



# **National Asset Delivery Technical Surveys and Testing**

## **Scope for 612454 - A5 Towcester Traffic Calming**

**CONTENTS AMENDMENT SHEET**

<b>Amend. No.</b>	<b>Revision No.</b>	<b>Amendments</b>	<b>Initials</b>	<b>Date</b>
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**LIST OF ANNEXES****Appendix 1    Supplementary Constraints**

## 1 PURPOSE OF THE SERVICES

### 1.1 Project objectives

1.1.1 The principal objective of this project is to enhance and make Towcester town centre a more pleasant place to live, work and visit, National Highways is aiming to reduce the volume of through traffic on the A5 post construction of the new link road, using a mixture of traffic calming methods. The primary objectives are to:

- Encourage through traffic, and in particular goods vehicles, to use the new link road and A43 as an alternative to the A5.
- Improve the public realm within the centre of Towcester.
- Enhance and promote sustainable links through greater active travel.
- Reduce carbon emissions within the centre of Towcester.
- Reduce air and noise pollution and impacts to the surrounding environment and habitat.
- Improve road safety for all road users accessing, living, working and visiting Towcester.

1.1.2 Traffic surveys are required to inform evidence-led baseline analysis that will underpin option and scenario testing. Using this data, the volume of through traffic can be quantified and the re-routing of traffic, particularly goods vehicles, can be calculated more accurately.

### 1.2 Scope of services

1.2.1 The services to be provided under this contract are:

1.2.2 **Although we have set out our methodology below, we invite suppliers to propose alternative methods if it is likely to improve data capture, quality and/ or reliability.**

1.2.3 Radar

*The proposed locations of the three Radar sites required are shown in*

- (1) Figure 1-1.
- (2) These Radar sites are summarised in Table 1.1, which provides the coordinates of the proposed sites. The eastings and northings provided are for tendering purposes only at this stage. The exact location for each Radar will be agreed with the successful tenderer

prior to installation and will be informed by available on-site fixing locations.

- (3) Radar surveys should be recorded over a 24-hour period for seven consecutive calendar days and provide volumetric and speed data in a 15-minute format.

Table 1.1: Location and coordinates of proposed Radar sites to be surveyed

Site ID	Site Description	Easting	Northing
R1	A5 Watling Street, south of its junction with Old Tiffield Road (Street Furniture Ref: Lamp Column T0041 on Google)	468902	249251
R2	A5 London Road, north of its junction with Marlow Road (Street Furniture Ref: Lamp Column 97S6 on Google)	469805	248160
R3	A5 Watling Street, north of its junction at Heathencote (Street Furniture Ref: Lamp Column 95S24 on Google)	470801	247304

Figure 1-1: Proposed Radar Survey Locations



#### 1.2.4 Video Classified Turning Counts

- (1) Video Classified Turning Counts (CTC) are to be undertaken at each junction for a 12-hour period covering the hours 07:00 – 19:00 on two consecutive neutral weekdays (i.e., Tuesday, Wednesday or Thursday), with vehicles making each movement summarised for each 15-minute period. All movements at a junction are to be counted on the same day.
- (2) 4.2.2 The proposed locations and coordinates of the CTC sites are summarised in Table 1.2. Pedestrian and cyclist volumes, by crossing and by direction, should be also recorded at each site in Figure 1-2. These pedestrian / cyclist surveys are to be undertaken for a continuous 12-hour period (07:00 – 19:00) on the same days as the CTCs. The surveys for CTC 2 and CTC 4 should also count pedestrians / cyclists' movements at the standalone crossings to the north of their respective junctions.
- (3) The CTC elements of these surveys should be undertaken based on the information above. At junctions where the crossings are signalised, the number of pedestrian stage calls should be recorded. The survey should record the number of times which crossing activity stops traffic, the time at which this occurs and the duration for which the traffic is stationary. At the sites where there are uncontrolled crossings, the survey should record the number of times which crossing actively stops traffic (if applicable), the time at which this occurs, and the duration for which traffic is stopped. Anecdotal evidence suggests that some pedestrians / cyclists cross diagonally across the junction, and these movements should be counted in addition to those using signalised / uncontrolled crossings.

Table 1.2: Junctions requiring Video Turning Counts and Pedestrian/ Cyclist counts

Site ID	Site Description	Easting	Northing
CTC 1	A5 Watling Street/ Northampton Road/ Brackley Road signalised crossroads	469182	248844
CTC 2	A5 Watling Street/ Park Street junction	469276	248737
CTC 3	A5 Watling Street/ Richmond Road junction	469393	248568
CTC 4	A5 Watling Street/ Vernon Road junction	469620	248326

Figure 1-2: Video CTC and Pedestrian/ Cyclist Survey Locations



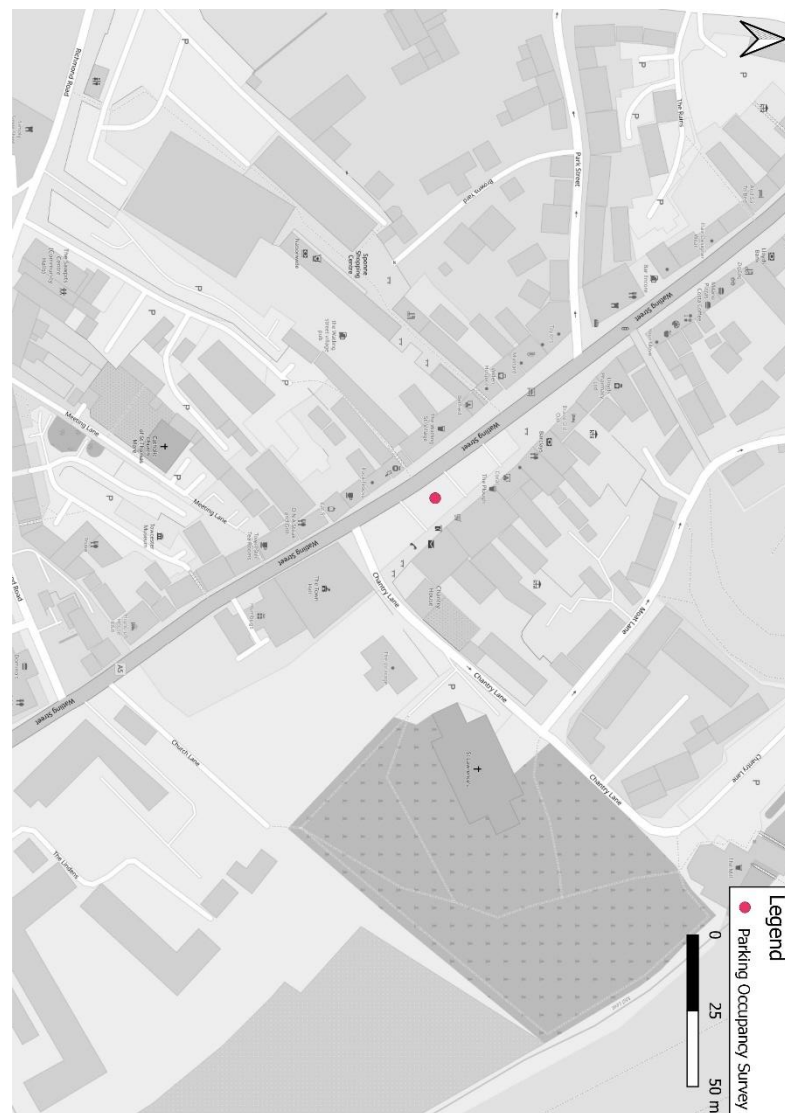
### 1.2.5 Parking Occupancy

- (1) A 12-hour parking occupancy survey at Market Square Car Park, Towcester should be undertaken between 07:00 and 19:00 on two neutral weekdays, which coincide with the CTCs above. This should capture the number of vehicles entering and leaving the car park, as well as the occupancy of the car park in 15-minute periods across the survey period. The coordinates of the car park are summarised in Table 1.3 and the car park location is shown in Figure 1-3.

Table 1.3: Market Square Car Park Coordinates

Site ID	Site Description	Easting	Northing
PS 1	Market Square Car Park, Towcester	469322	248693

Figure 1-3: Car Park Occupancy Survey Location (Market Square)



### 1.2.6 Pedestrian Crossing Tracing

- (1) Pedestrian and Cyclist Crossing Tracing is to be undertaken within the two locations shown in Table 1.4 for a 12-hour period, covering the hours between 07:00 and 19:00 inclusive for full one week (Monday to Friday) and a Saturday and Sunday. All movements at each location are to be counted on the same days.
- (2) The proposed locations and coordinates of the pedestrian crossing sites are summarised in Figure 1-4.

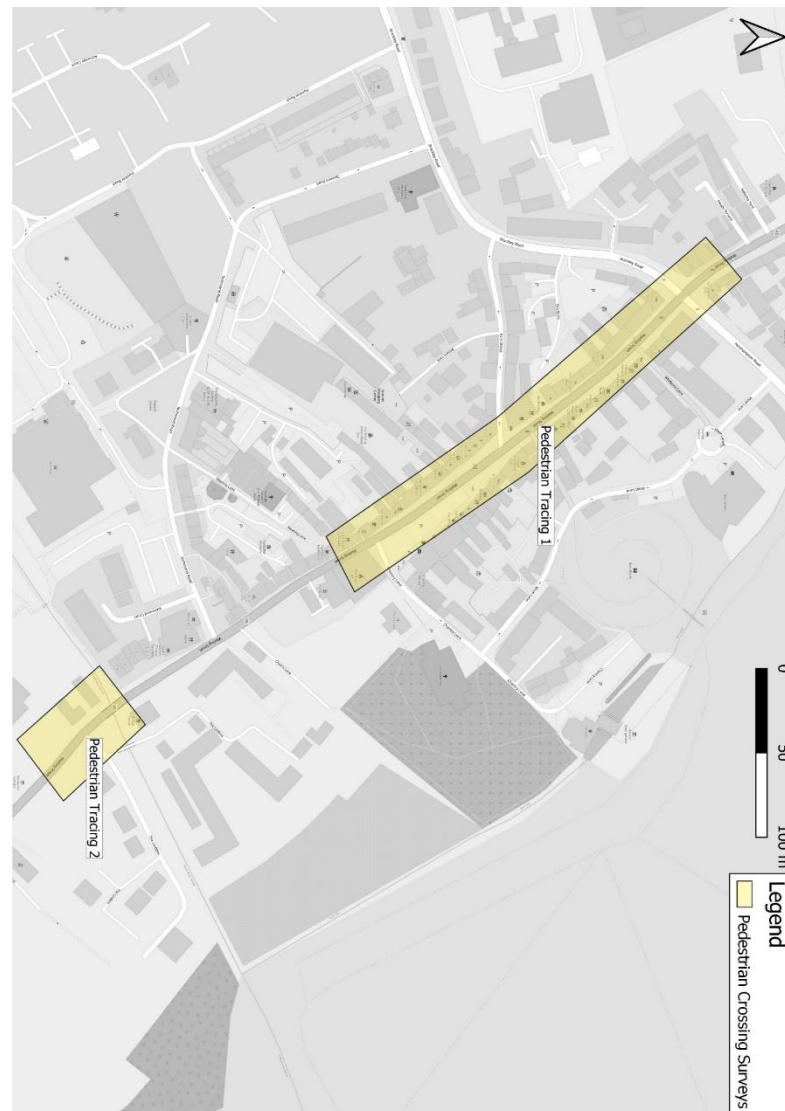
Table 1.4: Locations requiring Pedestrian Movement Tracking

Site ID	Site Description	Easting	Northing
PT 1	Just north of A5 Watling Street/ Northampton Road/ Brackley Road junction Facing south (Street Furniture Ref: Lamp Column 1 on Google)	469168	248854



PT 2	A5 Watling Street/ The Lindens junction Facing north (Street Furniture Ref: Lamp Column T0011 on Google)	469451	248481
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Figure 1-4: Pedestrian Tracing Survey Locations



### 1.2.7 Automatic Number Plate Recognition (ANPR)

- (1) Automatic Number Plate Recognition (ANPR) survey to be undertaken between the two locations shown in Table 1.5 for a 12-hour period, covering the hours between 07:00 and 18:00 inclusive on one neutral weekday (i.e., Tuesday, Wednesday or Thursday).
- (2) The proposed locations and coordinates of the ANPR survey are summarised in Figure 1-5.

Table 1.5: Locations of ANPR Survey

Site ID	Site Description	Easting	Northing
ANPR 1	Just south of A5/ A43 Towcester Roundabout Facing south	468788	249436

	(Street Furniture Ref: Lighting Column TO119 on Google)		
ANPR 2	A5 southeast of A5 Watling Street/ Cowpastures Lane junction Facing northwest (Street Furniture Ref: Junction Direction Sign on)	471093	247050

Figure 1-5: ANPR Survey Locations



### 1.3 Deliverables

1.3.1 The *Consultant* is required to produce the following deliverables:

1.3.2 CTC, ANPR and Pedestrian / Survey counts will be undertaken by video camera. The survey contractor is to provide videos on an external hard disk. A digital colour photograph of the location of each camera site (in .jpeg

format) will be required showing the installed equipment, carriageway and prominent local features.

1.3.3 Tenderers should give specific reference in their proposal to the data collection method. Tenderers should indicate in some detail the quality control checks that will be used in collecting the data and should propose methods to demonstrate that these procedures have been followed (for example through photographs). They also need to eliminate the possibility of survey error in terms of directionality of traffic. Regular inspection (at least every three days) of all equipment is needed to ensure that it continues to function adequately throughout the survey period. Where counts are disrupted, the tenderers shall maintain the survey duration until robust counts for seven days (where applicable) have been obtained.

1.3.4 Vehicle Classification for each survey type are provided in *Table 1*.

*Table 1.6: Vehicle classifications required by Survey Type*

Survey Type	Vehicle Classification
Radar	<ul style="list-style-type: none"> <li>• Pedal cycles;</li> <li>• Motorcycles;</li> <li>• Light vehicles – cars, taxis, small vans, large vans, and LGVs;</li> <li>• Heavy vehicles – OGV1, OGV2, buses/coaches, other vehicles (e.g., agricultural tractors, road rollers); and</li> <li>• Average vehicle speed and 85<sup>th</sup> percentile speed for each 15-minute period by the above vehicle categories.</li> </ul>
Video CTC	<ul style="list-style-type: none"> <li>• Pedal cycles;</li> <li>• Motorcycles;</li> <li>• Cars and taxis;</li> <li>• Light goods vehicles (including vans and ambulances);</li> <li>• OGV1 consisting of all goods vehicle with two axles with twin tyres, three axles (rigid), as defined in COBA;</li> <li>• OGV2 consisting of all goods vehicles with three axles (articulated), four axles or more (rigid or articulated), as defined in COBA;</li> <li>• Buses and coaches; and</li> <li>• Other vehicles (e.g. agricultural tractors, road rollers).</li> </ul>
Pedestrian/ Cyclist Surveys (at junctions and standalone)	<ul style="list-style-type: none"> <li>• Children;</li> <li>• Adults;</li> <li>• Wheelchair/mobility scooter users;</li> <li>• Pushchairs; and</li> <li>• Cyclists.</li> </ul>
Parking Occupancy	<ul style="list-style-type: none"> <li>• Motorcycle;</li> <li>• Cars and taxis;</li> <li>• Light goods vehicles (including vans and ambulances);</li> </ul>

	<ul style="list-style-type: none"> <li>• In 15-minute periods across the survey period</li> </ul>
ANPR	<ul style="list-style-type: none"> <li>• Cars and taxis;</li> <li>• Light goods vehicles (including vans and ambulances);</li> <li>• OGV1 consisting of all goods vehicle with two axles with twin tyres, three axles (rigid), as defined in COBA;</li> <li>• OGV2 consisting of all goods vehicles with three axles (articulated), four axles or more (rigid or articulated), as defined in COBA;</li> </ul>

1.3.5 *Table 1.* summarises the key information for all traffic surveys. The time period indicates the time that should be recorded, and the analysis period states the periods that need to be analysed and provided to National Highways (see Chapter 2 for format of outputs).

*Table 1.7: Summary of Traffic Surveys by Type*

Type	Day	Time Period	Duration	Analysis Period
Radar	One week period to coincide with CTC	24 hours	7 days	24 hours
Video CTC	Two Neutral Weekdays	07:00 – 19:00	12 hours	12 hours
Pedestrian Crossing Tracing	One week period One Saturday One Sunday	07:00 – 19:00	12 hours	12 hours
Parking Occupancy	Two Neutral Weekdays One Saturday One Sunday	07:00 – 19:00	12 hours	12 hours
ANPR	One Neutral Weekday	07:00 – 19:00	12 hours	12 hours

## 2 SURVEY RESULTS OUTPUT FORMAT

### 2.1 Excel Spreadsheet

2.1.1 The supplier is to provide the results in an excel format, with appropriate validation checks having been performed by the supplier.

2.1.2 A separate spreadsheet file should be provided for each site. The survey contractors are expected to include:

- (1) Survey time;
- (2) Survey day;

- (3) Survey date;
- (4) Location map for each site;
- (5) Picture of count site showing location of enumerators. Where video cameras are deployed, a digital photograph is to be provided of each camera in its deployed location against principal features of the surrounding environment;
- (6) Weather conditions during the survey period; and
- (7) Known accidents, road closures, maintenance works or events during the survey period.

## **2.2 Technical Report**

- 2.2.1 The supplier is to provide a summary report of the results obtained during the survey. The report will include the following key aspects:
- (1) Photographic evidence of the survey locations in situ;
  - (2) Confirmation of checks undertaken, and where relevant achieved target percentages; and
  - (3) Incident log, noting collisions, roadworks or other incidents in the nearby vicinity of the surveys that could have impacted on the validity of the results.

## **2.3 Hard Disk of Video Surveys**

- 2.3.1 The supplier is to provide a hard disk outlining video surveys undertaken. Suppliers must comply with the provisions of GDPR legislation and other relevant legislation.

### 3 EXISTING INFORMATION

- 3.1.1 The supplier should review whether there is any interaction between junctions that impacts on traffic flow entering or exiting a junction and provide this back to National Highways to inform the modelling work.
- 3.1.2 The Figures listed below apply to this contract. Refer to the site information for details of existing site conditions including ground conditions, limitation on access, position of existing structures etc.

Drawing Number	Title	Revision / Date
Figure 1.1	Proposed Radar Survey Locations	Rev0 / 08/22
Figure 1.2	Video CTC and Pedestrian/ Cyclist Survey Locations	Rev0 / 08/22
Figure 1.3	Car Park Occupancy Survey Location (Market Square)	Rev0 / 08/22
Figure 1.4	Pedestrian Tracing Survey Locations	Rev0 / 08/22
Figure 1.5	ANPR Survey Locations	Rev0 / 08/22

## **4 CONSTRAINTS ON HOW THE CONSULTANT PROVIDES THE SERVICES**

### **4.1 General**

- 4.1.1 The *Consultant* Provides the Services in such manner as to minimise the risk of damage or disturbance to or destruction of third party property.
- 4.1.2 The *Consultant* complies with the constraints and meets with the requirements outlined in Appendix 1.
- 4.1.3 The *Consultant* submits information detailing how the *Consultant* will provide the Services to the *Client* prior to the *services* commencing. This information will include any lifting plans, risk assessments, method statements, the *Consultant's* staff training information and any other relevant Health and Safety requirements.

### **4.2 Working hours & site specific constraints**

- 4.2.1 The *Consultant's* working hours for site works shall be as deemed necessary by the contractors and agreed by National Highways
- 4.2.2 There are no firm dates to undertake the survey works but they are expected be in late September/ Early October 2022
- 4.2.3 The contractor is to provide any traffic management they deem necessary

### **4.3 Health, Safety and Environment & Risk Management**

#### Health and Safety requirements

- 4.3.1 In Providing the Services the *Consultant* meets the requirements of Annex 2 of the supplementary constraints relation to health and safety duties.
- 4.3.2 When implemented, the *Consultant* shall comply with the requirements of National Highways' safety passport scheme and ensure that all of his employees, and any of his subcontractor's, are registered in accordance with the implementation of the scheme.
- 4.3.3 Not used
- 4.3.4 Before commencing the construction phase of the *services*, the *Consultant* confirms to the *Client* that adequate welfare facilities are in place. Where the facilities detailed in section 5 are not deemed adequate, the *Consultant* provides all necessary facilities to Provide the Services and to comply with the minimum requirements set out in HSE guidance document L153.

Environmental requirements

- 4.3.5 In Providing the Services the *Consultant* meets the requirements of Annex 2 of the supplementary constraints in relation to environmental duties.

Risk Management

- 4.3.6 The *Consultant* identifies, manages and mitigates risks in accordance with the principles of ISO31000.
- 4.3.7 The *Consultant* submits a risk register, which captures all risks associated with the delivery of the *services* including those identified by the *Client*, with his tender and maintains it for the contract period.



## 5 REQUIREMENTS FOR THE PROGRAMME

- 5.1.1 The *Consultant* submits programme to the *Client* with his tender.
- 5.1.2 The *Consultant* Provides the Services taking into account the following programme constraints:
- (i) the *starting date* and *completion date* and any post site works, reporting and review period
  - (ii) The services and other things provided by *Client* (see Section 6)
  - (iii) *review periods for any reporting requirements*
  - (iv) *the Contractor's planned Completion*
  - (v) *that it should cover the full duration of the work,*
  - (vi) *all activities and tasks required for the project*
  - (vii) National Highways is requesting that surveys are undertaken during week commencing 26<sup>th</sup> September 2022 to allow the project programme to be achieved. Surveys would need to avoid weeks with school and/or Bank Holidays and avoid road works or other disruption on the network.
  - (viii) Survey results are assumed to be available by the end of October 2022.
- 5.1.3 The programme should be in the form of an activity and time related bar chart, produced as a result of a critical path analysis.
- 5.1.4 The programme should preferably be provided in either a PDF or MS Excel format and cover the full contract period including post site activities. Activities should be clearly defined and named and the programme should detail the following:
- (i) dates and times associated with the project, including the *starting date*, *completion date* & *Consultant's* planned completion, and any other dates or times that will specifically impact the delivery of the project
  - (ii) activities associated with delivering the project
- 5.1.5 The *Consultant* should provide details of the proposed resources (plant, labour, subcontractors etc.) expected to deliver each activity. This information can either be shown on the programme itself or provided in an associated resource statement included in the Proposal for Providing the Services.
- 5.1.6 The Consultant updates the programme every week. The Consultant submits an updated programme to the Client upon request.

## **6 SERVICES AND OTHER THINGS PROVIDED BY THE *CLIENT***

6.1.1 The following temporary traffic management will be provided by the *Client* to allow the *Consultant* to Provide the Works:

(8) The *Client* does not provide anything

6.1.2 Not Used

## 7 SPECIFICATION FOR THE SERVICES

7.1.1 The *Consultant* shall Provide the Services in accordance with:

Type	Day	Time Period	Duration	Analysis Period
Radar	One week period to coincide with CTC	24 hours	7 days	24 hours
Video CTC	Two Neutral Weekdays	07:00 – 19:00	12 hours	12 hours
Pedestrian Crossing Tracing	One week period One Saturday One Sunday	07:00 – 19:00	12 hours	12 hours
Parking Occupancy	Two Neutral Weekdays One Saturday One Sunday	07:00 – 19:00	12 hours	12 hours
ANPR	One Neutral Weekday	07:00 – 19:00	12 hours	12 hours

7.1.2 1.1.1 Digital copies of all survey footage recorded

7.1.3 1.1.2 Provision of a site specific risk assessments

7.1.4 1.1.3 Provision of a site specific risk register

7.1.5 1.1.4 Provision of a site specific method statement

7.1.6 1.1.5 Provision of a site specific health and safety risk register including details of working in a high risk environment