security of life and property and general wellbeing of such persons and their property and this includes where the Supplier's Personnel carry out the Services.
- 7.2 The Supplier warrants that it has and will throughout the duration of the Contract:
 - (a) carry out the appropriate risk assessment with regard to its delivery of the Services;
 - (b) provide the Supplier's Personnel with adequate information, instruction, training and supervision;
 - (c) have appropriate emergency procedures in place to enable their provision of the Services so as to prevent damage to the Supplier's Personnel's health, safety, security of life and property and general wellbeing.
- 7.3 The provision of information of any kind whatsoever by DFID to the Supplier shall not in any respect relieve the Supplier from responsibility for its obligations under this Clause 7. The positive evaluation of the Supplier's proposal for the provision of the Services and the award of this Contract is not an endorsement by DFID of any arrangements which the Supplier has made for the health, safety, security of life and property and wellbeing of the Supplier's Personnel in relation to the provision of the Services.
- 7.4 The Supplier acknowledges that the DFID accepts no responsibility for the health, safety, security of life and property and general wellbeing of the Supplier's Personnel with regard to the Supplier's Personnel carrying out the Services under this Contract.
- 7.5 The Supplier shall indemnify and keep indemnified DFID in respect of:
 - (a) any loss, damage or claim, howsoever arising out of, or relating to any act, omission or negligence by the Supplier, the Supplier's Personnel in connection with the performance of the Contract;
 - (b) any claim, howsoever arising, by the Supplier's Personnel or any person employed or otherwise engaged by the Supplier, in connection with the performance of the Contract.

- 7.6 The Supplier will ensure that such insurance arrangements as are made to cover the Supplier's Personnel, or any person employed or otherwise engaged by the Supplier, and pursuant to the Suppliers duty of care as referred to in this Clause 7, are reasonable and prudent in all circumstances, including in respect of death, injury or disablement, and emergency medical expenses.
- 7.7 The costs of any insurance specifically taken out by the Supplier to support the performance of this Contract in relation to the Suppliers Duty of Care may be included as part of the management costs of the project, and must be separately identified in all financial reporting relating to the project.
- 7.8 Where DFID is providing any specific security arrangements for Suppliers in relation to the Contract, these will be as detailed in the Terms of Reference.
- 7.9 The Supplier shall provide training on a continuing basis for all Supplier Personnel, in compliance with the Security Policy and the security plan.

8. SUB-CONTRACTORS

- 8.1 The Supplier shall not sub-contract any of its obligations under this Contract without the prior written consent of DFID.
- 8.2 If, having obtained DFID's consent, the Supplier sub-contracts any of its obligations, the sub-contract shall:
 - (a) provide that payments due to the Sub-contractor shall be made not more than 30 days after submission to the Supplier of a valid invoice; and
 - (b) include rights for the Supplier and obligations on the Sub-contractor to ensure that DFID's rights to require replacement of personnel (as set out in Clause 6.3 (Personnel)) and DFID's rights and the Supplier's obligations (as detailed within this Contract) can be enforced against the Sub-contractor.
- 8.3 The Sub-contract shall also include a provision enabling DFID to have the ability to directly enforce the benefit of the sub-Contract under the Contracts (Rights of Third Parties) Act 1999, obligations in respect of security and secrecy, intellectual property and audit rights for the benefit of DFID corresponding to those placed on the Supplier, but with such variations as DFID reasonably considers necessary. The Supplier shall not include in any Sub-contract any provision the effect of which would be to limit the ability of the Sub-contractor to contract directly with DFID or a replacement provider of Services.

9. PROCUREMENT OF EQUIPMENT

- 9.1 Subject to Clause 9.4 all Equipment to be procured pursuant to this Contract and paid for by DFID shall be procured by a DFID registered procurement agent, acting as agent of DFID ("the Procurement Agent") or as agreed by DFID.
- 9.2 For the purpose of the appointment of a Procurement Agent and for this purpose only, the Supplier shall act as an agent of DFID.
- 9.3 The Supplier shall provide the Procurement Agent with sufficient details for the satisfactory procurement and delivery of Equipment and shall manage the Procurement Agent on DFID's behalf.
- 9.4 Where the total value of the Equipment is less than 50% of the Financial Limit or the current EU Threshold (£111,676), whichever is less the Supplier may, subject to DFID's prior written consent, procure such Equipment.
- 9.5 All procurement of Equipment shall:
 - (a) be undertaken in accordance with DFID's "corporate social and environmental responsibility information note" or such other procedures as may be agreed in writing by DFID;
 - (b) achieve "Value for Money" and be conducted in a fully transparent manner;
 - (c) be on the basis that the ownership in Equipment shall vest in DFID, and shall be so marked.
- 9.6 "Value for Money" shall mean procuring at the optimum combination of whole-life cost and quality to meet requirements.

10. USE OF AND RESPONSIBILITY FOR EQUIPMENT

- Equipment may only be used in providing the Services and shall be safely kept and maintained. Personal use of Equipment by the Supplier is not permitted unless DFID gives prior written consent.
- 10.2 The Supplier shall keep an up to date inventory of the Equipment its condition and location and make such inventory available to DFID immediately on request.

- Subject to Clause 10.4 the Supplier shall be responsible for all loss or damage to Equipment other than that caused by fair wear and tear. The Supplier shall notify DFID immediately the Supplier becomes aware of any loss of or damage to Equipment.
- 10.4 Except as required by law or circumstance, the Supplier shall not insure Equipment. DFID shall bear the risk in respect of loss or damage provided such loss or damage was not due to the Supplier's negligence and provided the Supplier obtains and pays to DFID such proper compensation as may be due from any third party in respect of such loss or damage to the Equipment.
- 10.5 The Supplier shall obtain DFID's instructions on the disposal of Equipment and comply with such instructions.

11. MONITORING OF CONTRACT PERFORMANCE

- 11.1 Prior to the Commencement Date DFID shall agree in consultation with the Supplier the arrangements for the purpose of monitoring by the Supplier of the performance of its obligations under this Contract.
- 11.2 These arrangements, as identified within Section 3 will include without limitation:
 - (a) regular meetings;
 - (b) the regular delivery of written management reports;
 - (c) monthly report on Key Performance Indicators.

12. PROGRESS & FINANCIAL REPORTS

Where progress and financial reports are to be submitted under the Contract, the Supplier shall render those reports at such time and in such form as may be specified by DFID or where not specified by DFID, as otherwise agreed between the Parties.

13. RE-TENDERING AND HANDOVER

- 13.1 Within 21 days of being so requested by DFID's Representative the Supplier shall provide:
 - (a) and thereafter keep updated and accessible to DFID, in a fully indexed and catalogued format, all the information reasonably
 necessary to enable DFID to issue tender documents for the future provision of the Services and for a third party to prepare an
 informed, non-qualified offer for those Services and not be disadvantaged in any procurement process compared to the Supplier
 (if the Supplier is invited to participate);
 - (b) a draft exit plan to be agreed with DFID that shall set out each Parties obligations in detail in order to ensure a smooth and efficient transfer of the Services to DFID for a Successor Supplier. The Parties shall review and update the exit plan annually and as soon as reasonably practicable in the event of a material change in any aspect of the Services which could reasonably be expected to impact upon the exit plan in order to ensure that the exit plan remains relevant.

Payment

14. FEES

Any fees payable by DFID for the Services under this Contract are deemed to cover the cost of salary, overseas inducements, leave allowances, bonuses, profit, taxes, insurances, superannuation, non-working days and all other costs including, but not limited to, clothing, passports, visas and vaccinations, overheads and expenses of whatsoever nature that may be incurred by the Supplier in the delivery of the Services except where otherwise specifically provided for in this Contract.

15. EXPENSES

- 15.1 Travel and living expenses will be paid at a rate consistent with the Schedule of Prices at Section 5. All journeys by rail or air will be made by a class of travel that is no more than "standard economy".
- 15.2 The budgets identified in Section 5 (Schedule of Prices) represent the maximum payment to the Supplier under this Contract. DFID reserves the right to ask for proof of purchase and refuse payment where this cannot be reasonably provided.

16. MILESTONE PAYMENTS

Where the Parties have agreed in the Schedule of Prices that the Services will be provided on a fixed price basis, then the fixed price shall be paid according to the schedule of prices as detailed in the Schedule of Prices which may relate to the achievement of specific predefined milestones, dates or acceptance and shall be inclusive of all Supplier costs.

17. SATISFACTORY PERFORMANCE

- Payments pursuant to clause 16.1 are subject to the satisfaction of the Project Officer in relation to the performance by the Supplier of its obligations under the Contract and to verification by the Project Officer that all prior payments made to the Supplier under this Contract were properly due.
- 17.2 If for any reason DFID is dissatisfied with the performance of this Contract, an appropriate sum may be withheld from any payment otherwise due to the Supplier. In such event DFID shall identify the particular element(s) of the Services with which it is dissatisfied together with the reasons for such dissatisfaction, and payment by DFID shall be made to the Supplier of the amount outstanding will be made upon remedy of any unsatisfactory work or resolution of outstanding queries.
- 17.3 Should DFID determine after paying for a particular part of the Services that this has not been completed satisfactorily, DFID may recover, or withhold from further payments, an amount not exceeding that previously charged for that part of the Service until the unsatisfactory part of the Service is remedied to its satisfaction.

18. RECOVERY OF SUMS DUE TO DFID

- 18.1 Wherever any sum of money is payable to DFID by the Supplier as a sum specifically ascertained under or in respect of the Contract (including any Key Performance Indicator related or other rebate or any sum which the Supplier is liable to pay to DFID in respect of any breach of this Contract), DFID may unilaterally deduct that sum from any sum then due or which at any later time becomes due to the Supplier under this Contract or under any other contract with DFID or with any other department, office or agency of the Crown.
- DFID shall give at least 21 days' notice to the Supplier of its intention to make a deduction under Clause 18.1, giving particulars of the sum to be recovered and the contract under which the payment arises from which the deduction is to be made.
- Any overpayment by DFID to the Supplier, whether of the Contract Price or of Value Added Tax, shall be a sum of money recoverable from the Supplier.
- 18.4 The rights of the Parties in respect of set-off are fully set out in this Clause 18 and no other right relating to set-off shall be implied as a term of the Contract.

19. PAYMENTS & INVOICING INSTRUCTIONS

- Subject to DFID being satisfied that the Supplier is or has been carrying out their duties, obligations and responsibilities under this Contract, sums duly approved by DFID shall be paid within 30 days of receipt of a valid invoice.
- 19.2 Payment shall be made in sterling in the UK. Expenses (if any) arising in foreign currency shall be reimbursed at the exchange rate stated in OANDA (www.oanda.com) on the Friday immediately preceding the date on which the purchase was made or services acquired by the Supplier or, if this took place on a Friday, at the rate so stated on that day.
- 19.3 Unless otherwise expressly provided in Section 4 (Special Conditions) or Section 5 (Schedule of Prices), invoices should be submitted electronically, monthly in arrears to the Accounts Payable Section, DFID Financial Management Group e-invoicing@dfid.gov.uk, and in accordance with this clause 19.
- 19.4 DFID shall unless otherwise expressly provided in Section 4 (Special Conditions) make payments due by direct credit through the UK Bank Clearing Systems (BACS). All invoices must contain details of the bank account to which payments are to be made.
- 19.5 The Supplier shall submit an original invoice to DFID as indicated in Section 5: Schedule of Prices, in respect of the Services provided by the Supplier. Each invoice shall contain all appropriate references, a detailed breakdown of the Services and the appropriate Prices or Rates and shall be supported by any other documentation required by DFID's Representative to substantiate the invoice.
- 19.6 All invoices should correspond with the budget lines identified in the Schedule of Prices in Section 5 of this Contract.
- 19.7 DFID may request proof of purchase in respect of any item and shall be entitled to refuse to meet a claim if this cannot be provided.
- 19.8 The final invoice presented by the Supplier in connection with this Contract should be endorsed "Final Invoice".
- 19.9 Any invoice not presented in accordance with this clause 19 may be rejected by DFID and in any event shall be liable to query and delay in payment. DFID reserves the right to not pay any amount due in respect of an invoice received by DFID more than 90 days after the day of the Supplier becoming entitled to invoice for the payment to which it relates.

Version 2.0 March 2015 OFFICIAL Page **10** of **31**

20. UNITED KINGDOM INCOME TAX AND NATIONAL INSURANCE CONTRIBUTIONS

- Where the Supplier or any Supplier Personnel are liable to be taxed in the UK or to pay national insurance contributions in respect of consideration received under this Contract, the Supplier shall:
 - (a) at all times comply with the Income Tax (Earnings and Pensions) Act 2003 and all other statutes and regulations relating to income tax, and the Social Security Contributions and Benefits Act 1992 and all other statutes and regulations relating to national insurance contributions, in respect of that consideration;
 - (b) indemnify DFID against any income tax, national insurance and social security contributions and any other liability, deduction, contribution, assessment or claim arising from or made in connection with the provision of the Services by the Supplier or any Supplier Personnel.

Protection of Information

21. INTELLECTUAL PROPERTY RIGHTS

- 21.1 All intellectual property rights in all material (including but not limited to reports, data, designs whether or not electronically stored) produced by the Supplier or the Supplier's Personnel pursuant to the performance of the Services ("the Material") shall be the property of the Supplier.
- 21.2 The Supplier hereby grants to DFID a perpetual, world-wide, non-exclusive, irrevocable, royalty-free licence to use all the Material.
- 21.3 For the purpose of Clause 21.2, "use" shall mean, without limitation, the reproduction, publication and sub-licence of all the Material and the intellectual property rights therein, including the reproduction and sale of the Material and products incorporating the same for use by any person or for sale or other dealing anywhere in the world.

22. SECURITY REQUIREMENTS

- 22.1 The Supplier shall comply, and shall procure the compliance of the Suppliers Personnel, with the Security Policy and the security plan and the Supplier shall ensure that the security plan produced by the Supplier fully complies with the Security Policy.
- 22.2 DFID's security policy can be accessed on the DFID website at http://www.dfid.gov.uk/work-with-us/procurement/dfid-information-security-policy-for-contractorsconsultants/ or as notified to the Supplier from time to time. The Supplier shall ensure that they keep up to date with the latest version of the Security Policy on this website.
- 22.3 If the Supplier believes that a change to the Security Policy will have a material and unavoidable cost implication to the Services it may submit a change request. In doing so, the Supplier must support its request by providing evidence of the cause of any increased costs and the steps that it has taken to mitigate those costs. Any change to the Charges shall then be agreed in discussion with the Contract Officer.
- 22.4 Until and/or unless a change to the Charges is agreed by DFID pursuant to clause 22.3 the Supplier shall continue to perform the Services in accordance with its obligations and for the Charges applicable prior to any change request.

23. MALICIOUS SOFTWARE

- The Supplier shall, as an enduring obligation throughout the Term, use the latest versions of anti-virus definitions available [from an industry accepted anti-virus software vendor] to check for and delete Malicious Software from the ICT Environment.
- 23.2 Notwithstanding clause 23.1 if Malicious Software is found, the Parties shall co-operate to reduce the effect of the Malicious Software and, particularly if Malicious Software causes loss of operational efficiency or loss or corruption of DFID Data, assist each other to mitigate any losses and to restore the Services to their desired operating efficiency.
- Any cost arising out of the actions of the Parties taken in compliance with the provisions of clause 23.2 shall be borne by the Parties as follows:
 - (a) By the Supplier where the Malicious Software originates from the Supplier Software, the Third Party Software or the DFID Data (whilst the DFID Data was under the control of the Supplier); and
 - (b) By DFID if the Malicious Software originates from the DFID Software or the DFID Data (whilst DFID Data was under the control of DFID).

Version 2.0 March 2015 OFFICIAL Page **11** of **31**

24. TRANSPARENCY

- The parties acknowledge that, except for any information which is exempt from disclosure in accordance with the provisions of the Freedom of Information Act 2000 (Clause 28), the content of this Contract is not confidential information. DFID shall be responsible for determining in its absolute discretion whether any of the content of the Contract is exempt from disclosure in accordance with the provisions of the FOIA.
- 24.2 Notwithstanding any other term of this Contract, the Supplier hereby gives their consent for DFID to publish the Contract in its entirety, including from time to time agreed changes to the Contract, to the general public.
- 24.3 DFID may consult with the supplier to inform its decision regarding any exemptions with regard to FOIA but DFID shall have the final decision in its absolute discretion.
- 24.4 The Supplier shall assist and cooperate with DFID to enable DFID to publish this Contract.
- 24.5 The Supplier acknowledges that DFID endorses/supports the requirements of the IATI standard and shall assist and cooperate with DFID, to enable the Supplier to understand the different elements of IATI implementation and to comply with the different data, policy and technical considerations that need to be taken into account.
- 24.6 The Supplier shall:
 - (a) publish information data to the IATI standard, that relates to a specific activity in a single, common, electronic format for the transparent, accurate, timely and comprehensive publishing of data, on all activities in the supply chain, in the delivery of development cooperation and humanitarian aid
 - (b) provide all necessary assistance as reasonably requested by DFID to enable DFID to respond to the IATI requirements.

25. CONFIDENTIALITY

- 25.1 Except to the extent set out in this Clause 25 or where disclosure is expressly permitted elsewhere in this Contract, each Party shall:
 - (a) treat the other Party's Confidential Information as confidential and safeguard it accordingly;
 - (b) not disclose the other Party's Confidential Information to any other person without the owner's prior written consent.
- 25.2 Clause 25.1 shall not apply to the extent that:
 - (a) such disclosure is a requirement of Law applicable to the Party making the disclosure, including any requirements for disclosure under the FOIA, the Environmental Information Regulations and associated codes of practice pursuant to Clause 28(Freedom of Information);
 - (b) such information was in the possession of the Party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;
 - (c) such information was obtained from a third party without obligation of confidentiality;
 - (d) such information was already in the public domain at the time of disclosure otherwise than by a breach of this Contract;
 - (e) it is independently developed without access to the other party's Confidential Information.
- 25.3 The Supplier may only disclose DFID's Confidential Information to the Supplier's Personnel who are directly involved in the provision of the Services and who need to know the information, and shall ensure that such Supplier's Personnel are aware of and shall comply with these obligations as to confidentiality.
- 25.4 The Supplier shall not, and shall procure that the Supplier's Personnel do not, use any of DFID's Confidential Information received otherwise than for the purposes of this Contract.
- At the written request of DFID, the Supplier shall procure that those members of the Supplier's Personnel referred to in Clause 25.3, respectively sign a confidentiality undertaking prior to commencing any work in accordance with this Contract.
- 25.6 Nothing in this Contract shall prevent DFID from disclosing the Supplier's Confidential Information:
 - (a) on a confidential basis to any Central Government Body for any proper purpose of DFID or of the relevant Central Government Body;
 - (b) to Parliament and Parliamentary Committees or if required by any Parliamentary reporting requirement;

- (c) to the extent that DFID (acting reasonably) deems disclosure necessary or appropriate in the course of carrying out its public functions;
- (d) on a confidential basis to a professional adviser, consultant, supplier or other person engaged by any of the entities described in Clause 25.6 (a) (including any benchmarking organisation) for any purpose relating to or connected with this Contract;
- (e) on a confidential basis for the purpose of the exercise of its rights under this Contract, including the Audit Rights, its step-in rights pursuant to Clause 31 (Access and Audit), its rights to appoint a Remedial Adviser pursuant to Clause 45 (Dispute Resolution) and Exit Management rights;
- (f) on a confidential basis to a proposed Successor Body in connection with any assignment, novation or disposal of any of its rights, obligations or liabilities under this Contract, and for the purposes of the foregoing, references to disclosure on a confidential basis shall mean disclosure subject to a confidentiality agreement or arrangement containing terms no less stringent than those placed on DFID under this Clause 25.
- (g) for the purpose of the examination and certification of DFID's accounts.
- 25.7 DFID shall use all reasonable endeavours to ensure that any government department, Contracting Authority, employee, third party or Sub-contractor to whom the Supplier's Confidential Information is disclosed pursuant to clause 25.6 is made aware of DFID's obligations of confidentiality.
- Nothing in this clause 25 shall prevent either party from using any techniques, ideas or know-how gained during the performance of the Contract in the course of its normal business to the extent that this use does not result in a disclosure of the other party's Confidential Information or an infringement of IPR.

26. OFFICIAL SECRETS ACT

The Supplier shall ensure that all members of the Supplier's Personnel are aware that the Official Secrets Acts 1911 to 1989 applies to them respectively.

27. DISCLOSURE OF INFORMATION

27.1 The Supplier and the Suppliers Personnel, servants, agents or Sub-contractors, or any person acting on their behalves shall not, without the prior written consent of DFID, disclose to any third party any confidential information obtained during or arising from this Contract (other than in the proper performance of this Contract or as may be required by a court of competent jurisdiction). In addition, no publicity is to be given to this Contract without the prior written consent of DFID.

28. FREEDOM OF INFORMATION

- 28.1 The Supplier acknowledges that DFID is subject to the requirements of the FOIA, the Environmental Information Regulations and associated codes of practice and shall assist and cooperate with DFID to enable DFID to comply with its Information disclosure obligations.
- 28.2 The Supplier shall and shall ensure that its Sub-contractors shall:
 - (a) transfer to DFID all Requests for Information that it receives as soon as practicable and in any event within two Working Days of receiving a Request for Information;
 - (b) provide DFID with a copy of all Information in its possession, or power in the form that DFID requires within five Working Days (or such other period as DFID may specify) of DFID's request;
 - (c) provide all necessary assistance as reasonably requested by DFID to enable DFID to respond to the Request for Information within the time for compliance set out in section 10 of the FOIA or regulation 5 of the Environmental Information Regulations.
- 28.3 DFID shall be responsible for determining in its absolute discretion and notwithstanding any other provision in this Contract or any other agreement whether the Commercially Sensitive Information and/or any other Information is exempt from disclosure in accordance with the provisions of the FOIA, the Environmental Information Regulations and associated codes of practice.
- 28.4 In no event shall the Supplier respond directly to a Request for Information unless expressly authorised to do so by DFID.
- The Supplier acknowledges that (notwithstanding the provisions of Clause 28) DFID may, acting in accordance with the Department of Constitutional Affairs' Code of Practice on the Discharge of the Functions of Public Authorities under Part 1 of the Freedom of Information Act 2000 ("the Code"), be obliged under the FOIA, or the Environmental Information Regulations to disclose information concerning the Supplier or the Services:

- (a) in certain circumstances without consulting the Supplier;
- (b) following consultation with the Supplier and having taken their views into account;
- (c) provided always that where Clause 28.5 (a) applies DFID shall, in accordance with any recommendations of the Code, take reasonable steps, where appropriate, to give the Supplier advanced notice, or failing that, to draw the disclosure to the Supplier's attention after any such disclosure.
- The Supplier shall ensure that all Information is retained for disclosure in accordance with clauses 28.7 and 28.8 and shall permit DFID to inspect such records as requested by DFID from time to time.
- The Supplier shall, during this Contract and for a period of at least seven years following the expiry or termination of this Contract, retain and maintain all Information:
 - (a) in accordance with the requirements of the Public Records Office and in accordance with the exercise of the degree of care that would be expected from a leading company within the relevant industry or business sector;
 - (b) in chronological order;
 - (c) in a form that is capable of audit;
 - (d) at its own expense.
- 28.8 Wherever practical, original Information shall be retained and maintained in hard copy form.

29. DFID DATA

- 29.1 The Supplier shall not delete or remove any proprietary notices contained within or relating to DFID Data.
- 29.2 The Supplier shall not store, copy, disclose, or use DFID Data except as necessary for the performance by the Supplier of its obligations under this Contract or as otherwise expressly authorised in writing by DFID.
- 29.3 To the extent that DFID Data is held and/or processed by the Supplier, the Supplier shall supply that DFID Data to DFID as requested by DFID in the format(s) specified by DFID.
- 29.4 Upon receipt or creation by the Supplier of any DFID Data and during any collection, processing, storage and transmission by the Supplier of any DFID Data, the Supplier shall take responsibility for preserving the integrity of DFID Data and preventing the corruption or loss of DFID Data.
- 29.5 The Supplier shall perform secure back-ups of all DFID Data and shall ensure that up-to-date back-ups are stored off-site in accordance with the Security Policy. The Supplier shall ensure that such back-ups are available to DFID at all times upon request, with delivery times as specified by DFID.
- 29.6 The Supplier shall ensure that the system on which the Supplier holds any DFID Data, including back-up data, is a secure system that complies with the Security Policy.
- 29.7 If DFID Data is corrupted, lost or sufficiently degraded as a result of the Supplier's Default so as to be unusable, DFID may:
 - (a) require the Supplier (at the Supplier's expense) to restore or procure the restoration of DFID Data to the extent and in accordance with the Business Continuity and Disaster Recovery Provisions specified in the Security Policy and the Supplier shall do so as soon as practicable but not later than three days following a written request from DFID; and/or
 - (b) itself restore or procure the restoration of DFID Data, and shall be repaid by the Supplier any reasonable expenses incurred in doing so to the extent and in accordance with the requirements specified in the Business Continuity and Disaster Recovery provisions specified in the Security Policy.
- 29.8 If at any time the Supplier suspects or has reason to believe that DFID Data has or may become corrupted, lost or sufficiently degraded in any way for any reason, then the Supplier shall notify DFID immediately and inform DFID of the remedial action the Supplier proposes to take.
- 29.9 Where required in accordance with the Terms of Reference (Section 3) and tender documentation, the Supplier shall obtain and maintain certification under the HM Government Cyber Essentials Scheme at the level set out in the Terms of Reference (Section 3) and tender documentation.

30. PROTECTION OF PERSONAL DATA

- With respect to the Parties' rights and obligations under this Contract, the parties agree that DFID is the Data Controller and that the Supplier is the Data Processor.
- 30.2 The Supplier shall:
 - (a) process the Personal Data only in accordance with instructions from DFID (which may be specific instructions or instructions of a general nature as set out in this Contract or as otherwise notified by DFID to the Supplier during the Term);
 - (b) process the Personal Data only to the extent, and in such manner, as is necessary for the provision of the Services or as is required by Law or any Regulatory Body;
 - (c) implement appropriate technical and organisational measures to protect the Personal Data against unauthorised or unlawful processing and against accidental loss, destruction, damage, alteration or disclosure. These measures shall be appropriate to the harm which might result from any unauthorised or unlawful processing, accidental loss, destruction or damage to the Personal Data and having regard to the nature of the Personal Data which is to be protected;
 - (d) take reasonable steps to ensure the reliability of any Supplier's Personnel who have access to the Personal Data;
 - (e) obtain prior written consent from DFID in order to transfer the Personal Data to any Sub-contractors or Affiliates for the provision of the Services;
 - (f) ensure that all Supplier's Personnel required to access the Personal Data are informed of the confidential nature of the Personal Data and comply with the obligations set out in this Clause 30;
 - (g) ensure that none of Supplier's Personnel publish, disclose or divulge any of the Personal Data to any third party unless directed in writing to do so by DFID;
 - (h) notify DFID (within two Working Days) if it receives:
 - (i) a request from a Data Subject to have access to that person's Personal Data; or
 - (ii) a complaint or request relating to DFID's obligations under the Data Protection Legislation;
 - (i) provide DFID with full cooperation and assistance in relation to any complaint or request made, including by:
 - (i) providing DFID with full details of the complaint or request;
 - (ii) complying with a data access request within the relevant timescales set out in the Data Protection Legislation and in accordance with DFID's instructions;
 - (iii) providing DFID with any Personal Data it holds in relation to a Data Subject (within the timescales required by DFID);
 - (iv) providing DFID with any information requested by DFID;
 - (j) permit DFID or its representatives (subject to reasonable and appropriate confidentiality undertakings), to inspect and audit, in accordance with clause 31 (Access and Audit), Supplier's data processing activities (and/or those of its agents, subsidiaries and Sub-contractors) and comply with all reasonable requests or directions by DFID to enable DFID to verify and/or procure that the Supplier is in full compliance with its obligations under this Contract;
 - (k) provide a written description of the technical and organisational methods employed by the Supplier for processing Personal Data (within the timescales required by DFID);
 - (I) not Process Personal Data outside the United Kingdom without the prior written consent of DFID and, where DFID consents to a transfer, to comply with:
 - (i) the obligations of a Data Controller under the Eight Data Protection Principle set out in Schedule 1 of the Data Protection Act 1998 by providing an adequate level of protection to any Personal Data that is transferred;
 - (ii) any reasonable instructions notified to it by DFID.
- The Supplier shall comply at all times with the Data Protection Legislation and shall not perform its obligations under this Contract in such a way as to cause DFID to breach any of its applicable obligations under the Data Protection Legislation.

31. ACCESS AND AUDIT

- The Supplier and any Sub-contractor shall keep secure and maintain until six years after the final payment of all sums due to the Supplier under the Contract, or such other period as may be agreed between the Parties, full and accurate records of the Services, all expenditure reimbursed by DFID and all payments made by DFID.
- The Supplier and/or Sub-contractor shall grant to DFID, or its authorised agents, such access to those records as they may reasonably require in order to check the Supplier's compliance with the Contract and monies utilised, throughout the whole supply chain.
- For the purposes of the examination and certification of DFID's accounts, or any examination under section 6(1) of the National Audit Act 1983 or annual re-enactment thereof as to the economy, efficiency and effectiveness with which DFID has used its resources, the Comptroller and Auditor General may examine such documents as he may reasonably require which are owned, held or otherwise within the control of the Supplier and may require the Supplier to provide such oral or written explanations as he may reasonably require for those purposes. The Supplier shall give all reasonable assistance to the Comptroller and Auditor General for those purposes.
- Clause 31.3 applies only in respect of documents relating to the Contract and only for the purpose of the auditing of DFID. It does not constitute an agreement under section 6(3)(d) of the National Audit Act 1983 such as to make the Supplier the subject of auditing under that Act.
- In addition to where an audit is imposed on DFID by a Regulatory Body (in which case DFID may carry out the audit required without prejudice to its other rights) DFID may conduct an audit:
 - a) to review the integrity, confidentiality and security of DFID Data;
 - b) to review the Supplier's compliance with the Data Protection Act 1998, the Freedom of Information Act 2000 in accordance with generally and in accordance with the Contract and any other legislation applicable to the Services.
- 31.6 Subject to DFID's obligations of confidentiality under this Contract, the Supplier shall on demand provide DFID (and/or its agents or representatives) with all reasonable co-operation and assistance in relation to each audit, including:
 - a) all information requested by DFID within the permitted scope of the audit;
 - b) reasonable access to any Sites controlled by the Supplier and to any equipment used (whether exclusively or non-exclusively) in the performance of the Services;
 - c) reasonable access to Sub-Contractors throughout the supply chain;
 - d) access to the Supplier's system;
 - e) access to the Supplier's Personnel.
- 31.7 Where it is found by DFID that any overpayment has been made to the Supplier the Supplier shall reimburse DFID such amount within 28 days of the date of DFID's written demand.

Compliance with Legal Obligations

32. PREVENTION OF FRAUD AND BRIBERY

- 32.1 The Supplier represents and warrants that neither it, nor to the best of its knowledge any Supplier Personnel, servants, agents or subcontractors, or any person acting on their behalf, have at any time prior to the Commencement Date:
 - (a) committed a Prohibited Act or been formally notified that it is subject to an investigation or prosecution which relates to an alleged Prohibited Act; and/or
 - (b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act.

- 32.2 The Supplier, their servants, agents or sub-contractors, or any person acting on their behalf shall not during the term of this Contract:
 - (a) commit a Prohibited Act; and/or
 - (b) do or suffer anything to be done which would cause DFID or any of DFID's employees, consultants, suppliers, Sub-contractors or agents to contravene any of the Relevant Requirements or otherwise incur any liability in relation to the Relevant Requirements.
- 32.3 The Supplier shall during the term of this Contract:
 - (a) establish, maintain and enforce, and require that its Sub-contractors establish, maintain and enforce, policies and procedures which are adequate to ensure compliance with the Relevant Requirements and prevent the occurrence of a Prohibited Act;
 - (b) keep appropriate records of its compliance with its obligations under Clause 32.3(a) and make such records available to DFID on request.
- 32.4 The Supplier shall immediately notify DFID in writing if it becomes aware of any breach of Clause 32.1 and/or 32.2, or has reason to believe that it has or any Supplier's Personnel, servants, agents or sub-contractors, or any person acting on their behalf have:
 - (a) been subject to an investigation or prosecution which relates to an alleged Prohibited Act;
 - (b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act; and/or
 - (c) received a request or demand for any undue financial or other advantage of any kind in connection with the performance of this Contract or otherwise suspects that any person or party directly or indirectly connected with this Contract has committed or attempted to commit a Prohibited Act.
- 32.5 The Supplier warrants and represents to DFID that to the best of its knowledge, that neither the Supplier, Supplier's Personnel, servants, agents or sub-contractors, or any person acting on their behalf:
 - (a) has given, offered or agreed to give or accepted, any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of any contract or for showing or forbearing to show favour or disfavour to any person or entity in relation to any contract; or
 - (b) has entered into any contract in connection with which commission has been paid or agreed to be paid by or to the Supplier or Supplier's Personnel or on their behalf or to their knowledge unless, before such contract was made, particulars of any such commission and of the terms of any agreement for the payment of such commission were disclosed in writing to DFID, whose written consent was subsequently given to such payment.
- 32.6 Neither the Supplier's Personnel, servants, agents or sub-contractors, nor any person acting on their behalf shall accept for their own benefit or pass on for the benefit of partner government, recipient or end user, any trade commission, discount, voucher scheme, re-sale or similar payment or benefit in connection with this Contract.
- 32.7 Where the Supplier or any of its employees, servants, agents or sub-contractors, or any person acting on their behalf, does any of the acts mentioned in Clause 32.2 or commits any offence under the Bribery Act 2010, with or without the knowledge of the Supplier, in relation to this Contract or any other contract with the Crown, DFID shall be entitled:
 - (a) to terminate the Contract with immediate effect by written notice to the Supplier and recover from the Supplier the amount of any loss resulting from the termination;
 - (b) to recover from the Supplier the amount or value of any such gift, consideration or commission;
 - (c) to recover from the Supplier any other loss sustained as a result of any breach of this Clause 32, whether or not the Contract is terminated.
- 32.8 DFID and the Supplier will immediately and without undue delay inform each other of any event that interferes or threatens to materially interfere with the successful implementation of the project, whether financed in full or in part by DFID, including credible suspicion of/or actual fraud, bribery, corruption or any other financial irregularity or impropriety.

DFID have an expert fraud investigation unit, that should be contacted in the first instance at fraud@dfid.gov.uk or +44 (0)1355 843351. All suspicions will be treated with the utmost confidentiality.

- 32.9 When exercising its rights or remedies under this Clause DFID shall:
 - (a) act proportionately in the light of the gravity and circumstances of the particular breach; and
 - (b) give all due consideration, where appropriate, to the use of remedies other than termination of the Contract.

33. ANTI-TERRORISM REGULATIONS

- In accordance to the Terrorism Act 2000 and all subsequent regulations pursuant to this Act, the Supplier will assure itself to the best of its knowledge that UK funding, including financial assets or economic resources is not made available, either directly or indirectly to, or for the benefit of persons, groups or entities listed in accordance with European Council Regulation EC/2580/2001 (as amended) and/or the Terrorism (United Nations Measures) Orders 2009 of the United Kingdom, or contravene the provisions of those and any subsequent applicable terrorism legislation.
- 33.2 The Supplier represents and warrants that neither it, nor to the best of its knowledge any Supplier's Personnel, servants, agents or sub-contractors, or any person acting on their behalf, have at any time prior to the Commencement Date and/or during the term of this Contract appeared on the Home Office Proscribed Terrorist Organisations List.
- 33.3 The Supplier shall immediately notify DFID in writing if it becomes aware of any breach of Clause 33.1 and/or 33.2, or has reason to believe that it has or any Supplier's Personnel, servants, agents or sub-contractors, or any person acting on their behalves have:
 - (a) been subject to an investigation or prosecution which relates to an alleged infringement of these Clauses 33.1 and/or 33.2;
 - (b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts.
- Where the Supplier or any of his employees, servants, agents or sub-contractors, or any person acting on their behalf, breaches any of the acts mentioned in Clauses 33.1 or 33.2 commits any offence under the Terrorism Act 2000, with or without the knowledge of the Supplier, in relation to this Contract or any other contract with the Crown, DFID shall be entitled:
 - (a) to terminate the Contract with immediate effect by written notice to the Supplier and recover from the Supplier the amount of any loss resulting from the termination;
 - (b) to recover from the Supplier any other loss sustained as a result of any breach of this Clause 33, whether or not the Contract has been terminated.

34. DISCRIMINATION

- The Supplier shall not unlawfully discriminate either directly or indirectly against protected characteristics such as race, colour, ethnic or national origin, disability, sex or sexual orientation, religion or belief, or age and without prejudice to the generality of the foregoing the Supplier shall not unlawfully discriminate within the meaning and scope of the provisions of all relevant legislation including the Equality Act 2010, the International Development (Gender Equality) Act 2014 or other relevant or equivalent legislation, or any statutory modification or re-enactment thereof.
- The Supplier shall adhere to the current relevant codes of practice or recommendations published by the Equality and Human Rights Commission. The Supplier shall take all reasonable steps to secure the observance of these provisions and codes of conduct by all suppliers, employees or agents of the Supplier and all suppliers and Sub-contractors employed in the execution of this Contract.
- The Supplier will comply with any request by DFID to assist DFID in meeting its obligations under the Equality Act 2010 and to allow DFID to assess the Supplier's compliance with its obligations under the Equality Act 2010.
- Where any investigation is concluded or proceedings are brought under the Equality Act 2010 which arise directly or indirectly out of any act or omission of the Supplier, its agents or sub-contractors, or Supplier's Personnel, and where there is a finding against the Supplier in such investigation or proceedings, the Supplier will indemnify DFID with respect to all costs, charges and expenses (including legal and administrative expenses) arising out of or in connection with any such investigation or proceedings and such other financial redress to cover any payment DFID may have been ordered or required to pay to a third party.

35. TAX COMPLIANCE

- Particularly relating to occasions of Disclosure of Tax Avoidance Schemes (DOTAS) in line with General Anti-Abuse Rule (GAAR), the Supplier represents and warrants that as at the Commencement Date, it has notified DFID in writing of any Occasions of Tax Non-Compliance or any litigation that is involved in that is connection with any Occasions of Tax Non-Compliance.
- 35.2 If, at any point during the Term, an Occasion of Tax Non-Compliance occurs, the Supplier shall:
 - (a) notify DFID in writing of such fact within 5 Working Days of its occurrence;
 - (b) promptly provide to DFID:
 - (i) details of the steps which the Supplier is taking to address the Occasion of Tax Non-Compliance and to prevent the same from recurring, together with any mitigating factors that it considers relevant; and
 - (ii) such other information in relation to the Occasion of Tax Non-Compliance as DFID may reasonably require.

Liabilities

36. LIMIT OF LIABILITY

- Except as stated in Clause 36.2, where there has been misconduct, gross negligence, dishonesty or fraud by the Supplier or the Supplier's Personnel the Supplier's liability under this Contract shall be limited to the amount of the Financial Limit.
- 36.2 Neither Party limits its liability for:
 - (a) death or personal injury caused by its negligence, or that of its employees, agents or Sub-contractors (as applicable);
 - (b) fraud or fraudulent misrepresentation by it or its employees;
 - (c) breach of any obligation as to title implied by section 12 of the Sale of Goods Act 1979 or section 2 of the Supply of Goods and Services Act 1982; or
 - (d) any liability to the extent it cannot be limited or excluded by Law.
- 36.3 Subject always to Clauses 36.2; in no event shall either Party be liable to the other for any:
 - a) loss of profits, business, revenue or goodwill; and/or
 - b) indirect or consequential loss or damage of any nature and howsoever caused, even if the losses were reasonably foreseeable or the Party has been advised of the possibility of such losses occurring.
- 36.4 The Supplier shall not exclude liability for additional operational, administrative costs and/or expenses or wasted expenditure resulting from the direct Default of the Supplier.

37. INDEMNITY

- 37.1 Subject to Clauses 36.1 to 36.4 (inclusive), the Supplier shall indemnify DFID in respect of any loss, damage or claim howsoever arising out of or in consequence of negligent acts or omissions by the Supplier or the Supplier's Personnel or any claims made against DFID by third parties in respect thereof and in relation to this Contract.
- The Supplier shall not be responsible for any injury, loss, damage, cost or expense if and to the extent that it is caused by the negligence or wilful misconduct of DFID or DFID's employees, or by breach by DFID of its obligations under the Contract.

38. INSURANCE

The Supplier shall effect and maintain, and shall procure that their Sub-contractors effect and maintain, with a reputable insurance company a policy or policies of insurance providing a level of cover not less than the Financial Limit in respect of all risks which may be incurred by the Supplier, arising out of the Supplier's and/or their Sub-contractors performance of their obligations under the Contract, including death or personal injury, loss of or damage to property or any other loss. Such policies shall include cover in respect of any financial loss arising from any advice given or omitted to be given by the Supplier. Such insurance shall be maintained for the duration of the Contract Period and for a minimum of 6 (six) years following the expiration or earlier termination of the Contract.

- Without limitation to Clause 36.4 the Supplier shall effect and maintain and shall procure that all agents, professional consultants and Sub-contractors effect and maintain, employer's liability insurance in respect of the Supplier's Personnel in accordance with any legal requirement from time to time in force. The Supplier shall also effect and maintain, and shall ensure that all agents, professional consultants and Sub-contractors involved in the supply of the Services effect and maintain, appropriate professional indemnity insurance cover during the Contract Period and for a minimum of 6 (six) years following the expiration or earlier termination of the Contract.
- 38.3 The Supplier shall give DFID, immediately on request, copies of all insurance policies referred to in this Clause 38 or a broker's verification of insurance to demonstrate that the appropriate cover is in place, together with receipts or other evidence of payment of the latest premiums due under those policies.
- With regard to any breach of any obligations implied by Section 2 of the Supply of Goods and Services Act 1982, the Supplier shall maintain professional indemnity insurance cover of an amount not less than the Financial Limit.

Control of Contract

39. VARIATIONS

- 39.1 No variation to the terms or scope of this Contract shall be effective without the Contract Officer's prior written consent and recorded in writing in a formal Contract Amendment Letter (Appendix A). DFID shall have no liability in respect of work performed outside the Services set out in Section 3 (Terms of Reference).
- 39.2 The Supplier may request a Variation provided that:
 - (a) the Supplier shall notify DFID's Representative in writing of any additional or changed requirement which it considers should give rise to a Variation;
 - (b) any proposed Variation shall be fully supported by a formal, technical and commercial justification.
- 39.3 DFID shall, having the sole and absolute right to do so, either approve or reject any Variation proposed by the Supplier.

40. ASSIGNMENT AND NOVATION

- 40.1 The Supplier shall not assign, novate or otherwise dispose of or create any trust in relation to any or all of its rights, obligations or liabilities under this Contract without the prior written consent of DFID.
- Subject to Clause 40.1, the Supplier may assign to a third party ("the Assignee") the right to receive payment of the Contract Price or any part thereof due to the Supplier under this Contract (including any interest to which DFID is liable under the Late Payments of Commercial Debts (Interest) Act 1998). Any assignment under this clause 40.2 shall be subject to:
 - (a) deduction of any sums in respect of which DFID exercises its right of recovery under Clause 18 (Recovery of Sums Due);
 - (b) all related rights of DFID under the Contract in relation to the recovery of sums due but unpaid; and
 - (c) DFID receiving notification under both clauses 40.3 and 40.4.
- 40.3 In the event that the Supplier assigns the right to receive the Contract Price under clause 40.2, the Supplier shall notify DFID in writing of the assignment and the date upon which the assignment becomes effective.
- 40.4 The Supplier shall notify DFID of the assignee's contact information and bank account details to which DFID shall make payment.

41. WAIVER

A waiver of any of the terms and/or conditions of this Contract shall be valid only where it is agreed expressly in writing and signed by the parties. No failure or delay by a Party to exercise any right or remedy provided under this Contract or by law shall constitute a waiver of that or any other right or remedy, nor shall it preclude or restrict the further exercise of that or any other right or remedy. No single or partial exercise of such right or remedy shall preclude or restrict the further exercise of that or any other right or remedy.

Version 2.0 March 2015 OFFICIAL Page **20** of **31**

Default and Termination

42. FORCE MAJEURE

- 42.1 Any failure or delay by the Supplier in performing its obligations under this Contract which results from a failure or delay by an agent, Sub-contractor or supplier shall be regarded as due to a Force Majeure Event only if that agent, Sub-contractor or supplier is itself impeded by a Force Majeure Event from complying with an obligation to the Supplier.
- Where the performance by the Supplier of their obligations under this Contract is delayed, hindered or prevented by a Force Majeure Event, the Supplier shall promptly notify DFID in writing, specifying the nature of the Force Majeure Event and stating the anticipated delay in the performance of this Contract.
- 42.3 From the date of receipt of notice given in accordance with Clause 42.2, DFID may, at its sole discretion, either suspend this Contract for up to a period of 6 months ("the Suspension Period") or terminate this Contract forthwith.
- 42.4 In the event that DFID does not terminate the Contract pursuant to Clause 42.3, as soon as practicable after the Affected Party issues to the other a notice of a Force Majeure Event, and at regular intervals thereafter, the Parties shall consult in good faith and use reasonable endeavours to agree any steps to be taken and an appropriate timetable in which those steps should be taken, to enable continued provision of the Services affected by the Force Majeure Event.
- 42.5 The Affected Party shall notify the other Party as soon as practicable after the Force Majeure Event ceases or no longer causes the Affected Party to be unable to comply with its obligations under this Contract.
- 42.6 If by the end of the Suspension Period the parties have not agreed a further period of suspension or re-instatement of the Contract, this Contract shall terminate automatically.

43. SUSPENSION OR TERMINATION WITHOUT DEFAULT OF THE SUPPLIER

- 43.1 DFID may, at its sole discretion, suspend or terminate this Contract or any part of the Services, at any time by so notifying the Supplier and giving the reason(s) for such suspension or termination.
- 43.2 Where this Contract has been suspended or terminated pursuant to Clause 43.1, the Supplier shall:
 - (a) take such steps as are necessary to terminate the provision of the Services or any part of the Services (including suspending or terminating any Sub-Contracts) in a cost-effective, timely and orderly manner; and
 - (b) provide to DFID, not more than 60 days after DFID notifies the Supplier of the suspension or termination of this Contract an account in writing, stating;
 - (i) any costs, if any, due before the date of suspension or termination;
 - (ii) costs to be expended after the date of suspension or termination which the Supplier necessarily incurred in the proper performance of this Contract and which it cannot reasonably be expected to avoid or recover.
- 43.3 Subject to DFID's approval DFID shall pay such amount stated pursuant to Clause 43.2 to the Supplier within 30 days after receipt from the Supplier of an Invoice in respect of the amount due.

44. SUSPENSION OR TERMINATION WITH DEFAULT OF THE SUPPLIER

- DFID may notify the Supplier of the suspension or termination of this Contract where the Services or any part of them are not provided to the satisfaction of DFID, giving the reasons for such dissatisfaction and, in the case of suspension, the action required by the Supplier to remedy that dissatisfaction and the time within which it must be completed.
- Where this Contract is suspended under Clause 44.1 and the Supplier subsequently fails to remedy the dissatisfaction DFID may terminate this Contract forthwith.
- DFID may, without prejudice to its other rights, including but not limited to the right to claim for costs and losses incurred, terminate this Contract forthwith where:
 - (a) the Supplier or any member of the Supplier's Personnel, either directly or through their servants or agents or sub-contractors breaches any of their obligations under this Contract; or
 - (b) the Supplier's Personnel, servants, agents or sub-contractors, or any person acting on their behalf has committed an offence under the Bribery Act 2010 or the Terrorism Act 2000 in breach of Clauses 32 or 33 of this Contract; or
 - (c) the Supplier is an individual or a partnership and at any time:

- (i) becomes bankrupt; or
- (ii) is the subject of a receiving order or administration order; or
- (iii) makes any composition or arrangement with or for the benefit of the Supplier's creditors; or
- (iv) makes any conveyance or assignment for the benefit of the Supplier's creditors; or
- (v) the warranty given by the supplier pursuant to Clause 35 (Tax Compliance) is materially untrue; or
- (vi) the Supplier commits a material breach of its obligation to notify DFID of any Occasion of Tax Non Compliance as required by Clause 35 (Tax Compliance); or
- (vii) the supplier fails to provide details of proposed mitigating factors which in the reasonable opinion of DFID, are acceptable.
- (d) the Supplier is a company and:
 - (i) an order is made or a resolution is passed for the winding up of the Supplier; or
 - (ii) a receiver or administrator is appointed in respect of the whole or any part of the undertaking of the Supplier.
- (e) the Supplier is a partnership or a company and there is a Change in Control. "Change in Control" means that the person(s) (including corporate bodies) directly or indirectly in Control of the Supplier at the time this Contract is entered into cease to be in Control. "Control" means the power of a person to secure that the affairs of the Supplier are conducted in accordance with the wishes of that person.
- Where this Contract is terminated in accordance with this Clause 44, the Supplier shall without prejudice to DFID's other remedies, take any steps necessary to terminate the provision of the Services in a timely and orderly manner but shall not be entitled to any further payment in relation to this Contract.
- Where this Contract is terminated pursuant to Clause 44.3(b) the Supplier shall pay DFID within 10 days of notification by DFID, such amount as DFID shall have determined as the amount of any loss to DFID resulting from such termination together with the amount or value of any gift, consideration, commission, corruption or fraud concerned.

Dispute Resolution

45. DISPUTE RESOLUTION

- The Parties will attempt in good faith to negotiate a settlement to any claim or dispute between them arising out of or in connection with this Contract. If the matter is not resolved by negotiation within 45 days of when either Party first made contact in respect of the same, the parties will refer the dispute to mediation in accordance with CEDR (Centre for Effective Dispute Resolution in London, UK) procedures. If the parties fail to agree terms of settlement within 90 days of the initiation of the procedure the dispute may be referred to an arbitrator as agreed between the parties or failing such agreement as may be nominated by the President of the Law Society of England and Wales upon application of any Party. The initiation of the procedure is defined as the written request to CEDR by any Party for mediation provided that such request is copied to the other Party.
- 45.2 The decision of the arbitrator shall be final and binding on both parties.
- 45.3 The seat and place of arbitration shall be London.

Law

46. LAW AND JURISDICTION

This Contract shall be governed by and interpreted in accordance with English Law and shall be subject to the exclusive jurisdiction of the Courts of England and Wales.

Compliance with Environmental Requirements

47. ENVIRONMENTAL REQUIREMENTS

47.1 The supplier shall provide the Services and any goods & equipment required under the Contract in accordance with applicable national and international laws, including those of the country or countries in which the Services or goods & equipment are to be provided, and DFID's environmental operations policy, which is to conserve energy, water and other resources, reduce waste, phase

- out the use of ozone depleting substances and minimise the release of greenhouse gases, volatile organic compounds and other substances damaging to health and the environment.
- 47.2 The UK Government is committed to promoting a low carbon, high growth, global economy. The Supplier shall work with DFID and the populations that are potentially affected by its operations under the Contract regarding any environmental issues that could affect the sustainable development provisions of the International Development Act (2002), comply with special conditions as stipulated in the Terms of Reference and carry out any reasonable additional request to ensure the protection of the environment, society and the economy throughout the contract period.
- 47.3 The Supplier shall ensure it has the requisite expertise and controls to identify and mitigate all factors that may affect compliance with the conditions outlined in Clauses 47.1 and 47.2 as a result of its own operations or those of Sub-contractors working on its behalf.
- 47.4 The Supplier shall promptly notify DFID of any changes in potential material adverse effects from its operations under the Contract and of the occurrence of any incident or accident related to the Project that has or is likely to have a significant adverse effect on the environment.
- 47.5 Nothing in Clauses 47.1 to 47.3 shall relieve the obligations of the Supplier to comply with its statutory duties and Good Industry Practice.

Conflict of Interest

48. CONFLICT OF INTEREST

- 48.1 Neither the Supplier nor any of the Supplier's Personnel shall engage in any personal, business or professional activity which conflicts or could conflict with any of their obligations in relation to this Contract.
- 48.2 The Supplier and the Supplier's Personnel shall notify DFID immediately of any actual or potential conflict together with recommendations as to how the conflict can be avoided.
- 48.3 The Supplier shall establish and maintain appropriate business standards, procedures and controls to ensure that no conflict of interest arises between Services undertaken for DFID and that undertaken for other clients. The Supplier shall avoid knowingly committing any acts which are likely to result in any allegation of impropriety against DFID, including conflicts of interest which are likely to prejudice their independence and objectivity in performing the Contract, howsoever arising.
- The Supplier shall notify DFID immediately of any circumstances of which it becomes aware which give rise or potentially give rise to a conflict with the Services and shall advise DFID of how they intend to avoid such a conflict arising or remedy such situation. The Supplier shall subject to any obligations of confidentiality it may have to third parties provide all information and assistance reasonably necessary (at the Supplier's cost) that DFID may request of the Supplier in order to avoid or resolve a conflict of interest and shall ensure that at all times they work together with DFID with the aim of avoiding a conflict or remedy a conflict.
- Pursuant to Clause 48.4, DFID shall have the right to require that the Supplier puts in place "Ethical Walls" and will ensure and satisfy DFID that all information relating to the Contract and to the Services and Deliverables completed pursuant to it (to include all working papers, draft reports in both tangible and intangible form) are not shared or made available to other employees, suppliers or agents of the Supplier and that such matters are not discussed by the relevant staff with other employees, suppliers or agents of the Supplier.
- 48.6 In the event of a failure to maintain the "Ethical Walls" as described above arising during the course of this Contract, DFID reserves the right to immediately terminate the Contract on giving written notice to the Supplier.

Retention of Rights

49. CONSEQUENCES OF EXPIRY OR TERMINATION

49.1 Clauses 8,9,21,22,23,24,25,26,27,28,29,30,31,36,37,45 and 46 of this Section 2 and any relevant clauses listed under Section 4 (Special Conditions) shall survive the termination or expiry of this Contract.

SCHEDULE 1

Definitions

Unless otherwise provided or the context otherwise requires the following expressions shall have the meanings set out below:

"Affected Party" the Party seeking to claim relief in respect of a Force Majeure Event;

"Affiliate" in relation to a body corporate, any other entity which directly or indirectly Controls, is Controlled by, or is under direct or indirect common Control with, that body corporate from time to time;

"Central Government Body" a body listed in one of the following sub-categories of the Central Government classification of the Public Sector Classification Guide, as published and amended from time to time by the Office for National Statistics:

- (a) Government Department;
- (b) Non-Departmental Public Body or Assembly Sponsored Public Body (advisory, executive, or tribunal);
- (c) Non-Ministerial Department; or
- (d) Executive Agency;

"Charges" the charges for the provision of the Services set out in or otherwise calculated in accordance with Schedule 5 (Schedule of Prices);

"Commencement Date" means the date identified in Section 1 Form of Agreement.

"Commercially Sensitive Information" the information listed in Section 4 comprising the information of a commercially sensitive nature relating to the Supplier, its intellectual property rights or its business of which the Supplier has indicated to DFID that, if disclosed by DFID, would cause the Supplier significant commercial disadvantage or material financial loss;

"Confidential Information" means all Personal Data and any information, however it is conveyed, that relates to the business, affairs, developments, trade secrets, know-how, personnel and suppliers of either party, including all intellectual property rights, together with all information derived from any of the above, and any other information clearly being designated as being confidential (whether or not it is marked "confidential") or which ought reasonably be considered to be confidential;

"Contract" means this agreement between DFID and the Supplier consisting of this Section 2 (Standard Terms and Generals) and any attached Schedules and Appendices

"Contract Amendment Letter" means the form set out in Appendix A.

"Contract Inception Report" the initial financial model in a form agreed by the Supplier and DFID in writing on or before the Commencement Date;

"Contract Officer" means the person named in Section 4 who is responsible for all contractual aspects of the Contract.

"Contract Price" means the price, exclusive of any applicable Value Added Tax, payable by DFID to the Supplier, as set out in Section 3 (Schedule of Prices) for the performance of the Services and its obligations under this Contract but before taking into account the effect of any adjustment of price in accordance with Section 5 (Schedule of Prices).

"Contracting Authority" any Contracting Authority as defined in Regulation 5(2) of the Public Contracts (Works, Services and Supply) (Amendment) Regulations other than DFID;

"Crown Body" any department, office or agency of the Crown;

"Data Controller" shall have the same meanings as set out in the Data Protection Act 1998;

"DFID Data" means (a) the data, text, drawings, diagrams, images or sounds (together with any database made up of any of these) which are embodied in any electronic, magnetic, optical or tangible media, and which are: (i) supplied to the Supplier by or on behalf of DFID; or (ii) which the Supplier is required to generate, process, store or transmit pursuant to this Contract; or (b) any Personal Data for which DFID is the Data Controller;

"DFID System" DFID's computing environment (consisting of hardware, software and/or telecommunications networks or equipment) used by DFID or the Supplier in connection with this Contract which is owned by DFID or licensed to it by a third party and which interfaces with the Supplier System or which is necessary for DFID to receive the Services;

"Data Processor" shall have the same meaning as set out in the Data Protection Act 1998;

"Data Protection Legislation" means the Data Protection Act 1998 and all other applicable laws and regulations relating to the processing of personal data and privacy, including without limitation, the guidance and codes of practice issued by the Information Commissioner;

"Data Subject" shall have the same meaning as set out in the Data Protection Act 1998;

"Default" any breach of the obligations of the relevant Party (including abandonment of this Contract in breach of its terms, repudiatory breach or breach of a fundamental term) or any other default, act, omission, negligence or statement:

- (a) in the case of DFID, of its employees, servants, agents; or
- (b) in the case of the Supplier, of its Subcontractors or any Supplier Personnel, in connection with or in relation to the subject matter of this Contract and in respect of which such Party is liable to the other;

"Dispute" any dispute, difference or question of interpretation arising out of or in connection with this Contract, including any dispute, difference or question of interpretation relating to the Services, failure to agree in accordance with the Change Control Procedure or any matter where this Contract directs the Parties to resolve an issue by reference to the Dispute Resolution Procedure;

"DOTAS" means the Disclosure of Tax Avoidance Schemes rules which require a promoter of tax schemes to tell HM Revenue & Customs of any specified notifiable arrangements or proposals and to provide prescribed information on those arrangements or proposals within set time limits as contained in Part 7 of the Finance Act 2004 and in secondary legislation made under vires contained in Part 7 of the Finance Act 2004 and as extended to National Insurance Contributions by the National Insurance Contributions (Application of Part 7 of the Finance Act 2004) Regulations 2012, SI 2012/1868 made under s.132A Social Security Administration Act 1992.

"Employment Business" means an employment agency is an organization which matches employers to employees. In all developed countries there is a publicly funded employment agency and multiple private businesses which also act as employment agencies.

"Environmental Information Regulations" means the Environmental Information Regulations 2004 together with any guidance and/or codes of practice issues by the Information Commissioner or relevant Government Department in relation to such regulations;

"Ethical Walls" means a process for avoiding conflicts of interest by limiting disclosure of information to certain individuals within an organisation, thereby building a metaphorical wall between the holders of information and colleagues who represent interests or hold opinions which conflict.

"Euro Compliant" means that:

- (i) the introduction of the euro within any part(s) of the UK shall not affect the performance or functionality of any relevant items nor cause such items to malfunction, end abruptly, provide invalid results or adversely affect DFID's business;
- (ii) all currency-reliant and currency-related functions (including all calculations concerning financial data) of any relevant items enable the introduction and operation of the euro; and
- (iii) in particular each and every relevant item shall, to the extent it performs or relies upon currency-related functions (including all calculations concerning financial data):
- (a) be able to perform all such functions in any number of currencies and/or in euros;
- (b) during any transition phase applicable to the relevant part(s) of the UK, be able to deal with multiple currencies and, in relation to the euro and the national currency of the relevant part(s) of the UK, dual denominations;
- (c) recognise accept, display and print all the euro currency symbols and alphanumeric codes which may be adopted by any government and other European Union body in relation to the euro;
- (d) incorporate protocols for dealing with rounding and currency conversion;
- (e) recognise data irrespective of the currency in which it is expressed (which includes the euro) and express any output data in the national currency of the relevant part(s) of the UK and/or the euro; and
- (f) permit the input of data in euro and display an outcome in euro where such data, supporting DFID's normal business practices, operates in euro and/or the national currency of the relevant part(s) of the UK;

"Equipment" means any equipment, computer hardware or software, materials, goods and vehicles and associated services necessarily required for the implementation of the Services, which the Supplier cannot reasonably be expected to provide, which are financed or provided by DFID for use by the Supplier.

"Exit Management" services, activities, processes and procedures to ensure a smooth and orderly transition of all or part of the Services from the Supplier to DFID and/or a Replacement Supplier.

"Exit Plan" the plan produced and updated by the Supplier during the Term in accordance with Terms of Reference;

"Financial Limit" means the amount specified in Section 1 and is the maximum amount payable by DFID under this Contract for the receipt of the Services.

"FOIA" means the Freedom of Information Act 2000 and any subordinate legislation made under this Act from time to time, together with any guidance and/or codes of practice issued by the Information Commissioner or relevant Government Department in relation to such legislation.

"Force Majeure Event" any event outside the reasonable control of either Party affecting its performance of its obligations under this Contract arising from acts, events, omissions, happenings or non-happenings beyond

its reasonable control and which are not attributable to any wilful act, neglect or failure to take reasonable preventative action by that Party, including acts of God, riots, war or armed conflict, acts of terrorism, acts of government, government or regulatory bodies, fire, flood, storm or earthquake, or disaster but excluding any industrial dispute relating to the Supplier or the Supplier Personnel, servants, agents or subcontractors, or any person acting on their behalf or any other failure in the Supplier's or a Sub-contractor's supply chain;

"Force Majeure Notice" a written notice served by the Affected Party on the other Party stating that the Affected Party believes that there is a Force Majeure Event;

"General Anti-Abuse Rule" means (a) the legislation in Part 5 of the Finance Act 2013; and (b) any future legislation introduced into parliament to counteract tax advantages arising from abusive arrangements to avoid national insurance contributions.

"Good Industry Practice" at any time the exercise of that degree of care, skill, diligence, prudence, efficiency, foresight and timeliness which would be reasonably expected at such time from a leading and expert supplier of services similar to the Services to a customer like DFID, such supplier seeking to comply with its contractual obligations in full and complying with applicable Laws;

"Halifax Abuse Principle" means the principle explained in the CJEU Case C-255/02 Halifax and others.

"HM Government Cyber Essentials Scheme"means the HM Government Cyber Essentials Scheme as further defined in the documents relating to this scheme published at https://www.gov.uk/government/publications/cyber-essentials-scheme-overview

"IATI" means the International Aid Transparency Initiative standard and is a technical publishing framework allowing data to be compared. It is designed to report forward-looking aggregate budget information for the reported organisations, and planned future budgets to recipient institutions or countries.

"Information" has the meaning given under Section 84 of the Freedom of Information Act 2000; including all information of whatever nature, however conveyed and in whatever form, including in writing, orally, by demonstration, electronically and in a tangible, visual or machine-readable medium (including CD-ROM, magnetic and digital form);

"Intellectual Property Rights" or "IPRs"

- (a) copyright, rights related to or affording protection similar to copyright, rights in databases, patents and rights in inventions, semi-conductor topography rights, trade marks, rights in Internet domain names and website addresses and other rights in trade names, designs, Know-How, trade secrets and other rights in Confidential Information;
- (b) applications for registration, and the right to apply for registration, for any of the rights listed at (a) that are capable of being registered in any country or jurisdiction; and
- (c) all other rights having equivalent or similar effect in any country or jurisdiction;

"Key Performance Indicators" means a set of quantifiable measures that DFID and Supplier will use to measure the performance of the Services provided by the Supplier under the Contract (as defined in Section 3 Terms of Reference).

"Law" means any applicable law, statute, bye-law, regulation, order, regulatory policy, guidance or industry code, rule of court or directives or requirements of any Regulatory Body, delegated or subordinate legislation or notice of any Regulatory Body;

"Licensed Software" all and any Software licensed by or through the Supplier, its Sub-contractors or any third party to DFID for the purposes of or pursuant to this Contract, including any Supplier Software, Third Party Software and/or any Specially Written Software;

"Malicious Software" any software program or code intended to destroy, interfere with, corrupt, or cause undesired effects on program files, data or other information, executable code or application software macros, whether or not its operation is immediate or delayed, and whether the malicious software is introduced wilfully, negligently or without knowledge of its existence;

Milestone" an event or task described in the Implementation Plan which, if applicable, shall be completed by the relevant Milestone Date;

"Milestone Payment" a payment identified in Section 5 to be made following the issue of a Milestone Achievement Certificate;

"Occasion of Tax Non-Compliance" means:

- (a) Any tax return of the Supplier submitted to a Relevant Tax Authority on or after 1 October 2012 is found on or after 1 April 2013 to be incorrect as a result of:
- (I)a Relevant Tax Authority successfully challenging the Supplier under the General Anti-Abuse Rule or the Halifax Abuse Principle or under any tax rules or legislation that have an effect equivalent or similar to the General Anti-Abuse Rule or the Halifax Abuse Principle:
- (ii) the failure of an avoidance scheme which the Supplier was involved in, and which was, or should have been, notified to a Relevant Tax Authority under the DOTAS or any equivalent or similar regime; and/or
- (b) Any tax return of the Supplier submitted to a Relevant Tax Authority on or after October 2012 gives rise, on or after 1 April 2013, to a criminal conviction in any jurisdiction for tax related offences which is not spent at the Effective Date or to a civil penalty for fraud evasion.

"Parties" and "Party" have the meanings respectively given in Section 1 of this Contract;

"Performance Indicators" the Key Performance Indicators and the Subsidiary Performance Indicators;

"Personal Data" personal data (as defined in the Data Protection Act 1998) which is Processed by the Supplier or any Sub-contractor on behalf of DFID or a Central Government Body pursuant to or in connection with this Contract;

"Process" has the meaning given to it under the Data Protection Legislation but, for the purposes of this Contract, it shall include both manual and automatic processing;

"Prohibited Act" has the meaning;

- (a) to directly or indirectly offer, promise or give any person working for or engaged by DFID a financial or other advantage to:
- (i) induce that person to perform improperly a relevant function or activity; or
- (ii) reward that person for improper performance of a relevant function or activity;
- (b) to directly or indirectly request, agree to receive or accept any financial or other advantage as an inducement or a reward for improper performance of a relevant function or activity in connection with this Contract;
- (c) an offence:
- (i) under the Bribery Act 2010 (or any legislation repealed or revoked by such Act);
- (ii) under legislation or common law concerning fraudulent acts; or
- (iii) defrauding, attempting to defraud or conspiring to defraud DFID; or
- (d) any activity, practice or conduct which would constitute one of the offences listed under
- (e) above if such activity, practice or conduct had been carried out in the UK;

"Project" means a set of co-ordinated activities, with definite starting and finishing points, undertaken by an individual or team to meet specific objectives within defined time, cost and performance parameters

"Project Officer" means the person named in Section 4 who is responsible for issuing instructions and dealing with all correspondence in connection with the technical aspects of the Contract;

"Regulatory Bodies" means those government departments, regulatory, statutory and other entities, committees and bodies which, whether under statute, rules, regulations, codes of practice or otherwise, are entitled to regulate, investigate, or influence the matters dealt with in this Contract or any other affairs of DFID and "Regulatory Body" shall be construed accordingly;

"Relevant Requirements" all applicable Law relating to bribery, corruption and fraud, including the Bribery Act 2010 and any guidance issued by the Secretary of State for Justice pursuant to section 9 of the Bribery Act 2010;

"Relevant Tax Authority" means HM Revenue & Customs, or, if applicable, a Tax Authority in the jurisdiction in which the Supplier is established.

"Replacement Services" any services which are the same as or substantially similar to any of the Services and which DFID receives in substitution for any of the Services following the expiry or termination or Partial Termination of this Contract, whether those services are provided by DFID internally and/or by any third party;

"Replacement Supplier" any third party service provider of Replacement Services appointed by DFID from time to time;

"Request for Information" a request for information or an apparent request under the FOIA, the Environmental Information Regulations and associated codes of practice;

"Security Policy" means DFID's security policy, which can be accessed on DFID's website at http://www.dfid.gov.uk/work-with-us/procurement/dfid-information-security-policy-for-contractorsconsultants/ or as notified to the Supplier from time to time;

"Services" means the services set out in the Terms of Reference (Section 3).

"Sites" any premises (including DFID premises, the Supplier's premises or third party premises):

- (a) from, to or at which:
- (i) the Services are (or are to be) provided; or
- (ii) the Supplier manages, organises or otherwise directs the provision or the use of the Services; or
- (b) where:
- (i) any part of the Supplier System is situated;
- (ii) any physical interface with DFID System takes place;

"Staff Vetting Procedure" means DFID's procedures and departmental policies for the vetting of Personnel whose role will involve the handling of information of a sensitive or confidential nature or the handling of information which is subject to any relevant security measures, including, but not limited to, the provisions of the Official Secrets Act 1911 to 1989.

"Software" Specially Written Software, Supplier Software and Third Party Software;

"Sub-contract" any contract or agreement (or proposed contract or agreement) between the Supplier (or a Sub-contractor) and any third party whereby that third party agrees to provide to the Supplier (or the

Sub-contractor) all or any part of the Services or facilities or services which are material for the

provision of the Services or any part thereof or necessary for the management, direction or control of the Services or any part thereof;

"Sub-contractor" means any third party employed by the Supplier in the provision of Services;

"Successor Body" means a body which is not a Central Government Body or if a body which is not a Central Government Body succeeds the Authority;

"Supplier" means the person(s), partnership(s) or company (ies) with whom this Contract is placed.

"Supplier Background IPRs" means;

(a) Intellectual Property Rights owned by the Supplier before the Effective Date, for example those subsisting in the Supplier's standard development tools, program components or standard code used in computer programming or in physical or electronic media containing the Supplier's Know-How or generic business methodologies; and/or

(b) Intellectual Property Rights created by the Supplier independently of this Agreement, which in each case is or will be used before or during the Term for designing, testing implementing or providing the Services but excluding Intellectual Property Rights owned by the Supplier subsisting in the Supplier Software;

"Supplier's Personnel" means any person instructed pursuant to this Contract to undertake any of the Supplier's obligations under this Contract, including the Supplier's employees, agents and sub-contractors.

"Supplier Software" Supplier Software (including open source software) that:

- (a) the Supplier makes generally available commercially prior to the date of this Contract (whether by way of sale, lease or licence) on standard terms which are not typically negotiated by the Supplier save as to price; and
- (b) has a Non-trivial Customer Base;

"Supplier System" the information and communications technology system used by the Supplier in implementing and performing the Services including the Software, the Supplier Equipment, configuration and management utilities, calibration and testing tools and related cabling (but excluding DFID System);

"Term" the period commencing on the Effective Date and ending on the expiry of the Initial Term or any Extension Period or on earlier termination of this Contract;

"Third Party IPRs" Third Party IPRs that:

- (a) the Supplier makes generally available commercially prior to the date of this Contract (whether by way of sale, lease or licence) on standard terms which are not typically negotiated by the Supplier save as to price; and
- (b) has a Non-trivial Customer Base;

"Unincorporated Consortium" means groups of economic operators, including temporary associations, may participate in procurement procedures and shall not be required by contracting authorities to have a specific legal form in order to submit a tender or request to participate (The Public Contracts Regulations 2015 – Economic Operators 19.3).

"Variation" means a properly executed variation to the Contract in compliance with Condition 38.

"Working Day" any day other than a Saturday, Sunday or public holiday in England and Wales.

Appendix A. Contract Amendment Letter			
	Aberci Eagles EAST k Glasgo G75 8l Teleph	rombie House ham Road KILBRIDE ow EA	bride 01355 84 4000
	File Re Date:	rf: [[
	Contra	act Amendme	nt No: [
CONTRACT FOR: [
CONTRACT NUMBER: [
With reference to the contractual letter dated [our firm [(in association hat the UK Government
[
2. [These/This amendment[s relate[s to [
3. Please confirm in writing by signing and returning one copy of this letter, within 15 withat you accept the amendment[s set out herein.	working days of th	ne date of sigr	nature on behalf of DFID
4. Please note the provision in the contractual letter that the financial limit of the engagement shall not exceed the sum specified unless the amount of any such excess Development in writing before the Supplier takes any action which might result in the form.	has been agreed	by the Depa	
For and on behalf of the	Name:	[
Secretary of State for International Development	Position:		
	Signature:		
	Date:	[
For and on behalf of	Name: [
	Signature:		
	Date:		

(March 2014)

Appendix B. Terms & Conditions Cross-reference (old reference linked to new)

No.	Title	New No.
1	Definitions	1
2	Interpretation	1
3	Obligations	4
4	Personnel	6
5	Sub-Contractors	8
6	DFID Data	29
7	Protection of Personal Data	30
8	Freedom of Information	28
9	Confidentiality	25
10	Warranties	5
11	Security Requirements	22
12	Malicious Software	23
13	Disclosure of Information	27
14	Intellectual Property Rights	21
15	Official Secrets Acts	26
16	Access and Audit	31
17	Corruption, Commission, Discounts and Fraud	32
18	Conflict of Interest	48
19	Discrimination	34
20	Environmental Requirements	47
21	Insurances	38
22	Indemnity	37
23	Procurement	9
24	Use of and Responsibility for Requirement	10
25	Application Provisions and Financial Limit	3
26	Fees	14
27	Expenses	15
28	Invoicing Instructions	19
29	Payments	19
30	Force Majeure	42
31	Suspension or Termination without Default of the Supplier	43
32	Suspension or Termination with Default of the Supplier	44
33	Variations	39
34	Assignment	40
35	Limit of Liability	36
36	Retention of Rights	49
37	Law and Jurisdiction	46
38	Amicable Settlement	45
39	Transparency	24
40	United Kingdom Income Tax and National Insurance Contributions	20
41	Tax Compliance	35



Programme Management Unit for an Applied Research Programme in High Volume Transport (HVT)

Terms of Reference

PO 7558

DFID Research March 2017

1. Introduction

- 1.1 The service provider will carry out a programme of research on the scope for High Volume Transport (HVT) along national and regional transport corridors and within cities in low income countries in Africa and South Asia (LIC). High volume transport, in this programme, covers strategic road and rail networks from both a passenger and freight perspective. The programme will include research, capacity building and knowledge management/research uptake activities.
- 1.2 The expected main beneficiaries of the project are governments and peoples of DFID priority countries, particularly low income countries in Africa and South Asia, (see: https://www.gov.uk/government/organisations/department-for-international-development/about). To benefit those countries, the project will need to undertake research and draw on relevant case studies, other research, and lessons from other countries including (but not exclusively) those that have made the transition from Low to Middle Income Country status.
- 1.3 The research programme covers four complementary research areas:
 - Theme 1) Long Distance Strategic Road and Rail Transport. This theme encompasses the high volume roads and rail between cities, towns and regionally. It would have a strong engineering research focus complimented by socio-economic research into mode, location, construction and maintenance transport decisions. Against a backdrop of increasing quantity of transport infrastructure assets and maintenance costs, this theme would examine maintenance systems, dynamics, tools and methods that could be successfully and equitably used in low income countries in Africa and South Asia.
 - **Theme 2) Urban Transport**. This theme would focuses on harnessing the economic development of towns and cities through strong accessible urban transport planning, design, implementation and maintenance.
 - **Theme 3) Low Carbon Transport**. Transportation accounts for about 20% of world CO2 emissions. High volume transport is a key sector to focus on to help mitigate climate change. This theme includes technological and other affordable solutions that promote low carbon transport solutions and non-motorised transport options.
 - Theme 4) Gender, Vulnerable Groups and Inclusion in High Volume Transport. This theme would examine the opportunities that safe, secure and affordable transport provides for women, children and other vulnerable groups in the context of transport corridors and urban transport situations in LIC. This theme also captures research on road safety.

2. Objective

2.1 The overarching objective of the PMU is to achieve cost-effective, efficient and timely delivery of the research and uptake, capacity building and knowledge management programmes for High Volume Transport, as defined in these ToR and to achieve the objectives set out in DFID's Business Case and Logical Framework.

3. Recipient

3.1 The purpose of the work is to influence transport policy making and investments in low income African and South Asian countries. The recipients of the services are relevant transport decision takers and development policy makers, central and local government transport practitioners, private sector, civil society and other relevant stakeholders in these countries.

4. Scope of work

Part 1 and Part 2 Research Programmes

- 4.1 DFID will provide funding for establishing an applied research programme that would encompass engineering, technical, socio-economic, safety and environmental policy solutions to address infrastructure limitations to high volume passenger and freight transport in LIC. The applied research will focus on four themes: (i) Long Distance Strategic Road and Rail Transport; (ii) Urban Transport; (iii) Low Carbon Transport; and (iv) Gender, Vulnerable Groups and Inclusion in High Volume Transport. The background and type of research questions to be tackled under each theme in Part 1 are set out in the Annex to these ToR.
- 4.2 The PMU is required to provide a range of project management expertise for procurement and supervision of research activities, research contract management, legal advisory services, capacity building, knowledge management, and financial management for the Applied Research Programme¹. The PMU will not undertake any research ². However, the PMU will need technical and research management skills in order to fulfil its responsibilities effectively.
- 4.3 The research programme will be split into two parts. Part 1, lasting one year and will involve procurement of a review of the literature and evidence available under the four identified research areas and will deliver a series of state of knowledge papers, that will be used to identify and prioritise what future primary research might be undertaken in Part 2 and its scope. The PMU will be responsible for preparing a detailed, costed research plan for Part 2 based on the outcomes of Part 1. The contract will be subject to a break clause following completion of Part 1 deliverables. Part 2 will last around 48 months and is also subject to a break clause at its mid-point.
- 4.4 In Part 1, at least two state of knowledge papers are expected under each research theme. These are expected to be of sufficient quality and interest for ultimate publication in the appropriate international journals. It is noted that actual acceptance for publication in journals will be impossible to organize in a timely way so the project will need to resource and arrange timely independent peer review to quality assure these outputs as having potential for publication in high quality journals. DFID reserves the right to make a final judgement on the

See the Applied Research Programme in High Volume Transport Business Case and Business Case Addendum (April 2016) for further detail and background.

² Supplier should note that all PMU staff including academics and practitioners are unable to bid for, or be party to, the research sub-grants, as this would be deemed as a Conflict of Interest (CoI) given the competitive advantage. PMU staff may be eligible to be funded for capacity building or knowledge management elements of the programme in Part 2, as this would not necessarily put them at a competitive advantage in bidding for research sub-grants. However this would need to be assessed and declared on a case-by-case basis, with any governance measures needed to mitigate Conflicts of Interest clearly laid out and agreed in advance. Bidders will be responsible for proposing appropriate Conflict of Interest management arrangements for the project.

- quality of these papers, including commissioning, within the project, further independent peer review of outputs as needed.
- 4.5 Part 1 will produce a research agenda under each of the four themes and also a consolidated proposal for Part 2 research. There is no *a priori* need for research in each theme to be undertaken with equal effort in Part 2. Depending on the importance of the knowledge gaps and the tractability and likely conclusiveness of research into those gaps, the programme should be prioritized. It is possible that some themes will be dropped, modified or merged into other themes for Part 2
- 4.6 The specification of the research programme for Part 2 will be submitted for DFID's approval prior to work commencing on Part 2. Full information will be needed on the proposals for Part 2 to enable DFID staff to assess:
 - (i) The track record and performance of the PMU in Part 1 including reference to independent reviews of key papers and an assessment of the quality of work on the research agenda for each theme;
 - (ii) The quality and balance of the proposed consolidated research programme for Part 2. Emphasis will be placed on ensuring that research has clear <u>operational relevance</u>, that research will be <u>tractable and high quality</u>, and finally that research will be reasonably <u>conclusive</u> (not just interesting preliminary findings). There will be a strong practical focus on what has and has not worked and where, why and how and on the transferability of those results to LICs.
 - (iii) A credible plan procurement strategy to identify and utilise top researchers.
 - (iv) The effectiveness of the proposed management, procurement and financing/audit arrangements. DFID will retain the right to seek additional peer review of the research plans³ and will retain ultimate decision making authority.
- 4.7 Technical evaluation criteria that will be used to assess the PMU's proposal for Part 2 will be shared at least 2 months prior to the end of Part 1 inception. DFID anticipates that a decision on progression to Part 2 will be subject to and depend upon the content of the Part 2 proposal. The supplier should allow a period of up to 3 months for a final decision and continuation of contract for Part 2.

Part 1 and Part 2 Research Management

- 4.8 Given the breadth of the issues under consideration, it is expected that the PMU will manage a series of competitive procurements to identify expertise for undertaking both the Part 1 state of knowledge papers and the Part 2 research. Research would be procured competitively from a variety of organisations and world class institutions including those with an operational background, universities and specialist research institutions who can mobilise the necessary specialist expertise around the research themes and questions of interest see Annex to these ToR.
- 4.9 In March 2016 DFID established a small work programme with the World Bank to help articulate a vision and agenda for transport through the UN Secretary General's High-Level Advisory Group on Sustainable Transport (HLAG ST) and the first Global Outlook Report on Sustainable Transport. An interim steering

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³ Costs of this item, if needed, will be met from the indicative research budget.

committee, under a Sustainable Mobility for All banner, has been co-convened by DFID and the World bank, with oversight on 5 working groups covering Access(Rural); Access(Urban); Efficiency; Safety and Green themes. The PMU will support DFID input into the working groups and the steering committee.

- 4.10 DFID is also considering establishment of a memorandum of understanding with the World Road Association (WRA/PIARC) that will support technical assistance to update HDM-IV. Specifically, this will improve ease of use, improve capture of social and environmental benefits, support linkages to asset management initiatives and wider research. To ensure that this work is embedded within and aligned to the wider objectives of HVT DFID will require the PMU to procure technical services and oversee management of this arrangement during Part 1. DFID is also discussing other knowledge management support to PIARC, which, if agreed, would need to be procured and managed by the PMU as part of the knowledge management requirements detailed in 4.13 below.
- 4.11 As well as managing and guiding, the PMU will provide technical leadership and oversight of both Parts 1 and 2 activities and research, and will need access to individuals with relevant skills to do this. The PMU will organize appropriate technical oversight and quality assurance of sub-contracted research and other project outputs. The PMU will also co-ordinate meetings of the programme governance and quality assurance structures to ensure the project has optimum impact on policy through relevant high quality research aimed squarely at the needs of policy makers in low income countries
- 4.12 The PMU will administer logistical and other arrangements to support the project governance arrangements, including provision of quality assurance and peer review of publications and research.
- 4.13 The PMU should provide a proposal for developing a draft research uptake strategy within 3 months of the start of the project. The draft uptake strategy should include assessment of the opportunities for updating and disseminating existing knowledge and best practice produced through earlier DFID research or by other transport research knowledge providers (e.g.WRA/PIARC) that is relevant to the themes under this programme⁴. It will include strategies for commissioning services for knowledge management, disseminating and promoting best practice and research uptake, building capacity and linking with practitioner networks and research portals. The PMU communications strategy should cover online and other activity as well as responding to ad hoc requests for information/short analytical papers.
- 4.14 All use of digital elements, such as websites will need to demonstrate that their proposals can be achieved at lowest cost and adhere to DFID's digital guidelines (https://www.gov.uk/design-principles).
- 4.15 As with all DFID projects, this project will be the subject of **annual progress review** led by DFID staff. In the event that the project is deemed to be non-performing or under-performing against its objectives and Logical Framework, DFID will normally seek to agree a time-bound action plan for improving performance. In the event that performance does not improve, DFID reserves the right to cancel all or part of the project.

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⁴ This might include manuals, application guides, state-of-the-art reports and support on tools.

5. Outputs/Deliverables

- 5.1 The project is expected to deliver the following key **outputs under Part 1:**
 - i. By end of month 1, Terms of Reference for at least 8 State of knowledge papers for DFID approval.
 - ii. By end of month 3, bid evaluation report, budgets and work plans for at least 8 state of knowledge papers for DFID's approval.
 - iii. By end of month 3 a draft research uptake strategy for agreement by DFID.
 - iv. By end month 11, recommendations and a proposed research agenda for Part 2 a **framing paper** for presentation and discussion with DFID.
 - v. During the initial 12 months, the PMU may, as needed, organise and fund any **seminars and conferences** relevant to the preparation of the state-of-knowledge papers and design of the Part 2 research programme. These should be funded from the research/research uptake budget.
 - vi. By end month 12, at least **8 high quality review papers and reports** which clearly set out the state of knowledge under each of the identified research areas (e.g. covering separately road and rail transport on Themes 1 and 3; urban passenger and freight transport for Theme 2 and gender and vulnerable groups and road safety for Theme 4).. The exact number under each theme to be agreed with DFID, including consideration of updated manuals and application guides. The state-of-knowledge papers are expected to be of sufficient quality and interest for ultimate publication in, for example, appropriate international journals.
 - vii. By end month 12, a **final research framework report for Part 2** with research questions to be addressed under each of the themes, together with research methodologies. The report will also address the importance of the knowledge gaps, the tractability and likely conclusiveness of the research and priorities within and across themes. In addition to the detailed programme for Part 2 research, the research framework should also include: for Part 2 capacity building, and updated research uptake, knowledge management and communications strategies, and gender, poverty and vulnerable groups strategies. The report should also capture monitoring and quality assurance and risk management strategies. It is possible that some themes may be dropped from Part 2 or be combined.
 - viii. The final proposal at the end of month 12 should include a **detailed and budgeted research proposal for activities in Part 2** (years 2 to 5). In addition to providing the detail on activities for each research area (as item 5 v), this proposal will capture the detail of approach and methodology, overall work plan and programme, schedule of deliverables finance and management arrangements, staffing schedule, procurement plan and procurement procedures, and a detailed budget. It should set out indicative costs for the research being procured and the knowledge management, uptake, training and related activities, whether these are procured or undertaken in-house. The budgeted research proposal will be peer-reviewed and evaluated, as a normal research submission. The consolidated, costed work programme may involve some rationalisation across themes (not all

themes have to be included or need to carry equal weight). The report should also include an updated theory of change, risk register, and Logframe and a schedule of deliverables/milestone payments.

Outputs	Delivery Date
Monthly Report ⁵	Monthly
Quarterly Report	End of each Quarter
Terms of Reference for at least 8 State of knowledge papers	End of month 1
Bid evaluation report, budgets and work plans for at least 8 state of knowledge papers	End of month 3
Knowledge management, Research uptake and Communications Strategy	End of month 3
Digital and Web Presence Discovery Report and Proposition	End of month 3
Research Agenda –Framing paper	End of month 11
Conference/Seminar/Workshop Reports	TBA
8 state of knowledge papers / reports	End of month 12
Final research framework report for Part 2	End of month 12
Detailed and Budgeted Research proposal	End of month 12

5.4 The project is expected to deliver the following key **outputs under Part 2**:

- High quality research reports and material leading to publication of work and findings in peer reviewed journals (number of which to be determined during Part 1 review).
- ii. Operationally relevant and accessible policy material e.g. policy briefs, standards, specifications, tools and models, guidance and other uptake products (number of which to be determined during Part 1 review).
- iii. Southern research capacity building and establishment of research networks.
- iv. At least 1 conference/seminar on each key theme per year, as well as wider dissemination events, workshops and seminars.
- v. A concluding final report assessing the take-up of the research and its impact, the status of research and policy networks established and capacity building undertaken, and recommendations for any further work.

6. **Reporting**

- 6.1 The contract outlines the formal reporting requirements. Monthly meetings will be supplemented by interim communications, with the DFID project management team and by meetings of the project governance bodies. The programme is deemed eligible for International Climate Funding (ICF) and this will introduce additional reporting requirements.
- 6.2 The PMU will be required to propose, at the end of Part 1, Key Performance Indicators relating to research delivery for Part 2. These will be agreed between DFID and the PMU on completion of Part 1 and prior to commencement of Part 2. Part 2 KPI's will cut across all of the PMU's key areas of responsibility.

7. Budget and Timing & Contractual Matters

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⁵ Procurement, Ethics and Gender Strategies will be included in the 1st Monthly report

7.1 The project will commence in 2017 and will last a total of 5 years 3 months (63 months), with the option to extend by a further 2 years (24 months) beyond then if necessary and justifiable. DFID would consider a possible extension at the end of the five year period or – depending on need and scale - may seek a further phase of work via a fresh tender competition at that point. If needed, DFID's decision on project extension will be informed by an independent evaluation late in the project, for which DFID will provide additional funds.

8. Background

- 8.1 There is broad agreement that transport plays a key role in reducing isolation and poverty and in facilitating economic activity⁶. Linking rural and urban areas and improving regional connectivity are important elements of economic growth. Transport has been highlighted as a key part of numerous donor strategies for facilitating agricultural growth in Africa⁷. The OECD/WTO Aid-for-Trade Questionnaire 2013⁸ reports inadequate transport infrastructure as a major constraint hindering connection of firms in developing countries to transport and logistics value chains.
- 8.2 Transport is also an important sector for climate mitigation and adaptation. Transportation consumes around 60% of all global oil and represents about 27% of all energy use. Rapid urbanisation and motorization is creating increased congestion, air pollution and greenhouse gas emissions. Transportation accounts for about 20% of world CO₂ emissions and this is projected to increase by nearly 50% by 2030.
- 8.3 Strong transport links can facilitate international trade transitions, which, under appropriate circumstances, boost national income, reduce poverty, and contribute to economic and social development. The economic argument for investment in high volume transport appears to be strong⁹ and there are a large number of areas of potential investment that could lead to economic gains. Transport facilitates trade and economic growth through transport corridors as well as directly benefiting users of specific road and rail schemes. Transport cost reductions by improving availability and condition of physical infrastructure and reducing the barriers and inefficiencies in transport systems all contribute to trade and growth. In Africa, high transport prices are seen as a major obstacle to economic development of the region¹⁰. Compared to other regions, Africa's transport prices are high compared to the value of the goods transported. This is due to factors including weak infrastructure, low predictability and reliability of the

⁶ IBRD/World Bank Commission on Growth and Development. 2008. The Growth Report: Strategies for Sustained Growth and Inclusive Development.. See for example the Growth Commission Report 2008Available at:

http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/ORGANIZATION/EXTPREMNET/0,,contentMDK:23225680~pagePK

:64159605~piPK:64157667~theSitePK:489961,00.html

See for example NEPAD's Comprehensive African Agricultural Development Programme (http://www.caadp.net/); WDR 2008 and World Bank/FAO Awakening Africa's Sleeping Giant 2005. Also see World Bank. 2008. World Development Report: Agriculture for Development. Available at: http://siteresources.worldbank.org/INTWDR2008/Resources/WDR-00 book.pdf OECD/WTO. Aid for Trade At A Glance: Connecting to Value Chains. http://www.oecd-ilibrary.org/development/aid-for-trade-at-a-glance-2013 aid glance-2013-en

Dunkerley, F. High volume transport – A rapid assessment of the economic case for applied research. RAND Europe November 2014. DFID Evidence on Demand.

Raballand, G and P Macchi, P. Transport Prices and Costs: The Need to Revisit Donors' Policies in Transport in Africa. http://ipl.econ.duke.edu/bread/papers/0809conf/Raballand.pdf

transport services and the low productivity of the trucking industry in Africa, notably because of infrastructure constraints¹¹.

- 8.4 Urban areas are expected to be the centres of transformatory growth in low income countries in Africa and South Asia but insufficient transport connectivity is a barrier to this. Urbanisation in Africa and South Asia is proceeding at a rapid pace with complex transport and planning issues. Transport systems that do not cater for users of all modes, including non-motorised ones, run the risk of exacerbating slum formation, urban poverty and employment in the informal sector and increasing congestion and air pollution. Urban arterial roads, expressways and rail may lead to community severance. While evidence suggests that high volume transport can reduce congestion and increase productivity, poorly implemented high volume transport options may have the opposite effect, be unaffordable to the poor, inappropriate for vulnerable people and reduce access to employment⁷. The modal split is different in Africa and South Asia requiring appropriate solutions for each regional context.
- 8.5 Despite its importance, inadequate transport continues to exacerbate poverty and inequality in many regions and cities of the world, inhibiting economic growth, access to markets, job opportunities and services, particularly for poor people.
- 8.6 High and middle income countries are adapting to the realities and needs of 21st century sustainable transport systems. Research in High and Middle Income Countries (HIC/MIC) has accelerated to manage and meet many of the expected challenges, including reducing GHG emission and air pollutants associated with transport, improving vehicle efficiency, increasing climate resilience of vulnerable transport infrastructure¹², introducing transport demand management measures and improving urban public transport. Low income countries in Africa and South Asia have lagged behind and the knowledge gap is, if anything, increasing between LIC and MIC/HIC.
- 8.7 For low income countries in Africa and South Asia good evidence based decisions on sustainable high volume transport can be a powerful catalyst for economic growth or, conversely, a crippling burden of carbon dependence, transport inefficiency and unaffordable maintenance.
- 8.8 There is limited research being undertaken on high volume transport that is specific to low income countries in Africa and South Asia.

9. Research Areas and Questions

9.1 Four research themes have been identified for Part 1, as set out in Section 1 of these ToR. Questions to be addressed in Part 1 under each theme are outlined in the attached Annexes.

10. Procurement Arrangements

Teravaninthorn, S. and Raballand, G. 2009. Transport Prices and Costs in Africa: A Review of the Main International Corridors. Available at: http://books.google.co.uk/books?id=rS5r64EFStwC&dq=freight+costs+africa&lr=&source=gbs_navlinks_s

¹² IPCC. 2012. Managing the risks of extreme events and disasters to advance climate change adaptation: summary for policymakers

- 10.1 The PMU will procure research and related services (e.g. knowledge management, capacity building) using fully open international competitive tendering, except as otherwise agreed with DFID. The PMU will provide the detailed procurement programme and arrangements in a separate Procurement Strategy for DFID to assess and approve. This should set out arrangements for: preparation of ToR; tendering; bid evaluation and contract approval; contract management; financial management and reporting; progress reporting; technical quality assurance of outputs and audit.
- 10.2 Activities procured by the PMU will not be subject to EU Directives on procurement, for which research is exempt, but must comply with the contract to be agreed with DFID. Procurement procedures will be agreed by DFID and will be carefully monitored to ensure conflicts of interest are identified and avoided and there is full transparency and value for money in procurement. DFID reserves the right to modify the procurement procedures to ensure this is achieved. The PMU will be required to manage conflicts of interests

11. Accounting & Audit

11.1 The PMU will appoint and pay an accountancy firm, acceptable to DFID, to undertake annual audits. The audits will cover the PMU itself and its use of DFID funds. The audits will include a management systems audit to ensure that procurement, fraud avoidance, human resources and other management systems by the lead and its partner organisations are in line with DFID requirements and international best practice.

12. Funding

12.1 The PMU will need to pre-fund research and related costs and to claim these back from DFID in arrears through invoices with sufficient backing detail to enable DFID to meaningfully assess claims.

13. Open Access

- 13.1 DFID is committed to strengthening demand for knowledge and improving access to research information. To this end DFID launched a new Open Access policy in 2012, which this project must comply with. As part of the draft research uptake strategy at the end of month 3, plans should be provided for ensuring that research and data commissioned under the project complies with the policy.
- 13.2 With regard to author pays publishing, DFID expects the project to collaborate with researchers/authors in choosing where to place their research, and it is expected that Open Access fees will be paid for either by the project (most likely through the research uptake budget) or through arrangements that the host institution has on Open Access. It will be the project's responsibility to monitor the percentage of research outputs that are available under Open Access and to inform DFID of the details and the percentage in the programme's Annual Reports. It is expected that the vast majority of research output will be made open access. Non open access should be the exception.
- 13.3 DFID also encourages its research projects to archive quantitative and qualitative datasets, resulting from the research it funds, with appropriate data archiving repositories at the earliest opportunity. In any case, datasets must be retained by the research team and provided free of charge on request.

13.4 All DFID approved technical outputs must be included on the R4D website by the PMU.

14. DFID Branding

- 14.1 The public has an expectation and a right to know what is funded with public money. It is expected that all research outputs will acknowledge DFID support in a way that is clear and explicit and which complies with DFID Branding Guidance. This will include ensuring that publications acknowledge DFID support.
- 14.2 If press releases on work which arises wholly or mainly from the project are planned this should be in collaboration with DFID.

15. Transparency

- 15.1 DFID has transformed its approach to transparency, reshaping our own working practices and pressuring others across the world to do the same. DFID requires suppliers receiving and managing funds, to release open data on how this money is spent, in a common, standard, re-usable format and to require this level of information from immediate sub-contractors, sub-agencies and partners.
- 15.2 It is a contractual requirement for all suppliers to comply with this, and to ensure they have the appropriate tools to enable routine financial reporting, publishing of accurate data and providing evidence of this to DFID further IATI information is available from: http://www.aidtransparency.net/

16. Research Ethics

- 16.1 Researchers, evaluators and implementing agencies should adhere to clear, best practice ethical guidelines (e.g. confidentiality, disclosure, adequate and informed consent, explicitly ensuring 'do no harm'), building on existing WHO resources and academic ethics protocols.
- 16.2 Specifying and ensuring compliance with ethical standards should form a part of research design, preparation of research teams, and delivery. All study team members and members of organisations involved in research delivery, should be carefully selected and receive specialised training and on-going support in research ethics.
- 16.3 Allied to ensuring best practice in research ethics, we expect the lead Supplier to ensure that clear ethical standards in research management are established, communicated, complied with, and monitored, including in relation to financial management and people management by all agents involved in research delivery and (particularly) all recipients of UK aid funds. The Supplier will be expected to develop a strategy for programme delivery.
- 16.4 Suppliers will be required to have written protocols for research/evaluation ethics and ethical clearance and to demonstrate adherence to WHO protocols and DFID research and ethical guidelines. During implementation, ethical review will be the responsibility of an appropriate Ethical Review Committee, established by the Supplier.

17. Duty of Care (DoC)

17.1 The Supplier is responsible for the safety and well-being of their Personnel (as defined in Section 2 of the Contract) and Third Parties affected by their activities under this contract, including appropriate security arrangements. They will also be responsible for the provision of suitable security arrangements for their domestic and business property.

Annex 1

APPLIED RESEARCH THEMES ON HIGH VOLUME TRANSPORT (HVT)

Theme 1: Long Distance Strategic Road and Rail Transport

Problem Statement

Design practice and procedures for high volume transport stems from technology and research conducted for European and north American conditionsⁱ The problem for many LIC, particularly those in the tropics and sub-tropics, is that their local environmental and operating conditions differ from those where the standard designs and technologies were developedⁱⁱ. Wholesale transfer of design, construction, maintenance and operation technologies can result in high investment and whole life costs, poorer than expected service performance and demands on maintenance that cannot be met through existing revenue streams. There is very limited research specific for design and maintenance of high volume road and rail transport in LIC. The legal and regulatory basis for updating standards and specifications is often slow or non-existent and can prevent new methods and materialsⁱⁱⁱ from being used.

The problem for low income countries in Africa and South Asia becomes more acute when the implications of climate change are considered. Climate affects the performance, safety and operation and serviceability of transport infrastructure assets (bridges, road and rail drainage systems, road surfacing, rail track and control systems etc.). In Europe, weather stresses represent from 30% to 50% of current road maintenance costs (8 to 13 billion € p.a.), with around 10% of these costs (~0.9 billion € p.a.) resulting from extreme weather eventsiv. If impacts are not anticipated in future transport infrastructure design and maintenance, changing weather conditions could, in some regions, accelerate deterioration, increase severe damage risk, reduce service life, performance and safety, interrupt traffic operation and adversely affect economic activities. The UK', Europecviii and other parts of the developed world are already responding to the challenge. For low income countries in Africa and South Asia the sense of urgency and need is equal or higher. Aging infrastructure also presents multiple challenges, and the relative benefits of upgrading older infrastructure versus creating or extending existing transport infrastructure needs to be considered in different LIC contextsvii. Surges of infrastructure investment can leave a legacy of simultaneous replacement and upgrading.

Meeting the increasing demand for transport infrastructure investment comes with an increasing need to invest in asset management and maintenance, if service standards and benefits are to be derived from the initial investment and early replacement is to be avoided. An efficient transport sector contributes 5-10% of GDP in most countries. Under-investment in maintenance and carrying maintenance deficits erodes GDP contribution and leads to deteriorating assets which translates into higher long-term costs. In Africa, it is estimated that timely road maintenance expenditure of \$12 billion in the 1990s could have saved over \$45 billion in subsequent reconstruction costs^{viii}.

Reallocating funds from new infrastructure to maintenance in Latin America has been shown to positively influence GDP^{ix}. Rates of return on road maintenance investments are often nearly twice those of construction projects yet lack of timely maintenance is widespread, threatening the long term benefits of roads^x. Road funds

to cover maintenance costs are often inadequate^{xi}, and engineering capacity in low income countries in Africa and South Asia to manage maintenance is often weak.

Knowledge Gaps

Technical and engineering research can help improve high volume transport planning, design, implementation, maintenance and operation for both road and rail transport. Design approaches and maintenance techniques that are specifically designed to meet the requirements of local conditions in LIC can improve performance, extend asset life, protect investments and significantly reduce whole life costs, including maintenance. Accelerating traffic growth in LIC pushes structural, geometric, drainage and surfacing design requirements outside the limits of existing and out-of-date road design standards^{xii} and documentation. Imported design and construction methods can often preclude the use of locally occurring materials and technology, adding significantly to the life cycle cost. This risks costly under or over design, reduced life and high maintenance cost. Action-oriented research is needed that provides improvement, updates and technologies to national or regional design and maintenance standards and specifications.

Another key research area is climate-proofing of road and rail investments, and adaptation technologies for high volume transport infrastructure that can mitigate the effects of increasingly frequent and intense hydro-meteorological eventsxiii. This would include coastal cities and low lying areas that are particularly at greatest risk of climate-related hazardsxiv. The increase in the severity of such events will complicate existing design, construction and maintenance challenges. Context specific engineering solutions will be required to improve the resilience of roads and rail infrastructure especially in the wake of disasters. Transport infrastructure is an interconnected network of high-value assets with long operational lifetimes. Adaptation is needed if transport infrastructure assets are to be protected, service lives are to be met and early replacement avoided^{xv}. Design of road and rail transport infrastructure needs to capture the trajectory and effects of climate change. Affordable and workable mitigation measures to provide climate resilience for existing and vulnerable transport infrastructure in low income countries in Africa and South Asia is needed. Understanding how high volume transport infrastructure improves the resilience of transport users and populations to the impact of climate change is also important.

Understanding how road and rail assets perform and deteriorate can provide a powerful tool for optimising designs, planning and managing transport infrastructure maintenance and allocating often constrained capital and recurrent financial resources. Experience and technologies from HIC and MIC can provide technical and engineering solutions that meet the some of the demands of the transport sector in LIC. However, these require optimising and tailoring to the specific local conditions and development context.

The proposed intervention

The main objective of work in this area is to optimize design, operational and maintenance options for high volume road and rail passenger transport in LIC. This theme would look at strategic road and rail infrastructure links between cities, towns and regionally - corridors. It would have a strong technical engineering research focus complemented by some political economy research as this affects mode, location, construction and maintenance options. Against a backdrop of climate change, key focus areas would include adapting HIC/MIC road and rail infrastructure

design approaches and technologies, to extend the performance life, serviceability, improve maintenance and lower whole life costs for LIC.

The proposed intervention shall be carried out in two parts.

Part 1:

Part 1 will review available knowledge, procedures and options, experience and case strategies for optimizing design of high volume and strategic road and rail transport infrastructure. It would look at the experience of the developed world as it develops strategies for improving climate resilience of transport infrastructure. It would also explore why maintenance remains a challenge and how this can be managed given increasing scale of investment in transport infrastructure, the growing freight and passenger transport volumes and the vulnerability of existing, often poorly maintained infrastructure to the extremes of climate.

Part 1 research will produce two state of knowledge papers under this theme. The state of the knowledge papers will, for road and rail, capture selected technologies, approaches, and options from international case studies and experience in HIC/MIC and will set out potential for adaptation to environments and conditions in low income countries in Africa and South Asia. Understanding barriers to uptake of promising technologies and approaches and mapping opportunities to move solutions into practice quickly, will be an important aspect of the content of the knowledge papers. There may also be opportunities for cross-learning between transport and other sectors.

Part 1 will also identify what future primary research, if any, is necessary under Part 2.

Potential Part 1 research questions for road and rail include:

- Are national or primary roads and railways in low income countries in Africa and South Asia being designed, constructed, rehabilitated and maintained using the most appropriate standards, technologies and practice that will ensure design and performance is optimised to local conditions, fiscal constraints and freight and passenger traffic growth?
- Given financial constraints should we be looking for low cost, easily upgradeable design?
- Is life-cycle costing used effectively to plan, design and maintain transport infrastructure and services
- How vulnerable is major road and rail transport infrastructure in low income countries in Africa and South Asia to the impact of climate change?
- In what ways can high volume transport infrastructure (including urban) improve resilience of populations in general and vulnerable groups in particular to the effects of climate change?
- Should countries be over-designing major road and rail infrastructure to increase long term climate resilience, if not, what are the alternatives?
- Have maintenance and asset management systems for strategic road and rail networks in low income countries in Africa and South Asia been

¹³ This question could look at what technologies exist to help low income countries in Africa and South Asia identify vulnerabilities, adapt vulnerable infrastructure, prioritise key intervention areas and quantify the fiscal impact that will make transport infrastructure more resilient to the impact of climate change or extremes of weather.

successful? If not, why not?¹⁴ What additional research is needed to improve existing asset management systems and decision tools?

Part 2

The final outputs of Part 1 will be relevant, high-quality robust evidence products that meet the research objectives along with recommendations for research questions for Part 2. In this theme, it is quite likely that Part 1 evidence products will identify the requirements to include further data extraction and analysis of existing data and primary field data collection from real world settings. Approaches through Part 2 research might also include laboratory investigation and experimentation, including collection of primary research data and analysis through construction and monitoring of full scale trials.

Other actors and opportunities for partnership

Work in this area would complement a number of country and regional programmes where DFID are co-funding development of national and regional economic corridors. Depending on timing, these include DFID Pakistan on the National Trade Corridor Initiative (part of the Central Asia Regional Economic Cooperation (CAREC) initiative), DFID's increasing engagement in transport corridors in Africa through programmes such as Trade Mark East Africa (TMEA) and the Greening the Dar es Salaam Maritime Gateway Project. There are opportunities for cross-learning and synergies between these important programmes for DFID and this research project and this will be encouraged¹⁵.

All eight MDBs will have an interest in this research area. Both World Bank and AsDB signalled the possibility of including research design within some of their future large scale road and rail programmes. Similar opportunities could be explored with the other MDBs. DFID has a strengthening relationship with World Road Association/PIARC, through the UK World Road Association National Committee, and the PMU will be encouraged to work with the World Road Association where this strengthens opportunity for uptake and aligns with the World Road Association strategic plan¹⁶.

International road and rail research organisations such as the UK's Transport Research laboratory, TRL (www.trl.co.uk); Centre for Scientific and Industrial Research, CSIR (www.csir.co.za) and the Australian Road Research Board, ARRB (www.arrb.com.au) would hold valuable archives, experience and knowledge relevant for LIC. There are many organisations and entities that have strong interest and focus on engineering and technical research for high volume road and rail. Some examples for road engineering and technology include the Institution of Civil Engineers (www.ice.org.uk); Institution of Mechanical Engineers (http://www.imeche.org); the US Transport Research Board (www.trb.org); International Road Federation (http://www.irfnet.ch). For rail, some examples include UK Railways Standards and Safety Board (www.rssb.co.uk); International Union of Railways (<u>www.uic.org</u>); Rail Research Association UK (<u>www.rruka.org.uk</u>); Transportation Technology Centre (www.aar.com).

¹⁴ This question could address the technical and engineering challenges for low income countries in Africa and South Asia and explore the technologies, tools and lessons in the HIC/MIC that might be transferable to LIC.

¹⁵ Across this and the other themes an important role for the PMU will be liaison with DFID Country Offices, regional research hubs and centrally managed programmes where synergy can be developed.

¹⁶ This could include utilising WRA knowledge management platforms, working collaboratively with relevant WRA strategic groups and technical committees.

Theme 2: Urban Transport

Problem Statement

The city populations of emerging economies are expected to double between 2000 and 2030, from 2 billion to 4 billion people. The built-up area of cities worldwide will triple in size, from 200,000 to 600,000 square kilometres. Rapid population growth accompanied by an even faster spatial expansion of cities may lead to low-density development dominated by individual-vehicle transportation, a largely irreversible pattern^{xvi}.

If cities are engines of productivity and growth, the aim should be to allow cities to have the largest possible integrated population – transport is a major integrating factor. 70% of the global population is forecast to live in a city by 2050^{xvii}, and well-planned cities that are "compact, connected and coordinated" can function as "engines of growth" contributing to economic development, job creation and poverty reduction. Effective urban transport systems provide access to the workplace, markets, education, healthcare and recreational facilities which can enable and support human and economic development in cities. Lack of transport infrastructure makes accessing these services difficult, hinders poor people's access to social and economic opportunity and prevents land use from changing efficiently.

Urban areas are expected to be the centres of transformational growth in low income countries in Africa and South Asia but insufficient transport services and connectivity are barriers to this. What makes cities the engine of productivity increase is interconnectedness, a single labour market and a pooling of ideas and experience. This can't happen if populations are trapped in urban villages.

If cities are to be relatively low-carbon centres, the aim should be compact cities with short, low-carbon journeys. Traffic congestion risks associated with increased urbanisation is a serious problem, eroding economies and business opportunity as productive time is wasted, fuel is consumed unnecessarily, vehicles suffer additional wear and tear and air quality is reduced. The economic costs of traffic congestion in developing country cities can be as high as 5% of gross domestic product^{xxi}.

Freight is essential to the effective functioning of cities xxii. Effective urban freight transport can ensure sustainable supplies of the food, fuel and goods which are required to sustain economic development in cities xxiii. The way in which goods reach the outskirts of urban areas, how they are dealt with when they arrive, and how goods are transported for the 'last mile' of their journey into the places people live and work has wide ranging implications the economy, employment and growth but also for congestion, safety, emissions, road maintenance, noise, vibration, and quality of life xxiv.

Knowledge Gaps

90% of urban growth in the lead up to 2050 is likely to take place in developing countries^{xxv}, and sustainable, pro-poor transport and land-use planning firmly based on evidence is necessary for the growth potential of cities to be realised. Research can help better understand and model the complex flows and dynamics of urban passenger and freight transport in order to inform integrated approaches to multi-modal transport planning. For example, research could explore applications of satellite, GIS and mobile phone data to map the varying quality and extent of

services for different transport modes^{xxvi} and thereby identify key points for intervention.

Research is needed to help generate low cost traffic engineering and public transport solutions to handle congestion and growing transport demand in cities. Research can provide lessons and experience from HIC and rapidly urbanised cities in MIC to better understand the success factors and problems for adopting mass passenger transit systems such as Metro and Bus Rapid transit in low income countries in Africa and South Asia. There is also a need to focus on *access* within cities, rather than mobility, as the ultimate aim. Research can help configure "smart" patterns of land use that reduce costly and environmentally inefficient urban sprawl and thereby reduce the need to travel. On non-motorised transport (NMT), walking and cycling represent the majority of journeys in low income countries in Africa and South Asia but there is little investment in infrastructure or service provision for these modes because of various financial and political economy barriers, while car use is rising sharply. Research is required to ensure low income countries in Africa and South Asia do not follow the trajectory of some MIC cities, especially in China and India, where NMT use has fallen below levels observed in a number of European cities xxvii.

Land use planning for freight in particular has to consider provision of logistic facilities, logistic zones, off-loading areas, truck service areas and long-term truck parking areas to provide an economically sustainable infrastructure *xxviii*.

Better transport allows cities to grow and also for land use to change. It allows higher density in the centre and makes it possible for more land-extensive enterprises to relocate. Land use planning based on principles of smart growth and investment can be more effective. Safer provision for non-motorised transport in cities can help ensure urban high volume transport systems contribute to inclusive growth for the most vulnerable urban populations^{xxix}.

Public and non-motorised transport are particularly important areas for further research, given that formal and informal public transport systems and NMT carry over 80% of passengers in Africa^{xxx}. Public transport in low income countries in Africa and South Asia presents numerous systemic challenges from both the point of view of the providers (high costs of construction, maintenance and renewal and low levels of profitability and financial sustainability^{xxxi}) and passengers (limited reliability, low network coverage, prohibitively high fares, issues of safety, stigma^{xxxii} and unsuitability for women, children or disabled people).

The proposed intervention

This theme would focus on harnessing the economic development of towns and cities through strong urban passenger and freight transport. The theme would focus mainly on engineering and technical options that can improve mass passenger transit and would draw on experience from HIC/MIC on transport technologies, planning options, operation and maintenance solutions that might be appropriate for cities in low income countries in Africa and South Asia that are set to grow rapidly. It would also capture options for urban freight transport, where these can improve the "last mile" transport of urban freight. Options that promote non-motorised, intermediate and other green transport modes and approaches should be addressed for both passenger and urban freight transport.

The proposed intervention shall be carried out in two parts.

Part 1:

Part 1 research will produce two state-of-knowledge papers under this theme, addressing separately urban passenger and freight transport issues. The state of the knowledge papers will look at opportunities for adopting new and innovative urban transport technologies and approaches that are operational or under development for HIC cities and the options or barriers for adaptation to low income countries in Africa and South Asia. The state of the knowledge papers on urban passenger transport will look at transit options, both rail and bus, and where technical and engineering advances, matched to understanding of local conditions, can contribute to reducing costs and improving operational efficiency. Examination of case studies (developing/developed) will form an important element of the evidence base for work under this theme and will look to draw out lessons and experience that can provide workable and affordable solutions for urban transport in growing cities in low income countries in Africa and South Asia.

Potential Part 1 research questions may include:

- Congestion is estimated to cost around 2% of GDP. Mass transit systems (Metro, Bus Rapid transit) can be transformative for cities. What does the evidence suggest are the success factors for this transformation?
- What are the most appropriate urban transport systems and technologies in an unplanned, densely populated town or city? How do we go about retrofitting technologies where necessary?
- What is the role of non-motorised and intermediate means of transport in urban passenger and freight transport in low income countries in Africa and South Asia?
- What can be learnt from China and Brazil in their rapid urbanisation with regard to urban transport modes, plans, design and implementation?
- How can satellite imagery, GIS, mobile phone data and smart technology be most effectively used to plan urban public and private passenger transport and freight transport?
- What new technologies and approaches adopted in H/MICs have potential for improving design and operation of urban transport systems in cities in low income countries in Africa and South Asia?

Part 1 will identify the primary future research, if any, to be undertaken in Part 2, and the areas for this additional research.

Part 2

The final outputs of Part 1 will be relevant, high-quality robust evidence products that meet the research objectives along with recommendations for research questions for Part 2. In this theme, it is quite likely that Part 1 evidence products will identify the requirements to pilot test promising options and technologies through the Part 2 research.

Other actors and opportunities for partnership

A wide range of research and development organisations should be consulted to gather evidence, operational experience and to develop networks. In addition to some of those already mentioned for Theme 1 there will be interest in this research theme area by Multilateral Development Banks (WBG, AsDB and EIB etc.) and some bilateral donors (such as GIZ, JICA) who are working in the urban space. The experience of developed economies can be accessed through interaction with, for

example, the UK DOT and DECC.. DFID has a strengthening relationship with World Road Association/PIARC, through the UK World Road Association National Committee, and the PMU will be encouraged to work with the World Road Association where this strengthens opportunity for research uptake and aligns with the World Road Association strategic plan¹².

Relevant national research and innovation centres should be consulted, as well as professional institutions e.g. Partnership on Sustainable Low Carbon Transport (www.slocat.net/); Embarq/WRI (www.embarq.org); Institute for Transportation and Development Policy, ITDP (www.internationaltransportforum.org); International Association of Public Transport, UITP, (www.uitp.org). Rail and light rail manufacturer's operators and possibly some trade associations with R&D expertise and experience in implementing new technologies, including ICT, would be useful.

The UK Passenger Transport Executive Group, PTEG (www.pteg.net); Cooperation for urban mobility in the developing world, CODATU (www.codatu.org); the UK Transport Systems Catapult (www.ts.catapult.org.uk) and the EU Transport Research & Innovation Portal (TRIP), (www.transport-research.info/).

There is also synergy with DFID's Growth and Resilience Department and its ongoing work in urbanisation including the "Urban infrastructure in Sub-Saharan Africa – harnessing land values, housing and transport" programme with African Centre for Cities (ACC) and with Red through the Futures Cities Africa programme. Research under this theme should recognise and complement programmes by other UK Departments such as the Nationally Appropriate Mitigation Actions (NAMA) Facility (www.nama-facility.org) which is supported by UK (through BEIS), Governments of Germany, Denmark and the EU.

A stakeholder mapping and resource summary should be included in the Part 1 scoping work. Joining various transport and innovation portals, discussion groups and webinars should also be considered. Attention is drawn to the Urban Mobility working group under the SUM4ALL initiative co-convened by the World Bank and DFID where liaison might prove useful.

Theme 3: Low Carbon Transport

Problem Statement

Transportation accounts for about 20% of world CO₂ emissions, around 60% of all global oil consumption, and around 27% of all energy use^{xxxiii}. As prosperity increases vehicle ownership increases. Whilst it has taken one hundred years for the world to reach 1 billion cars, it is expected to take just 10 years to increase to 2 billion. Light-duty vehicles, the typical private car, are both the largest fuel consumers and one of the fastest growing, contributing to transport's share of 15%^{xxxiv} of global Green House Gas (GHG) emissions^{xxxv}.

The initial results from the DECC Global Calculator show that even with some effort in other sectors, failing to address emissions from transport could lead to a 2 to 6.6 degrees Celsius increase in global temperatures³. Worldwide, transport's greenhouse gas emissions increased at a faster rate than any other energy consuming sector in the decade up to 2007 Transport demand is estimated to increase by 90% between 2010 and 2020, with most demand growth occurring in developing countries where there is the greatest potential for introducing energy efficient transport systems xxxvii. Problematically, economic growth is associated with unsustainable increases in motorised traffic volume xxxviii xxxix. Dargay et al predict that total vehicle stock will stand at 2 billion in 2030 compared to 800 million in 2002^{xl}, with the most dramatic vehicle increase taking place in China and India. The growth in private motor vehicles is also staggering in LIC; Nairobi's car fleet is set to double in just six years due to rapid urbanisation xii. The latest IPCC assessment report states that growth in passenger and freight activity could offset all other means of climate change mitigation unless transport emissions are decoupled from economic growth^{xlii}.

Transport infrastructure investment decisions in the short term will lock in transport-related CO_2 emission patterns for the coming decades^{xliii}. Improved knowledge and strong uptake of low carbon transport policies by decision-makers is urgently needed to mitigate the potential impacts of the transport sector in low income countries in Africa and South Asia on climate change and to reduce the reliance on costly and volatile oil and gas imports.

Traffic congestion and traffic-related air pollution is a growing area of concern for public health bodies in HIC and MIC^{xliv}. Studies in HIC and MIC have analysed and estimated the economic costs of congestion in terms of fuel and time wasted. Fewer studies have quantified the public health impacts or determined how these impacts compare in magnitude to the economic costs^{xlv}. For low income countries in Africa and South Asia the information and data is more sparse on the relative magnitudes of economic and public health impacts of congestion and how this varies across urban areas, as a function of road infrastructure, population density, and atmospheric conditions.

Knowledge Gaps

The developed world is actively working toward drastically reducing transport related carbon emissions. In UK, by 2050, the radical decarbonisation of transport will be characterised by cleaner fuels, greener technology, driving efficiency gains from existing technology and a shift to renewable sources of energy. A wide range of technologies across all motorised modes of transport will be in play delivering substantial reductions in emissions from both road and rail.

This drive, at an international level, can provide opportunities for low income countries in Africa and South Asia to "leapfrog" technology development and adaption. Science and engineering research can help explore the feasibility of "leapfrogging" technologies, test options and identify those that can be made appropriate and workable for low resource settings. The critical question is whether low income countries in Africa and South Asia authorities are overlooking low-carbon alternatives, which are economic, because conventions point to copying OECD technologies. There is need to understand the practical barriers that low income countries in Africa and South Asia face when adopting these solutions. At the same time there is much to be learned from HIC and some MIC experience on development and implementation policy and regulatory instruments and surmounting barriers that can prevent moving toward sustainable low-carbon transport. This can present some further opportunity for "leapfrogging" from the experience of others and quickly adapting sustainable transport policy measures having the surface of the surface

Difficult decisions and trade-offs will have to be made on where to invest scarce resources to maximise growth while limiting emissions. National and international freight transport in low income countries in Africa and South Asia relies heavily on road transport. Rail is considerably more expensive per km than road but produces 70% less carbon dioxide than road per tonne carried for the equivalent journey so can significantly reduce freight's overall carbon footprintxiviii. Urban freight transport creates a disproportionate level of negative impacts, such as greenhouse gas and harmful emissions, noise and congestion xlix (see Theme 2). There is consensus that low-carbon strategies to reduce GHG emissions from freight transport is less well understood than for passenger transport. The "leapfrogging" technologies mentioned above will apply equally for passenger and freight transport. The IPCC suggests it is difficult to design new low-carbon freight policies given poor understanding of freight logistical systems and their economic implications, as well as decarbonisation and climate change's impacts on world trade via freight. The gaps in the basic data and statistics and what this can tell us about the costs and energy consumption of freight transport modes in developing countries still needs to be addressed.

In low income countries in Africa and South Asia the modal share is already broadly weighted towards non-motorised or intermediate modes of transport. There is evidence that "business as usual" economic growth correlates with increased CO₂ emissions per capita from transport. This may be due to infrastructure development or the growth of cities that increase distances between home and the workplace. Nevertheless, as incomes rise and lifestyles change, personal car use becomes more widespread, and there is some evidence that the modal share of public transport even decreases. Safe walking and cycling integrated with clean, efficient and affordable public transport systems remains a challenge. There are uncertainties around how mobility in developing countries can be maximised and decoupled from energy consumption. Different countries experiencing economic growth can follow very different trajectories and patterns of carbon and GHG emissions linked to transportation, and therefore require focussed analysis firmly rooted in context.

System wide transitions towards low-carbon transport introduces a high degree of complexity, requiring simultaneous understanding of improvements in travel demand, mode choice and technological improvements in combination. Decision support tools, such as HDM-IV which was released over 10 years ago may not capture more recent policy changes (e.g. climate change), vehicle technology changes (e.g. electric and hybrid vehicles and how these effect energy use assumptions); and change in fuel technology (e.g. how these effect consumption and emissions composition); and changes in pavement and construction technologies (e.g. emissions, energy use).

Here systems, data and models might need to be updated or developed to better quantify carbon impacts and capture low carbon technology options, as well as other advances and issues mentioned in the other themes.

The proposed intervention

The main objective of work in this area is to understand the options, opportunities and barriers for low income countries in Africa and South Asia moving toward low carbon passenger and freight transport. High volume transport is a key sector to focus on to help reduce emissions and mitigate climate change. This theme could include low carbon transport technologies and solutions for motorised road transport, rail and options that promote non-motorised and intermediate transport.

The proposed intervention shall be carried out in two parts.

Part 1

Part 1 will review available knowledge, experience and strategies toward reducing the carbon impact of the transport sector. It would look at the experience of the developed world as it develops cleaner fuels and low carbon vehicle technologies and how low income countries in Africa and South Asia might approach the competing demands of achieving economic growth, cost effective passenger and freight transport and improved mobility against a backdrop of reduced carbon and emissions.

Part 1 research will produce two state of knowledge papers under this theme. The state of the knowledge papers, addressing separately road and rail transport, will capture selected options from case studies, target adaptation to low income countries in Africa and South Asia and will look for cross-learning between these and other developing/developed regions and international experience.

Potential Part 1 research questions may include for road and rail:

- HIC and some MIC are moving toward low carbon transport strategies, policies, approaches and technologies. Which low carbon road and rail transport strategies, policies, approaches and technologies from HIC and MIC, might be appropriate or might show promise for application in low income countries in Africa and South Asia?
- How can low income countries in Africa and South Asia maintain a high share of non-motorised modes and contain a potential explosion in car ownership whilst improving both mobility, growth and helping mitigate emissions from the transport sector? What can be learned on the uncertainties and challenges from Brazil, China and India and HIC experience?
- Where can opportunities for leapfrogging low carbon transport development and early deployment be found that might lead to early reduction in road and rail passenger and freight transport GHG emissions in low income countries in Africa and South Asia?
- How well do investment planning tools such as HDM-IV respond to recent changes in policy and advances in transport technology? Where are the models limiting and what research and data are needed to ensure that investment planning captures impacts of congestion and benefits of LCT?

Part 1 will identify the primary research, if any, to be undertaken in Part 2, and the areas for this additional research.

Part 2

The final outputs of Part 1 will be relevant, high-quality robust evidence products that meet the research objectives along with recommendations for research questions for Part 2. In this theme, it is quite likely that Part 1 evidence products will identify the requirements to test some promising low carbon options through Part 2 research.

Other actors and opportunities for partnership

Fuel and vehicle manufacturer's, road and rail operators and possibly some trade associations with R&D expertise and experience in implementing new technologies might be interested in linking on this research theme. A wide range of research and development organisations should be consulted, including some of those mentioned under themes 1 and 2 to gather evidence on developments and operational experience and to develop networks.

Multilateral Development Banks (WBG, AsDB and EIB etc.) and some bilateral donors (such as GIZ) have relevant project experience and expertise in low carbon transport. The experience of developed economies could be accessed through other government entities such as DOT, DEFRA and DECC. DFID has a strengthening relationship with World Road Association/PIARC, through the UK World Road Association National Committee, and the PMU will be encouraged to work with the World Road Association where this strengthens opportunity for uptake and aligns with the World Road Association strategic plan¹².

Relevant national research and innovation centres should be consulted, as well as professional institutions e.g. national and international low carbon transport networks. groupings and programmes, e.g. the Energy Futures Lab (http://www3.imperial.ac.uk/energyfutureslab); Partnership on Sustainable Carbon Transport (www.slocat.net/); Global Fuel Economy Initiative (GFEI), http://www.globalfueleconomy.org Institution of Mechanical Engineers (http://www.imeche.org/knowledge/themes/transport/low-carbon-transport), and the UK Engineering and Physical Science Research Council (https://www.epsrc.ac.uk) would have relevant programmes and experience. Defra have oversight for UK on the CCAC is Climate and Clean Air Coalition where the Heavy-Duty Diesel Vehicles and Engines Initiative might be relevant.

A stakeholder mapping and resource summary should be included in the Part 1 scoping work. Joining various transport, energy and innovation portals, discussion groups and webinars should also be considered. Attention is drawn to the Green Mobility working group under the SUM4ALL initiative co-convened by the World Bank and DFID where liaison might prove useful.

Theme 4: Gender, Vulnerable Groups and Inclusion in High Volume Transport

Problem Statement

Women and girls have a particularly high transport burden, given that they are responsible for the majority of domestic travel, have less access to private vehicles and have higher safety and security concerns. Safe, reliable and affordable transport services are key to improving women's mobility. However, there has been little research on distributional impacts of transport infrastructure. Informed policy on gender-sensitive high volume transport could lead to more inclusive infrastructure benefits and better outcomes for women, girls and other vulnerable groups. On public transport, women and children can be vulnerable to physical and verbal harassment. Operator policies and poor siting of bus stops and termini can increase real and perceived dangers for women and children and for other groups, such as the aged or disabled, it can prevent access to transport services.

Women may not benefit from or could be adversely affected by high volume transport. Urban transport systems tend to suit men, who have routine travel patterns between home and work during peak hours. Travel patterns for women involve more frequent short journeys during off-peak hours and longer travel times. Women tend to have less access to private transport compared to men, disadvantaging women workers disproportionately. In Delhi when 700,000 squatters were resettled on the periphery of the city, female employment fell by 27 percent because travel time increased three-fold. New roads and rail links can make women more vulnerable to health and safety risks, including HIV/AIDS and human trafficking. Women and girls also risk verbal abuse, sexual harassment and violence on public transport systems. In some cultures "eve teasing", which can lead to girls being ostracised or even suicide, is prevalent on streets, taxis, bus and rail systems.

Over 1.2 million people per year dying in road crashes worldwide, that is one fatality every 30 seconds, with most road traffic deaths and injuries occurring in LIC/MIC, despite a lower vehicle ownership than in HIC. Vulnerable road users are particular at risk, 500 children die every day in road crashes. In many Asian, African, and Middle Eastern countries between 40 and 50 per cent of people killed as a result of a road crash are pedestrians. The percentage of children under 15 killed in road crashes in developing countries is currently almost three times higher than that in highly motorized industrialized countries. Road crashes kill more young adults (aged between 15 and 44 years) in Africa than malaria. Road death is the second biggest killer of young men, only HIV/AIDS claims more lives.

Knowledge Gaps

High volume passenger transport services can be inclusive and can offer opportunities to meet the distinctive transport characteristics of different groups if enough is known about the mobility characteristics and needs of those groups. Women, girls and other disadvantaged transport users need a voice in the design of infrastructure, vehicles and services. This means that opportunities need to be found to ensure that women and other disadvantaged groups (poor, elderly, disabled), can participate more fully in the planning, design and decision-making process.

While a significant body of research already exists on gender and transport, particularly as this relates to rural transport, a greater research focus on the difficulties women and vulnerable groups face on urban public transport and along major transport corridors in low income countries in Africa and South Asia is required.

The piloting of a women's only bus service in Pakistan is currently being investigated through DFID funding and could provide a model for other contexts^{lix}. Taxis and vehicles reserved for "women only" have been introduced to combat the sexual harassment in a number of cities. In Manila, the light railway systems reserves two carriages exclusively for women and children. Buses and metro carriages specifically for women have been added during rush hours in Mexico^{lx}.

Perhaps more glaring is the gap around mobility for disabled^{|xi|} or impaired individuals^{|xi|}. Even if public transport vehicles are designed to be accessible, this is only of limited utility if network coverage is patchy. Disaggregated data on access, mobility and transport choices of different groups would help to map inequalities and thereby understand the needs of poor people in low income countries in Africa and South Asia who are currently underserved by existing transport infrastructure.

Increasing road investment and higher traffic volumes will increase exposure to the risk of road traffic deaths and injuries. The technical capacity of developing countries to develop and implement effective road safety strategies and programmes is weak. The cost of a road crash often has vast implications for the affected parties including medical costs, loss of property; human pain, grief and lost work performance, potentially for a lifetime.

There is a high economic cost globally. For every road death, estimates indicate between 30 and 45 injuries occur. Many involve permanent disability and due to their ongoing care and support requirements, will incur a lifetime cost greater than that of a road death. The burden from road crashes can tip many households in developing countries into poverty. Police records seriously under-report crash and casualty numbers in LIC. In some countries, less than half of the deaths that happen as a result of a road crash are reported to the police⁷. To provide a basis for investing in road safety, it is important that all countries have available workable methods to capture, store and analyse road crash data, along with methods for determining the cost of road crashes and the value of preventing them.

With the benefit of over 70 years of research, HIC now have a better record of containing and reducing road crash risks and implementing effective road safety countermeasures. Low income countries in Africa and South Asia have an opportunity to learn from this experience and to adapt systems and technologies from HIC that have proven successful in reducing unnecessary death and injury and limit negative economic impacts of high volume transport.

The proposed intervention

The main objective of this research theme is to understand how high volume road and rail transport situations in urban areas and along long distance transport corridors can negatively affect or exclude women, girls and other vulnerable groups. Research in this theme needs to identify gaps and point to solutions that will make road and rail passenger transport safe, accessible and inclusive.

Part 1:

The final outputs of Part 1 will be two high-quality robust evidence products as state-of-knowledge papers meeting the research objectives on gender and vulnerable groups and road safety. The state-of-knowledge paper on gender and vulnerable groups will review literature on what has worked and in what circumstances to make high volume transport inclusive for women, girls and other vulnerable groups in low income countries in Africa and South Asia. The second state of knowledge paper will

address road safety issues. Both papers will identify any significant and relevant evidence gaps affecting high volume transport in the context of the transport themes considered in the project (urban transport and long distance passenger transport). Examination of case studies (developing/developed) will form an important element of the evidence base for work under this theme and will look to draw out lessons and experience that can provide workable and affordable solutions for low income countries in Africa and South Asia. Part 1 will also provide recommendations for research questions for Part 2. Research questions for the Part 1 state-of- knowledge paper and scoping for feasibility of follow on research include:

- What are the constraints and needs of the poor, women and girls and other disadvantaged or vulnerable groups when accessing public transport in low income countries in Africa and South Asia and how do these differ for formal and informal transport?¹⁷
- Women and children often have different transport use patterns than men. Often these are shorter distances, more frequent journeys and at non-peak times. How does this impact on transport access needs for women and children?¹⁸
- How can new technology and potential solutions from HIC help and be adapted to improve the transport opportunities, safety and security for women and girls and other disadvantaged groups accessing high volume transport?
- What are the key data gaps on gender and inclusive HVT needed to inform the decision or regulatory process?¹⁹
- What are the links existing between road and rail transport and jobs and how can access to high volume transport contribute to inclusive job creation?
- Which road safety mechanisms for high volume transport are likely to have the highest impact in the short, medium and long term for low income countries in Africa and South Asia development?
- What are the options available for a) improving road crash data collection and costing and b) using these data to inform high volume transport investment options?

Part 1 will also identify what future primary research, if any, is necessary under Part 2.

Part 2:

In this theme, it is possible that Part 1 evidence products will identify the requirements to include further data extraction and analysis of existing data and primary field data collection and survey from real world settings. If the Part 1 review identifies that that further primary research is required, this should be clearly justified, including how it will be undertaken in Part 2 to address any remaining questions and knowledge gaps.

¹⁷ This would include methods to identify and understand the needs of these groups, options for managing and overcoming constraints for public and privately owned and/or operated transport and determining opportunities where learning from HIC/MIC might be transferable or adapted to LIC.

¹⁸ Other disadvantaged groups, such as the elderly and physically challenged needing to reach high volume transport options would also need to be considered when addressing this question.

¹⁹ In dealing with this question consideration should be given to open or big data sets and how these could be sufficiently disaggregated to show the needs and patterns by gender, age etc.

Other actors and opportunities for partnerships

In undertaking this initial (Part 1) review full account should be taken of the wider gender and vulnerable groups research and policy work undertaken by DFID and others, including operational guides for MDBslxiii, lxiv, lxv

The World Banks Sub-Saharan Africa Transport Programme (SSATP) have themes covering gender and inclusion (http://www.ssatp.org).

Numerous international organisations have interest in road safety issues in developing countries, and links could be established with global leaders such as the Global Road Safety Facility, GRSF²⁰; Global Road Safety Partnership, GRSP; http://www.grsproadsafety.org; International Road Assessment Programme, IRAP, http://www.irap.net; Road the Safety Observatory, http://www.roadsafetyobservatory.com and the World Road Association/PIARC, http://www.piarc.org. International research organisations such as the UK's Transport Research laboratory, TRL (www.trl.co.uk); Centre for Scientific and Industrial Research, CSIR (www.csir.co.za), the Australian Road Research Board, ARRB (www.arrb.com.au) and VTI, the Swedish National Road and Transport Research Institute (www.vti.se) will have strong records in road safety research. Attention is drawn to the Safety Mobility working group under the SUM4ALL initiative coconvened by the World Bank and DFID where liaison might prove useful.

i Transportation Research Circular E-C118. Pavement Lessons Learned from the AASHO Road Test and Performance of the Interstate Highway System. Transportation Research Board. Pavement Management Section. July 2007.

Greening, PAK & Pinard, M. Provision of Low-Volume Sealed Roads in the SADC Region: : Time for a Re-Think by Decision Makers Seminar: Sustainable Access and Local Resource Solutions. Nov 2005. http//ntl.bts.gov/lib/12000/12100/12140/pdf/Greening.pdf

iii O'Neill, P., Petts, R., Beusch, A. 2010. "Improved Asset Management – Climbing out of the Road Sector Pot-hole" PIARC Seminar on Sustainable Maintenance of Rural Roads. Hyderabad, Andhra Pradesh, India (January 2010). Available at: http://www.piarc.org/en/publications/PIARC-International-Seminars-Proceedings-PIARC-International-Seminars-Proceedings-PIARC-International-Seminars-Proceedings-PIARC-International-Seminars-Proceedings-PIARC-International-Seminars-PIARC-International-Seminars-PIARC-International-Seminars-PIARC-International-Seminars-PIARC-International-Seminars-PIARC-International-Seminars-PIARC-International-Seminars-PIARC-International-Seminars-PIARC-International-Seminar-Inte

^{2010/}hyderabad January10.htm

v European Commission Staff Working Document. Adapting Infrastructure to Climate Change: An EU Strategy On Adaptation to Climate Change. SWD(2013) 137. Brussels, 16 April 2013. Available at:

http://ec.europa.eu/clima/policies/adaptation/what/docs/swd 2013 137 en.pdf.

v Climate Resilient Infrastructure: Preparing for a Changing Climate. Presented to Parliament by the Secretary of State for Environment, Food and Rural Affairs. Cm 8065. May 2011.

vi US Department of Transport. Transportation Climate Adaptation Plan: Ensuring Transportation Infrastructure and System Resilience. 2014. http://www.dot.gov/mission/sustainability/2014-dot-climate-adaptation-plan

ii See Page 15 of the following report for analysis of the various strategies of developed countries in this debate: World Economic Forum/Boston Consulting Group, 2014. Strategic Infrastructure: Steps to Operate and Maintain Infrastructure Efficiently and Effectively. Available at:

http://www3.weforum.org/docs/WEF_IU_StrategicInfrastructureSteps_Report_2014.pdf

World development report 1994: Infrastructure for development, World Bank, June 1994.

Rioja, F. K. 2003. Filling potholes: macroeconomic effects of maintenance versus new investments in public infrastructure. Available at: http://www2.gsu.edu/~ecofkr/papers/pub2003.pdf

^x ADB. 2006. When Do Rural Roads Benefit the Poor and How? An In-depth Analysis Based on Case Studies^{-Available at} http://www.adb.org/publications/when-do-rural-roads-benefit-poor-and-how-depth-analysis-based-case-studies

World Bank Independent Evaluation Group. 2007. An Evaluation of World Bank Assistance to the Transport Sector, 1995-2005. Available at: http://elibrary.worldbank.org/doi/abs/10.1596/978-0-8213-7003-2

xii Overseas Road Note 31. A Guide To The Structural Design Of Bitumen - Surfaced Roads In Tropical And Sub-Tropical Countries. TRL. 4th Edition. 1993.

xiii IPCC. 2012. Managing the risks of extreme events and disasters to advance climate change adaptation: summary for policymakers. Available at: https://www.ipcc.ch/pdf/special-reports/srex/SREX_FD_SPM_final.pdf

xiv 2014. New Climate Economy Report. "Cities" chapter. Available at: http://newclimateeconomy.report/cities/

xv Huddle consultation, Arthur Hannah.

xvi World Bank, 2013, Flagship Report on Urbanisation

```
2014. New Climate Economy Report. "Cities" chapter. Available at: http://newclimateeconomy.report/cities/
xix UN Department of Economic and Social Affairs. 2012. Shanghai Manual: A Guide for Sustainable Urban Development in the
21st Century Chapter 4. Available at: http://www.un.org/esa/dsd/susdevtopics/sdt pdfs/shanghaimanual/Chapter%204%20-
%20Sustainable%20urban%20transport.pdf
xx Infrastructure Position Paper, DFID
xxi Asian Development Bank. 2014. "Urban Transport". Available at: <a href="http://www.adb.org/sectors/transport/key-">http://www.adb.org/sectors/transport/key-</a>
2009 The International Bank for Reconstruction and Development. The World Bank.
http://www.ppiaf.org/freighttoolkit/knowledge-map/urban
   Herzog, B. O. 2010. "Urban Freight in Developing Cities". GTZ. Available at: www.sutp.org/ins-pol-supporting-
docs/category/24-1g?download Page 2
  Delivering the Future: New approaches to urban freight. Passenger Transport Executive Group. PTEG. February 2015.
Available at: <a href="http://www.pteg.net/resources/freight">http://www.pteg.net/resources/freight</a>
 xv World Bank, 2010. Cities and climate change: An urgent agenda. Urban Development Series Knowledge Papers December
2010 No. 10. Available at: https://cdm.unfccc.int/public_inputs/2011/eb64_02/cfi/6A53MQUSZSPTX5K1N0BOMZMC28GNOX
xxvi Huddle consultation, Todd Litman
For example only 25% of journeys in Bangalore are now made by NMT (Source: Pai, M. 2009. Transport in Cities: India
Indicators. EMBARQ. Available at: http://www.embarq.org/sites/default/files/India-Integrated-Transport-Indicators-
EMBARQ.pdf)
   Dablanc, L. 2009. Op. Cit., Page 31
xxix GTZ, 2010. "Challenges of urban transport in developing countries- a summary". Available at: http://www.sutp.org/ins-pol-
supporting-docs?download=391:challenges-of-urban-transport-in-developing-countries-a-summary Page 36
VXX UN-HABITAT. 2010. Sustainable Mobility in African Cities. Available at:
http://unhabitat.org/?wpdmact=process&did=NDM4LmhvdGxpbms_Page 7
xxxi Kumar, A. and Barrett, F. 2008. Stuck in Traffic: Urban Transport in Africa. Available at:
http://siteresources.worldbank.org/EXTAFRSUBSAHTRA/Resources/Stuck-in-Traffic.pdf
xxxii UN-Habitat. 2013. Planning and Design for Sustainable Urban Mobility. Available at:
http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3503 Page viii
   International Energy Agency, 2013 Key World Energy Statistics. Page 33, available at
http://www.iea.org/publications/freepublications/publication/KeyWorld2013_FINAL_WEB.pdf
  iv International Transport Forum. 2010. Reducing Transport Greenhouse Gas Emissions: Trends and Data. [Online] Available
at: http://www.internationaltransportforum.org/Pub/pdf/10GHGTrends.pdf Page 5
New Data from 2050 Global Calculator Indicates Sustainable Transport Critical to Combating Climate Change. Webcast.
Sustainable Cities Collective.21 July 2014.
xxxxvi Ribeiro, K. et.al. 2007: Transport and its infrastructure. In Climate Change 2007: Mitigation. Contribution of Working Group
III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R.
Dave, L.A. Meyer (eds)]. Page 325. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
   <sup>i</sup> IEA. 2014. Energy Efficiency Market Report 2014: Factsheet. [Online] Available at:
http://www.iea.org/media/news/2014/press/EEMR14_Factsheet.pdf
    Decoupling Traffic Growth from Economic Growth – Is this Plausible for the UK? Available at:
http://www.tps.org.uk/files/Main/Library/2004/0304fielder.pdf
   Banister, D. 2005. Unsustainable Transport: City Transport in the New Century. Page 192
xl Dargay, J., Gately, D. and Sommer, M. 2007. Vehicle Ownership and Income Growth, Worldwide: 1960-2030. [Online]
Available at: http://www.econ.nyu.edu/dept/courses/gately/DGS Vehicle%20Ownership 2007.pdf
xii UNEP 2014. "H.E. President Kenyatta of Kenya and UN Secretary-General Ban Ki-moon Witness Adoption of New Plan to Set
in Motion Africa's Sustainable Transport Transition". Available at:
http://www.unep.org/newscentre/Default.aspx?DocumentID=2803&ArticleID=11031
  IPCC, Working Group III - Mitigation of Climate Change. 2013. Chapter 8 - Transport. Available at:
http://report.mitigation2014.org/drafts/final-draft-postplenary/ipcc wg3 ar5 final-draft postplenary chapter8.pdf
  Leather, J. 2009, Rethinking Transport and Climate Change, Asian Development Bank, Available at:
http://www.adb.org/sites/default/files/publication/28489/adb-wp10-rethinking-transport-climate-change.pdf Page 1
  Brauer, M; Reynolds, C and Hystad, P. Traffic-related air pollution and health in Canada. CMAJ, October 2013
xiv Levy,JI; Buonocore, JJ and von Stackelberg,K. Levy,JI; Buonocore, JJ and von Stackelberg,K. Evaluation of the public health
impacts of traffic congestion: a health risk assessment. Environmental Health 9:65. 2010.
http://www.ehjournal.net/content/9/1/65
  IEA (2009) Transport, energy and CO2: moving toward sustainability. International Energy Agency, Paris
Santos G, Behrendt H, Teytelboym A (2010) Part II: policy instruments for sustainable road transport. Res Transp Econ
   UK Transport Select Committee. 2010. "Further written evidence from the Campaign for Better Transport (ROR 22A)".
Available at: http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtran/329/329we15.htm
<sup>dix</sup> Lah, O. The barriers to low-carbon land-transport and policies to overcome them. Eur. Transp. Res. Rev. (2015) 7:5. Available
at: http://link.springer.com/article/10.1007%2Fs12544-014-0151-3#
^{
m I}John Hawkins, Jill Wells and Bernadine Fernz.Maximising the Benefits to the Poor from Infrastructure Programmes aimed at
Increasing Growth. Topic Guide. November 2014. http://www.evidenceondemand.info/topic-guides
<sup>II</sup> DFID. (2013) Social Dimensions of Transport: A resource for social impact appraisals. London: Department for International
Development.
```

xvii World Health Organisation, Global Health Observatory. 2014. "Urban Population Growth". Available at:

http://www.who.int/gho/urban health/situation trends/urban population growth text/en/

iii Babinard, J., Hine, J., Ellis, S. & Ishihara, S. (2010) Mainstreaming Gender in Road Transport: Operational Guidance for World Bank Staff. Washington, DC: World Bank Transport Sector Board.

🎬 Faruk, F. Eve-teasing: A social disaster for women in Bangladesh. Eastern University Journal. Vol.3, Issue 3, December 2011. http://gsdl.easternuni.edu.bd/greenstone/collect/2eujournal/index/assoc/HASHb471.dir/doc.pdf

Faizal, Farah; Rajagopalan, Swarna (2005), "In Public Spaces: Security in the Street and in the Chowk", Women, Security,

South Asia: A Clearing in the Thicket (SAGE): 45, ISBN 0-7619-3387-5

[™] Global Status Report on Road Safety 2013: supporting a decade of action. World Health Organization http://www.who.int

M Global Road Safety facility. Facts and Figures of a Global Crisis. http://www.grsproadsafety.org/our-knowledge/facts-andfigures-global-crisis

wii See Gender and Transport Resource Guide at: http://www.ssatp.org/sites/ssatp/files/publications/HTML/Gender-

RG/module6/index-p2.html

Niii Examples of DFID funded research outputs on gender and transport: http://r4d.dfid.gov.uk/Output/194820/; http://r4d.dfid.gov.uk/Output/181149/Default.aspx; and http://r4d.dfid.gov.uk/Output/5212/Default.aspx

lix Huddle consultation, Kate Vyborny

^{lx} Chantal Duchene. Gender and Transport. Discussion Paper 11. 2011. International Transport Forum.

Maunder, D.A.C, Venter, C.J., Rickert, T. and Sentinella, J. 2004. Improving transport access and mobility for people with disabilities. DFID. Available at:

http://www.transport-links.org/transport links/filearea/documentstore/307 CILT%202004.pdf

World Bank. 2013. Improving Accessibility to Transport for People with Limited Mobility. Available at: http://wwwwds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/01/30/000442464 20140130093151/Rendered/PDF/ Accessibility0Report0Final.pdf

Mainstreaming Gender in Road Transport: Operational Guidance for World Bank Staff. Transport Papers TP28. March 2010. The World Bank. Available at: www.worldbank.org/INTTRANSPORT/.../tp-28-Gender.pdf

biv Babinard, J. World Bank Gender Transport Surveys: An Overview. Transport Notes: TRN-43. The World Bank. September 2011. Available at: www.worldbank.org/INTTRANSPORT/Resources/336291-1227561426235/5611053-1231943010251/TRN-43-GenderSurveys.pdf

box Gender Toolkit Transport. Maximizing the Benefits of Improved Mobility for All. Asian Development Bank. 2013. Available at: http://www.adb.org/documents/gender-tool-kit-transport-maximizing-benefits-improved-mobility-all