Crown Commercial Service

ATTACHMENT 4A

SERVICES SPECIFICATION

(SCHEDULE 2 (SERVICES) TO THE CONTRACT)

CONTENTS

1. GENERAL

1.1 The Supplier shall provide the Authority with high quality travel time and routing data, for the road network in England to enable robust and relevant analysis as an evidence base for future transport policy and scheme proposals.

1.2 The following terms used in this Schedule shall have the following meaning:

"Datasets"	means the Processed Data and/or the Raw Data;
"Processed Data"	means the high quality travel time and routing data for the road network in England more particularly described in paragraph 5 and paragraph 6 below;
"Raw Data"	means the high quality travel time and routing data for the road network in England more particularly described in paragraph 4 and paragraph 6 below;
"Technical Documentation"	means the detailed technical documentation to be provided as set out in paragraph 7 below.

1.3 The Supplier shall provide the Raw Data, the Processed Data and Technical Documentation in accordance with this Specification schedule.

1.4 The Supplier shall permit the Authority and bodies listed in paragraph 2.1.2 to publish (in public domain) analyses of the travel time information at an aggregated level. As a minimum this shall be aggregated to a monthly level over several road links (using the OS geography layer referenced above).

2. SERVICES

2.1 The Supplier shall:

2.1.1 supply the Datasets and the Technical Documentation to the Authority; and

2.1.2 permit the Authority to make the Datasets available to the following bodies and their subcontractors:

2.1.2.1 Crown Bodies;

2.1.2.2 Local Highway Authorities;

2.1.2.3 Integrated & Combined Transport Authorities;

2.1.2.4 Passenger Transport Executives and Transport for London;

2.1.2.5 Highways England.

2.2 The Supplier shall put in place all necessary data licence agreements within 2 weeks of request by the Authority, to allow, as required by the Authority, the Datasets to be made available to the above bodies and their subcontractors.

2.3 The methodology for delivery of data by the Supplier shall be as approved by the Authority based on the Supplier's response to AQA13 of Attachment 3 Award Questionnaire.

3. DATA DELIVERY

3.1 During the term of the Contract, except as specified in paragraph 3.2 below and paragraph 3.3 below, the Supplier shall provide the Raw Data and the Processed Data on a monthly basis by the 21st day of the following month (e.g. the data for April 2017 shall be provided by 21st May 2017).

3.2 The Supplier shall provide the Raw Data and the Processed Data (other than the origin/destination Processed Data) for January to March 2017, which the Supplier will provide by the end of May 2017.

3.3 The Supplier shall provide the origin/ destination Processed Data for each calendar year by the end of February the following year (e.g. January to December 2017 shall be provided by the end of February 2018).

3.4 The Supplier shall provide the Technical Documentation for the Authority's approval within 6-8 weeks of the Contract being awarded. The Authority expects to work closely with the Supplier to achieve this. The Supplier shall keep the Technical Documentation under review and update it as appropriate whenever changes to the data or processes take place.

4. RAW DATA

4.1 The Raw Data must consist of (as a minimum) the recorded movements of individual vehicles at a minimum of 15 second reporting intervals. This shall take the form of location reports recorded from individual monitoring units (associated with individual vehicle observations).

4.2 Location reports shall be provided using the geodetic (World Geodetic System, WGS, 1984) or geocentric (British National Grid, OSGB 1936) coordinates of their location, speed and bearing for direction of travel at each reporting stage.

4.3 If reporting in WGS 1984 then longitude/latitude coordinates should be provided to at least 1/100,000th of a degree precision.

4.4 If reporting in OSGB 1936, then easting/northing coordinates shall be provided to at least 1 metre precision. Further information can be found at: https://www.ordnancesurvey.co.uk/docs/support/guide-coordinate-systems-great-britain.pdf.

4.5 The date/ time of all location reports shall be provided to at least 1/100th of a second precision.

4.6 The Supplier shall provide the vehicle type associated with each location report for individual vehicles.

4.7 The Supplier shall supply any related information held about whether certain data points in the Raw Data should be considered suspect. This information

shall be supplied in parallel to the regular supply of the Raw Data and the Processed Data.

5. PROCESSED DATA

5.1 The Supplier shall process the Raw Data by map-matching the recorded movements of individual vehicles against and Ordnance Survey (OS) GIS Layer (selected by the Authority and as outlined in paragraph 6.1.5 below**)**.

5.2 The Supplier shall process their travel time data in such a way as to calculate accurate travel times for each 'road link' which exists in the specified OS network. The Authority shall provide copies of the OS GIS layer to the contractor to be used in the processing of the data and the OS GIS layer shall be refreshed annually (at the start of each calendar year) over the lifetime of the contract to ensure the Raw Data is being map-matched to an accurate representation of the road network.

5.3 The Processed Data shall be provided to the Authority as three separate tiers:

i. Individual trip level Processed Data

Individual trip level Processed Data shall be delivered on a monthly basis (in accordance with paragraph 3.1 above) and shall contain the following variables:

Variable	Description
Trip identifier	A unique identifier given to individual vehicles for each trip *(to define a trip from a start to end location within a high accuracy)*
Unique link identifier	Unique identifier for each road link in the **OS GIS layer** *(based on a combination of the unique road link ID and a flag indicating the direction of travel)*
Vehicle classification	Classification of vehicle traversing the link, *(e.g. car, light van, heavy goods vehicles, motorcycles, coaches, minibuses and buses)*
Link start time	Date and time stamp for when the vehicle began traversing road link *(to at least nearest hundredth of a second)*
Travel time	Total time taken to traverse road link *(to at least nearest hundredth of a second)*

ii. 15 minute aggregated travel time Processed Data,

15 minute aggregated travel time Processed Data shall be delivered on a monthly basis (in accordance with paragraph 3.1 above) and shall contain the following variables:

Variable	Description
Unique link identifier	Unique identifier for each road link in the **OS GIS layer** *(based on a combination of the unique road link ID and a flag indicating the direction of travel)*
Date	Date when monitoring units where observed to begin traversing road link
Time period	15-minute time period during which monitoring units began traversing link
Vehicle classification	Classification of vehicles traversing the link, *(e.g. car, light van, heavy goods vehicles, motorcycles, coaches, minibuses and buses)*

Number of observations	Number of vehicles traversing the link
Average travel time	Average time taken for vehicles to traverse link *(to at least nearest hundredth of a second)*
Sum of squares of travel time	A summation of the squared travel times *(expressed to at least 1/10,000th of a second squared)*

iii. Origin/destination data,

Origin/destination Processed Data for individual vehicles shall be delivered on an annual basis (in accordance with paragraph 3.3 above) and shall contain the following variables:

Variable	Description
Trip identifier	A unique identifier given to individual vehicles for each trip consistent with what is provided in the **individual trip level data** *(to define a trip from a start to end location within a high accuracy)*
Origin Area	Lower Super Output Area origin of trip (Office for National Statistics (ONS) Census Geography, see: http://geoportal.statistics.gov.uk/datasets/b7c49538f0464f748dd7137247bbc41c_0)
Destination Area	Lower Super Output Area origin of trip (ONS Census Geography, see link above),
Vehicle classification	Classification of vehicle traversing the link *(e.g. car, light van, heavy goods vehicles, motorcycles, coaches, minibuses and buses)*
Origin Date/Time Stamp	Date/Time stamp for when trip started (e.g. at origin location)
Destination Date/Time Stamp	Date/Time stamp for when trip ended (e.g. at destination location)
Total Distance Travelled	Total distance travelled on the road from origin location to destination location (expressed in metres)
Total Time Taken	Total time taken on the road from origin location to destination location (expressed in seconds)
Total Distance Travelled on Motorways	Total distance travelled on Motorway Road Links (expressed in metres)
Total Distance Travelled on Trunk A Roads	Total distance travelled on Trunk A Road Links (expressed in metres)
Total Distance Travelled on Principal A Roads	Total distance travelled on Principal A Road Links (expressed in metres)
Total Distance Travelled on Minor Roads	Total distance travelled on Minor Road Links (expressed in metres)
Total Time Spent on Motorways	Total time spent on Motorway Roads Links (expressed in seconds)
Total Time Spent on Trunk A Roads	Total time spent on Trunk A Road Links (expressed in seconds)
Total Time Spent on	Total time spent on Principal A Road Links (expressed in seconds)

Principal A Roads	
Total Time Spent on Minor Roads	Total time spent on Minor Road Links (expressed in seconds)

5.4 The Authority shall provide a GIS layer defining road types (e.g. Motorway, Trunk A, Minor Roads).

6. CHARACTERISTICS OF ALL DATASETS

6.1 All Datasets supplied by the Supplier shall have the following characteristics:

6.1.1 Be directly collected/monitored and not based on historic/modelled estimates.

6.1.2 Be measured and recorded at a minimum of 15 second reporting intervals.

6.1.3 Be representative of traffic on the network in terms of the types of vehicles monitored, the speeds of those vehicles and the temporal and geographical coverage.

6.1.4 Provide 90% daily coverage (in length terms) of the Major Road Network (all Motorways and A Roads) in England; which means 90% of the road network in England should have at least one observation directly collected/ monitored each day.

6.1.5 Be able to be accurately reference to individual links within the Ordnance Survey (OS) Integrated Transport Network (ITN) Layer. For further information on the OS ITN please go to: https://www.ordnancesurvey.co.uk/business-and-government/products/itn-layer.html. Data for 2017 shall be accurately referenced to individual links within the OS ITN version as at 20 October 2016. The layers shall be refreshed on an annual basis at the start of each calendar year. The Authority shall provide specific GIS layers to the Supplier at least 4 weeks in advance of each new calendar year. The Authority may consider transitioning to the OS Mastermap Highways Network during the term of the Contract. For further information on the OS Highways Network please go to: https://www.ordnancesurvey.co.uk/business-and-government/products/os-mastermap-highways-network.html.

6.2 The Supplier shall provide information on coverage (based on definition in paragraph 6.1.4 above) of England's road network on a daily basis, from the most recent month that data is available to them.

7. TECHNICAL DOCUMENTATION

7.1 The Supplier shall supply detailed Technical Documentation to the Authority concerning the data supply. This shall, as a minimum, include:

7.1.1 Information about each data source used for the data supply;

7.1.2 Information about processing methodologies, including issues such as map-matching and how outliers in the travel time data are treated;

7.1.3 Information about the format and content of data supplied to the Authority;

7.1.4 Information about the arrangements for making data available to the Authority;

7.1.5 Details about how errors and issues with the data shall be dealt with by the Supplier over the life of the Contract.

8. CONTRACT MANAGEMENT

8.1 The Supplier shall draft a detailed schedule for the services they shall be providing throughout the course of the Contract after the project inception meeting, which shall be arranged as soon as possible after the award of the Contract. This shall include each of the Datasets and associated work including GIS layer updates. This schedule for work should be accompanied by a risk analysis and shall need to be agreed by the Authority.

8.2 The Supplier shall:

8.2.1 communicate with the Authority at least every 2 weeks;

8.2.2 provide monthly written progress updates; and

8.2.3 attend quarterly formal project progress meetings which will typically be held at the Authority's offices in London.

9. SECURITY REQUIREMENTS

9.1 The Supplier shall:

9.1.1 ensure that the Datasets provided to the Authority shall be anonymised to protect client/user identification;

9.1.2 remove the first and last 500m of any recorded journey, in the Raw and Individual trip level datasets, and this information shall not be provided under this contract;

9.1.3 ensure that access and transfer of the Datasets to the Authority is permissible under current Data Protection Legislation.