

**NTA Transport Modelling Department**

Sample Specification for Transport Surveys

**Introductory Notes for Contracting Authorities**

The following generic survey specifications can be used as a basis for procuring survey consultancy services for NTA funded sustainable transport projects. Items highlighted in yellow require special attention and input from the Contracting Authority.

Local Authorities should check with their procurement sections; however it is envisioned that most surveys should be under the E-tenders procurement threshold. Services less than €5,000 in value can be purchased on the basis of verbal quotes from one or more competitive competent survey suppliers; and services contracts between €5,000 and €25,000 in value can be awarded on the basis of responses to specifications sent to at least three service providers.

The NTA are currently developing a national database of traffic count data, which will be accessible to Local Authorities. This document outlines specific guidance to deliver surveys in a compatible format so that results can be incorporated into this database and reduce duplication. It is therefore prudent that all guidelines outlined in this document are followed in their entirety. Any guidelines which are not fully observed will result in complications, and consequently delays, during importation to the new standardised database. For clarification samples can be provided by the NTA modelling section.

It is envisaged that in the case of data types that can be included into the database, the traffic surveyor will supply the dataset in the new format streamlined for the new NTA Database. At present the database is only compatible with Junction Turning Counts (JTC), Junction Turning Counts – Pedestrian Counts (JTC – PED) and Automatic Traffic Counts (ATC) and templates have been supplied for these particular survey types. However, it is now necessary for all surveys tendered by the NTA to be carried out in the specified format. Please see the additional guidance documents and templates for further information.

Database support is available at [counts@nationaltransport.ie](mailto:counts@nationaltransport.ie)

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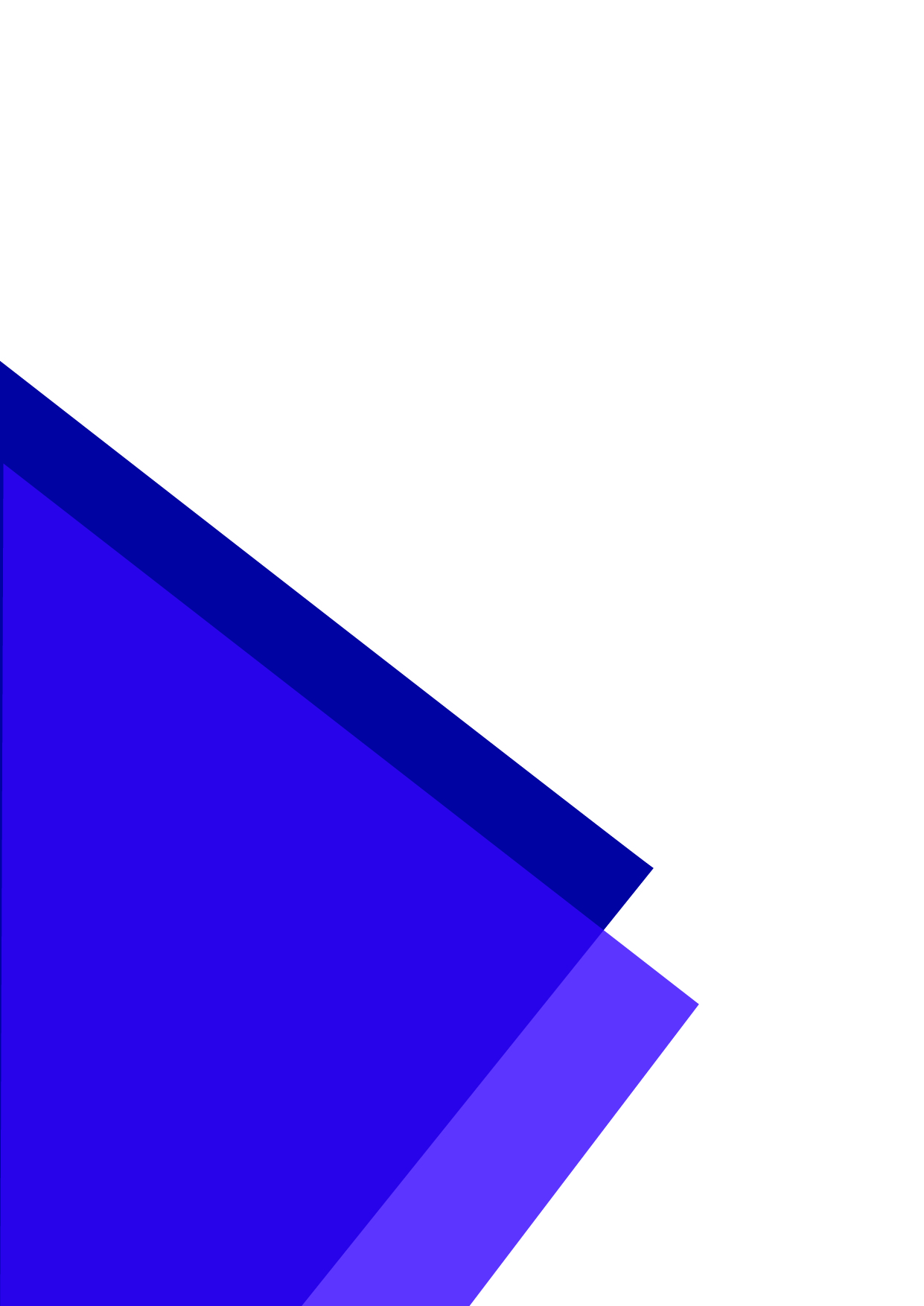
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# General Requirements & Information



## Overview

The Contracting Authority intends to enter into a contract (the Contract) with the successful Tenderer for the Provision of [Traffic Surveys, Bus Surveys, Pedestrian Surveys and Vehicle Occupancy Surveys] on/in [Insert Survey Area]

The expected term of the Contract will be until the Services in the Contract have been successfully completed.

The list of service elements forming the Services are indicative only, are not exhaustive and are subject to change.

## Background

The Contracting Authority has commissioned [traffic surveys] of [insert survey area] to identify the [number of people travelling into insert survey area etc]. This data will assist in gaining a wider insight into travel patterns [insert target area]. The information generated will also be used to support [insert applicable NTA Model].

The services to be provided comprise the undertaking of traffic surveys at specified locations in [insert survey area]. The Contract must be completed in its entirety and includes a combination of survey types.

This contact requires [insert survey types].

## Overview of Services

Traffic data is required at specified locations for a period of [insert time period] for [insert survey types]. A list of locations of each survey is given in Appendix A. This survey list may be subject to change prior to commencing surveys, depending of the availability of additional survey data and requirements.

### Traffic Surveys

Traffic Surveys in the following formats are required:

1. Junction Turning Counts (JTC);
2. Junction Turning Counts – Pedestrian Counts (JTC – PED);
3. Automatic Traffic Counts (ATCs);
4. Queue Length Surveys (QLS);
5. Public Transport – Waiting Passenger Counts (PTWPC);
6. Parking Surveys (PS);
7. Vehicle Occupancy Surveys (VO);
8. Bus Occupancy Surveys (BO) / Boarding & Alighting Surveys (BA);
9. Origin/Destination (ANPR) Surveys.

All survey types should be carried out in accordance with the streamlined NTA dataset formats only. Templates are available in Appendix A.

### Survey Control

The Contractor will ensure that the counts are not undertaken during adverse or untypical situations, such as, but not limited to, school holidays, public holiday, strikes, protests, very heavy rainfall/snow/sleet, fuel crises, significant road works and road traffic incidents.

In these circumstances, if considered to be affecting traffic, the survey shall be stopped and repeated on a subsequent day at the Contractor’s expense. Given the dynamic nature of these scenarios, which can occur with little or no notice, the situation on the ground in the vicinity of the surveys should be monitored in the days and hours prior to survey commencement with such monitoring to be the Contractor’s responsibility.

In any case where the survey could not be carried out, or had to be stopped while in progress, the Contracting Authority should be notified immediately so that remedial actions can be taken. To negate the possibility of a survey relocate, all sites should be inspected for suitability prior to the survey dates. Sufficient resourcing should made available to accommodate and tenderers are to price

Minor disruptions to traffic during the surveys are to be noted by the enumerators and transcribed onto the output. The NTA template has scope to facilitate this in the ‘Observations’ and ‘Weather’ sections of the ‘Info’ tab and are also to be communicated in the Survey Report as per Section 2.1.

The Contractor should also provide a schedule indicating that they have adequate resources and equipment available to undertake the surveys and confirm that the deadlines for the supply of processed data for the various surveys can be achieved within the required timescale.

## Tender and Survey Programme

The programme of the tender process, and subsequent appointment and surveying will have the following structure:

* Following the Tender deadline, an evaluation period of [insert days/weeks] is expected;
* Following appointment of the successful tenderer, and any necessary standstill period, surveys will commence no later than [insert days/week] after appointment;
* Surveys are to be completed [insert days/weeks] after commencement;
* Survey data is required to be submitted within [insert number] working weeks of completing data collection; and
* The survey report outlined in section [insert reference] is due within [insert number] working weeks of completing the data collection.

Tenderers are to provide a programme outlining how they will meet these requirements.

## Pricing

In submitting their Pricing Submissions, Tenderers are asked to carefully consider any innovative means for costs saving and reflect these in their submissions.

The price is also to include a unit cost for undertaking each type of survey should any changes to survey quantities occur. The unit cost is to be identified for all necessary survey types and is to include all costs covering data collection, processing and reporting.

Tenderers should note that their pricing is deemed to include an allowance for repeating fieldwork and post-fieldwork should their quality not be deemed sufficient by the Authority, or for other unforeseen circumstances (such as network problems on the survey day), and for all costs associated. Furthermore, the pricing is deemed to include for all costs associated with rectifying the non-availability of data or equipment. If the Tenderer considers some unforeseen circumstances should not be included in this condition, then this should be identified in the Price Submission.

## Health & Safety

The Contractor shall be aware of their obligations and the obligations of the Contracting Authority under the Health and Safety, Health and Welfare at Work (Construction) Regulations, 2013.

These obligations include the preparation of appropriate safety plans to cover all activities involving the presence of labour, plant or materials on the site / locations of the works during the performance of the commission. The Contractor will be required to undertake the role of PSCS for this traffic survey contract in accordance with the Safety, Health and Welfare at Work (Construction) Regulations, 2013.

### Risk Assessment

The Contractor shall carry out a detailed Risk Assessment of all works to be undertaken. The risks shall be identified, and a qualitative and quantitative assessment carried out. When possible, the risks shall be eliminated and where elimination or avoidance is not possible, mitigatory measures shall be identified and procedures put in place to implement these measures.

### Method Statement / Task Specific Risk Assessment

In advance of the appointment, the Contractor will be required to provide a Method Statement for the Service Provision. In consideration of the study requirements, the Method Statement shall clearly document:

* How they will achieve the works with the scheduled time period;
* The methodology, equipment and resources proposed to be used by the Contractor for each specific element of the study;
* The Contractor’s approach to Quality Control including calibration and validation of data; and
* The Contractor’s approach to monitoring and checking equipment and surveys while active.

### Traffic Management

The appointed Contractor will be responsible for all traffic management associated with the installation, operation, removal and monitoring of all the traffic surveys. The price for the surveys should include for all associated traffic management.

## Liaison

### Communication with the Contracting Authority

The Contractor shall outline how lines of communication between the survey team and the Contracting Authority are to be maintained during survey works. Should an issue arise while survey works are being undertaken, the Contracting Authority shall be notified immediately so that alternative arrangements can be made if necessary.

### Communication with an Garda Síochána

The Contractor shall be responsible to inform Garda personnel at the nearest Garda Station as to the carrying out of traffic surveys in specified locations. This is to be carried out in addition to communication with Local Authorities. The Contracting Authority should be copied in any correspondence with the Gardaí, Local/Regional Authorities or others using the Authority’s address.

## Insurances

The Contractor shall provide at a minimum, the following evidence of Professional Indemnity, Public Liability and Employers’ Liability insurance on either their insurers or insurance brokers headed paper which should contain the following details:

* Name of the Insurer(s);
* Policy Number(s);
* Cover Period(s);
* Name of Policyholder: (the name of the Contractor shall be the same as the Name of the Policyholder);
* The Insured Business Description: (all the activities that the Contractor will be undertaking shall be included within the Business Description);
* Professional Indemnity Limit: (amount not to be less than €6.5m);
* Public Liability Indemnity Limit: (amount not to be less than €13m);
* Employers Liability Indemnity Limit: (amount not to be less than €13m); and
* General Data Protection Regulations.

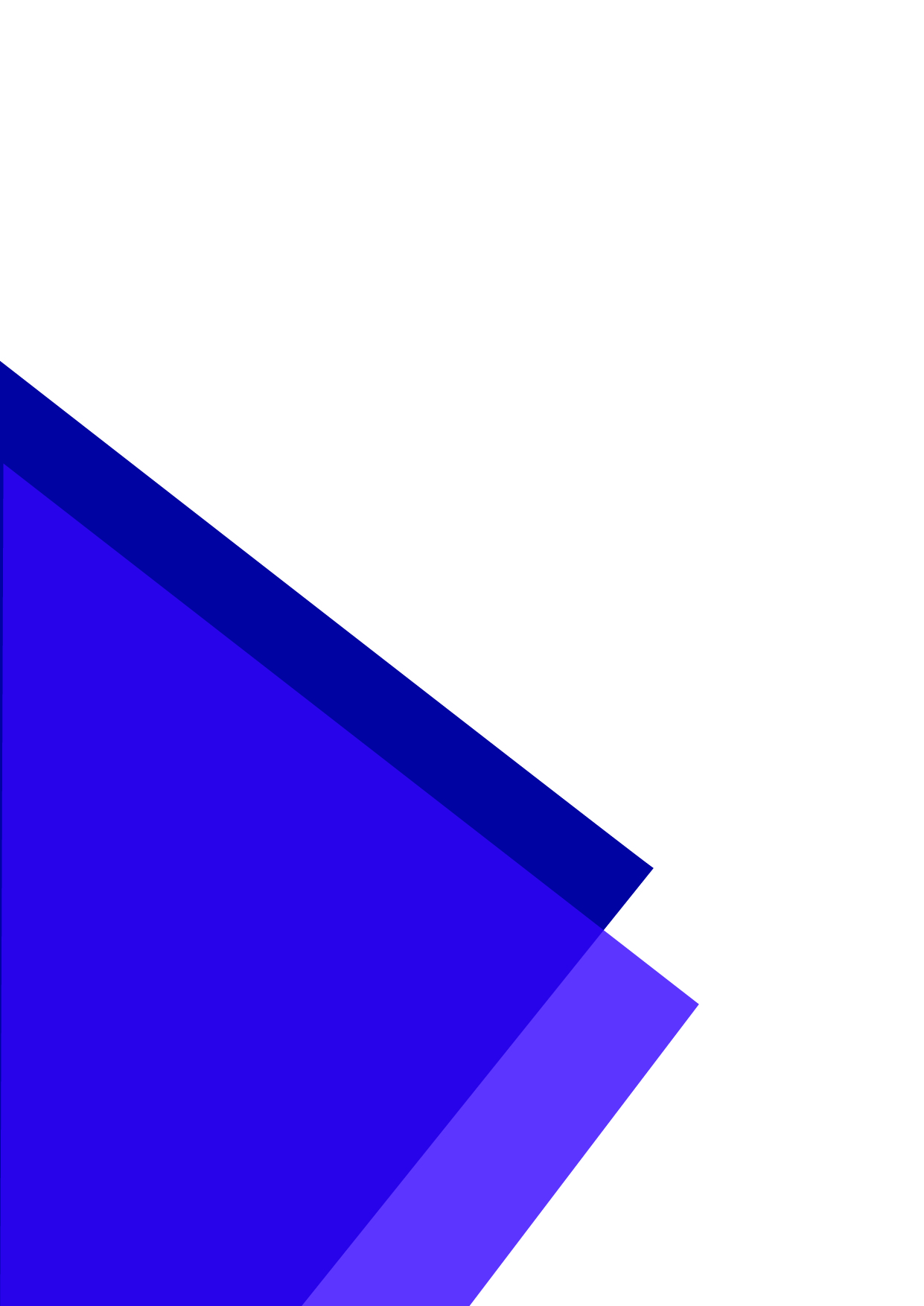
## General Data Protection Regulations

The Contractor shall ensure that their procedures and processes are full compliant with the requirements of the General Data Protection Regulations (GDPR) 2018.

The Contractor shall be required to comply with the Contracting Authorities CCTV Policy. A copy of this CCTV policy is included in Background Information. The Traffic Survey Contractor shall ensure the erection of “CCTV IN OPERATION” signs at all locations where video monitoring equipment is in operation.

The Contractor shall be required to sign a Data Processing Agreement with the Contracting Authority.

# Deliverables



## Survey Report

The traffic survey contractor will prepare a report covering the following aspects of data collection:

1. Background/Introduction of surveys:
2. Details of each survey with site location;
3. Co-ordinates (in latitude/longitude and Easting/Northing);
4. Location description;
5. Survey dates and day; in correct time format (hh:mm:ss);
6. Vehicle categories;
7. Details of any planned surveys which were stopped due to major disruptions and a description as such;
8. Comments including any minor hindrances that may have impacted the survey data such as;
   * Nearby roadworks; and
   * Traffic collisions;
9. Weather observances – only necessary in the case of extreme weather where survey results were affected;
10. Details of the methodology adopted for data analysis;
11. Summary tables for the broad data analysis such as journey time data analysis;
12. Junction schematics with locations and direction of movement
13. Site notes and photographs;
14. Any other issues relating to data collection which should be separate data from schematics/report in different tabs in Excel file;
15. Photographic evidence of the arrangement of traffic survey apparatus at each specified location will be required in each survey’s location report. In the case of Automatic Traffic Count (ATC) surveys, the measurement device used to install the pneumatic tubes in the correct place must be included in the photograph;
16. Each location surveyed will have its own Microsoft (MS) Excel Spreadsheet. There should not be more than one site per spreadsheet;
17. Each of these MS Excel Spreadsheets will include the following:
18. Survey Report outlining the Client’s name, Job Name, Site Reference, Survey Type GPS Co-Ordinates in bot Latitude/Longitude AND Easting/Northing (6-Figure) and includes the survey report outlining incidents and observations including onsite conditions and a photograph of the equipment set up. Where cameras have been used, a screenshot of filming should be included. An annotated schematic of the survey location should be included;
19. The Survey dataset should be in a separate tab from the Survey Report; and
20. The survey dataset should be in a tab named ‘data’ and the Survey Report should be in a tab named ‘info’;
21. All information inputted into these spreadsheets will be inserted into cells. No data or information should be inserted in text boxes;
22. The top left cell on all tabs of all MS spreadsheets will be Cell A1. No blank/empty columns or rows will be included within the datasets in the spreadsheets;
23. No cells in the data range area should be left blank. In the case that there is no relevant value to be inserted, an appropriate alternative should be included as will be outlined below; and
24. The use of colours, text, bold, italics, symbols, etc. should be avoided within the data count fields as these will not be recognised when the data is uploaded to the database.

## Quality Control

The contractor shall endeavour to ensure that the counts are not undertaken during adverse or untypical situations, such as school holidays, strikes, protests, very heavy rainfall/snow/sleet, fuel crises, significant road works, accidents etc. In these circumstances, if considered to be affecting traffic, the survey shall be stopped and repeated on a subsequent day at the contractor’s expense. Given the dynamic nature of these scenarios, which can occur with little or no notice, the situation on the ground in the vicinity of the surveys should be monitored in the days and hours prior to survey commencement, such monitoring to be the survey contractor’s responsibility. In any case where the survey could not be carried out, or had to be stopped while in progress, the NTA (or contracting authority) should be notified immediately so that remedial actions can be taken.

Disruptions to traffic during the surveys are to be noted by the enumerators and transcribed onto the output. The NTA template has scope to facilitate this in the ‘Observations’ and ‘Weather’ sections of the ‘Info’ tab.

The prospective traffic survey contractor should also provide a schedule indicating that they have adequate resources and equipment available to undertake the surveys and confirm that the deadlines for the supply of processed data for the various surveys can be achieved within the required timescale.

## Additional Information

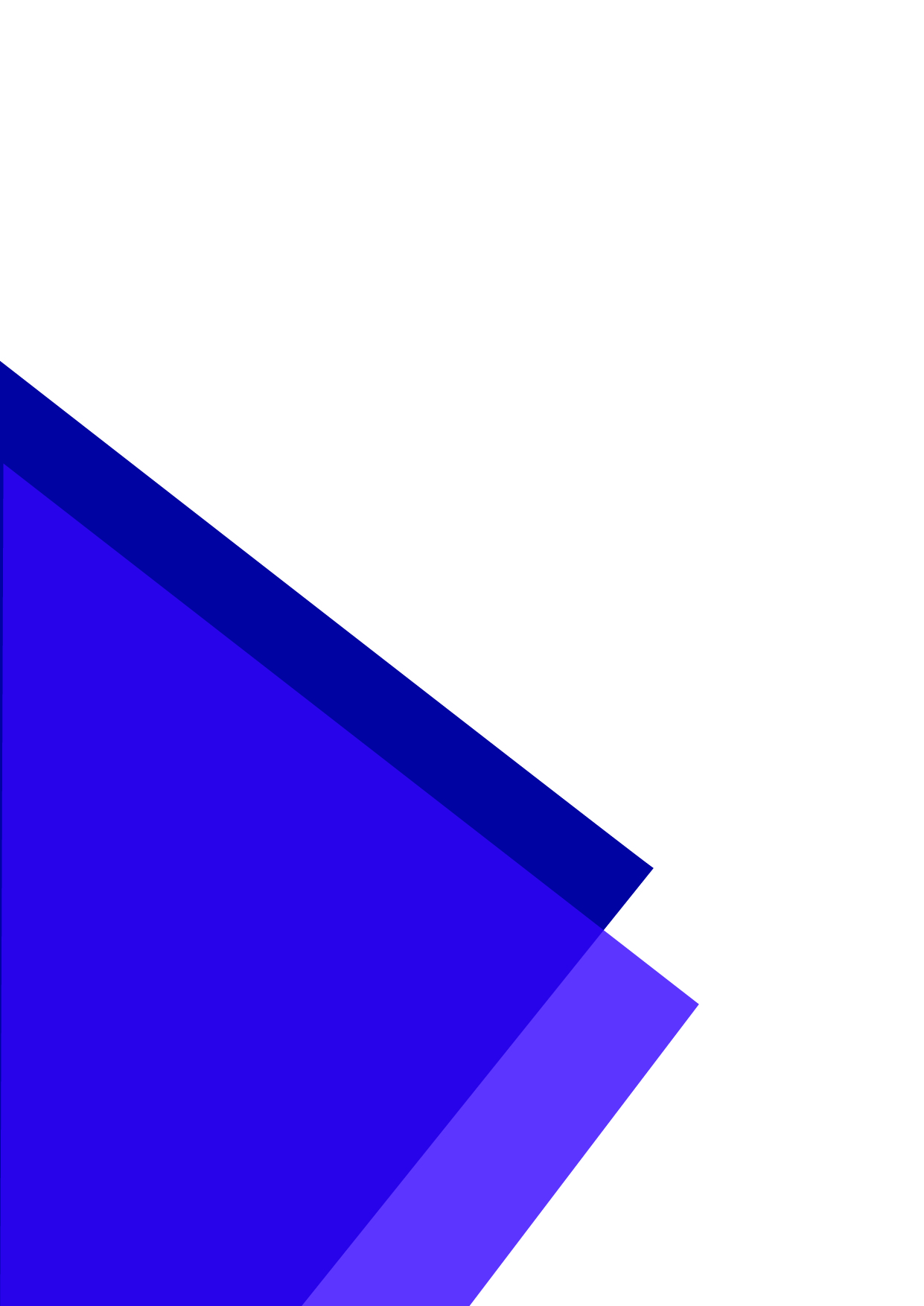
It is the Contractors responsibility to ensure continuous data collection is in accordance with this specification. Any omission may require all surveys to be repeated at the cost of the Contractor.

An inception meeting is to be held at [Contracting Authority] offices prior to the commencement of any surveys. Details of the Contracting Authority can be found in the Form of Tender and Schedule. Should there be any items that are unclear in this specification it is the Contractor’s responsibility to seek clarification at the said inception meeting.

It is the responsibility of the Contractor to ensure that the survey is undertaken to the requirements of this specification. Any notable events or conditions during the survey period should be noted and reported.

Should additional support relating to the NTA dataset templates or database, supplementary to that provided by [Contracting Authority], be required please contact [counts@nationaltransport.ie](mailto:counts@nationaltransport.ie).

# Survey Specifications



## Junction Turning Counts

### Data Required

Directional volumetric information is required using the following classifications: CAR, TAXI, LGV, OGV 1, OGV 2, PSV, Motorcycle (M/C) and Pedal cycle (P/C).

### Survey Period

[Contracting Authority to decide times dependent on requirements]

For example, the surveys are to be undertaken for the following periods:

JTCs: 6-hour period from AM (7:00-10:00) and PM (16:00-19:00) peak periods (Tuesday, Wednesday or Thursday) as a minimum. Extended time periods up to 2 hours are facilitated by the templates and 12 and/or 24-hour periods are recommended.

JTCs: 12 hour period from 7:00 to 19:00 [*Note for Contracting Authority – this survey period is recommended in the latest TII traffic survey specification -* [*https://www.tiipublications.ie/library/PE-PAG-02016-01.pdf*](https://www.tiipublications.ie/library/PE-PAG-02016-01.pdf) *– Contracting Authorities should consider whether data in off peak periods would be advantageous*

All surveys are to be undertaken over the same time period when surveys are being carried out in multiple locations.

### Survey Method

[All surveys are to be conducted by camera monitoring unless the Contracting Authority desires manual monitoring.]

Surveys are not to be carried out on a day which coincides with school or public holidays unless explicit permission from the Contracting Authority has been granted.

### Data Format

All data to be presented as referenced in below.

All counts to be recorded in 15-minute intervals.

### Junction Turn Count Guidelines

1. For the raw data, junction turning counts, the preferred classifications are CAR, TAXI, LGV, OGV 1, OGV 2, PSV, Motorcycle (M/C) and Pedal cycle (P/C);
2. Counts should be conducted with arm labelling A – F starting from the north and moving clockwise;
3. Arm labels should be located directly above each movement as a heading within the dataset results sheet;
4. Barred movements should be highlighted on the junction diagram and shown as banned in the results by entering ‘-1’ to indicate a false value. All barred movements should be included, paying particular attention to:
5. One-way arms/links approaching crossroads;
6. On-slips and off-slips on dumb-bell motorway junctions;
7. On-slips and off-slips Grade-separated motorway junctions;
8. U-turn movements at all junctions will be included. U-turn movements at roundabouts should not be assumed to be negligible and should not be marked as ‘-1’;
9. All sites should be treated as complete sites, e.g. a three arm roundabout has nine movements. If particular movements are not counted or not required by the client, this should be stated within the results as per item 4 above; and
10. Separate lines of data should be completed for each vehicle class for each time period.

## Junction Turning Counts – Pedestrian Counts (JTC – PED)

### Data Required

Directional volumetric information is required using the following classifications: Pedestrian (PED) and Pedal cycle (P/C).

### Survey Period

[Contracting Authority to decide times dependent on requirements]

For example, the surveys are to be undertaken for the following periods:

JTCs: 6-hour period from AM (7:00-10:00) and PM (16:00-19:00) peak periods (Tuesday, Wednesday or Thursday) as a minimum. Extended time periods up to 24 hours are facilitated by the templates and 12 and/or 24-hour periods are recommended.

All surveys are to be undertaken over the same time period.

### Survey Method

[All surveys are to be conducted by camera monitoring unless the Contracting Authority desires manual monitoring]

Surveys are not to be carried out on a day which coincides with school or public holidays unless with explicit permission from the Contracting Authority.

### Data Format

All data to be presented as referenced in Section 3.2.5.

All counts to be recorded in 15-minute intervals.

### Junction Turn Count Pedestrian Analysis Guidelines

1. The 5 User Classes to be used for JTC - PED data collection are: Child < 5, Child < 16, Adult, Elderly and Disabled;
2. Counts should be conducted with arm labelling A – F starting from the north and moving clockwise;
3. Pedestrian movements should be captured for flows that enter an arm, exit an arm and bi-directional flows which cross an arm perpendicularly;
4. Relevant labelling should be located directly above each movement as a heading within the dataset results sheet;
5. The figures for Entering Arm and Exiting Arm should be the sum of pedestrian flows on both sides of the street entering and exiting the arms respectively;
6. In the case that an arm doesn’t exist (i.e. there are less than 6 arms at a junction) then a ‘-1’ should be entered to identify this;
7. The relevant direction at each pedestrian crossing and the label of each arm should be included in a junction schematic; and
8. Separate lines of data should be completed for each pedestrian class for each 15-minute interval.

## Automatic Traffic Counts (ATCs)

### Data Required

Directional volumetric information is required using the following classifications: CAR, LGV, OGV1, OGV2, PSV, Motorcycle (M/C).

### Survey Period

[Surveys are to be undertaken for a 24-hour period for 2 weeks, days decided by Contracting Authority]

(Note: 2 weeks is generally standard practice, but smaller time periods are also useable if decided by Contracting Authority)

### Survey Method

All surveys are to be conducted by use of industry standard ATC tube counter equipment. The ATC equipment will be set up using standard ground templates to ensure the tubes are parallel and the distance between them is correct. The machine will also be calibrated appropriately, and a camera will be set up at the same survey location in order to assess the speed of a sample of vehicles to ensure that the results from the ATC machine match that of the camera.

This calibration assessment should all be done on site in advance of the specified survey period commencing. A photograph should be taken while the ground templates are in place. This photo should be taken on the first day of surveying and should be submitted to the NTA immediately. This photo should also be used in the equipment tab of the MS Excel spreadsheet that will be submitted with the survey data.

### Data Format

All data to be presented as referenced in Section 3.3.5.

### Automatic Traffic Count Guidelines

1. The 6 User Classes to be used for ATC data collections are: CAR, LGV, OGV1, OGV2, PSV, Motorcycle (M/C). Note: ATC equipment won’t be able to stratify Car User Class from Taxi User Class. Similarly, it may not be able to identify one type of bus operator from another;
2. The data should be collected in 15-minute intervals across a [2-week] period for 24 hours a day (00:00 – 00:00). (Note: 2 weeks is generally standard practice, but smaller time periods may also be appropriate);
3. A count of number of vehicles per user class per direction per 15-minute time interval is required. When no count is recorded the cell should be filled with a ‘0‘;
4. An average speed per user class per direction is also required. When no average speed is applicable to a given user class, i.e. when no vehicles in that user class have travelled in that specific direction, an average value cannot exist and the relevant cell should be filled with a ‘–‘. The figure ‘0’ should NOT be used when no average value is applicable;
5. An overall 85th Percentile Value of all vehicles across all user classes in a 15-minute time interval should be generated for each direction. When ten or less vehicles across all user classes have travelled in that specific direction an 85th Percentile value should be generalised and the relevant cell should be filled with a ‘–‘; and
6. Arrows should be added to a site plan schematic identifying each direction (A and B) of travel as per the dataset. These should be labelled ‘Direction A: Northbound’ and ‘Direction B: Southbound’ (or Eastbound/Westbound etc. depending on the orientation of the road being surveyed);
7. A pin should be marked on a schematic/map showing the exact location that the equipment was set up. The equipment may not necessarily be the exact location specified on Request for Tender documentation as specified locations may not be available for equipment setup due to lack of street furniture to secure it to or health and safety reasons etc;
8. Direction labels should be located directly above each movement as a heading within the dataset results sheet.

## Queue Length Surveys (QLS)

### Data Required

Queue Length information should be recorded in number of vehicles.

### Survey Period

[The Contracting Authority to decide times dependent on requirements.]

For example, the surveys are to be undertaken for the following periods:

QLS: AM (7:00-10:00) and PM (16:00-19:00) peak periods (Tuesday, Wednesday or Thursday) as a minimum.

All surveys to be undertaken over the same time period.

Surveys are not to be carried out on a day which coincides with school or public holidays unless with explicit permission from the contracting authority. Periods of abnormal traffic conditions as outlined under section ‘Quality Control’ should also be avoided.

### Survey Method

All surveys are to be conducted by camera monitoring. [Note: The Contracting Authority may decide manual surveys are acceptable if queues are longer than camera detection capacity]

The Contracting Authority considers that [one] camera per direction is required in order to satisfactorily complete this element of the survey works. Accordingly, tenderers should price for [one] camera per direction per survey location.

In the case whereby approach arms/links are not straight and have a bend in the road in the vicinity of the survey location, a number of cameras may be required as a single camera will not be able to judge queuing around the corner.

Prospective survey companies should outline a location specific method statement as to how they would assess queue lengths. In some cases where camera visibility is restricted it may be more appropriate to carry out the assessment manually should adequate vantage points (footpaths etc.) be available.

### Data Format

Queue lengths are to be presented in terms of length (meters) at 5-minute intervals, every effort is to be made to ensure cameras can view full length of queues during peaks.

## Public Transport - Waiting Passenger Counts (PTWPC)

### Data Required

1. Count of passengers waiting (every 5 minutes);
2. Count of buses stopping and not stopping (including buses bypassing the stop);
3. Count of passengers boarding and alighting at this stop; and
4. Count of buses dropping off passengers and refusing boarding passengers (if any).

### Survey Period

[The Contracting Authority to decide times dependent on requirements.]

For example, survey would take place over 3 working days (Tues-Thurs) 07:30 – 10:00 and 15:00 – 17.30 to cover early evening and school pick-up periods

### Data Format

All data to be presented in MS Excel format following the rules established in Section 1: Survey Report

## Parking Surveys (PS)

### Survey Period & Type

[The Contracting Authority to decide times dependent on requirements]

In General: Public holidays and school holidays should be avoided. Undertaking a survey on a date when an event is taking place locally may impact the results of the survey and should also be avoided.

### Residential Parking Survey

Surveys between the hours of 00:30 to 05:30 must be undertaken once on two separate weekday mornings (i.e., Tuesday, Wednesday or Thursday).

[The Contracting Authority to decide on requirements.]

For example, survey to record:

1. The number of vehicles parked in each street;
2. Partial registration of the vehicles to enable turnover to be calculated;
3. Whether the vehicles have parking permits and type; and
4. Parking controls in operation.

### 15 Minute Surveys

Surveys between the hours of 07:00 and 19:00 must be undertaken on two separate weekdays (i.e., Tuesday, Wednesday or Thursday).

[The Contracting Authority to decide on requirements.]

For example, survey to record every 15mins:

1. The number of vehicles parked in each street;
2. Partial registration of the vehicles to enable turnover to be calculated; and
3. Whether the vehicles have residential parking permits or not.

### Hourly Beat Surveys

Survey undertaken on 2 separate neutral weekdays (Tues, Wed or Thurs) between 07:00 and 17:00hrs or 07:00 to 19:00hrs.

The following information to be recorded every hour for each of the parked vehicles:

[The Contracting Authority to decide on requirements.]

For example, survey to record every 60mins:

1. The number of vehicles parked in each street;
2. Partial registration of the vehicles to enable turnover to be calculated;
3. Whether the vehicles have parking permits and type; and
4. Parking controls in operation.

### Controlled Parking Zones – Occupancy Surveys

Occupancy surveys undertaken once on a neutral weekday when controls are operational and again at night when controls are not operational.

Survey to record:

1. The number of vehicles parked within each parking bay in each street,
2. The number of vehicles parked on single and double yellow lines; and
3. Parking controls in operation.

### Data Format

All data to be presented in MS Excel or compatible format.

## Vehicle Occupancy Surveys (VO)

### Data Required

Vehicle occupancy data is required using the following classifications: Occupancy (Occ) 1, Occ 2, Occ 3, Occ 4, Occ 5, Occ 6, and Occ 7.

### Survey Period

[Contracting Authority to decide times dependent on requirements.]

For example, the surveys are to be undertaken for the following periods:

VOs: 12-hour period from 07:00:00 to 19:00:00 on a neutral weekday (Tuesday-Thursday). Extended time periods up to 24 hours are facilitated by the templates and 12 and/or 24 hours are recommended. Hourly intervals needed.

All surveys are to be undertaken over the same time period.

### Survey Method

1. All surveys are to be conducted by camera monitoring or manual enumerator;
2. Surveys are not to be carried out on a day which coincides with school or public holidays unless with explicit permission from the Contracting Authority;
3. Vehicles to be included in the count will be specified by the Contracting Authority;
4. Only taxis that have a visible roof sign should be counted;
5. Vehicles with tinted or foggy windows and limited visibility into the car should not be selected;
6. Vehicles should be randomly selected and should not be chosen based on colour, size, vehicle age or any other bias;
7. Counts should be conducted in a location where vehicles are slowing down and occupancy can be easily captured. If a vehicle is travelling too quickly on approach, skip this vehicle and move to the next one;
8. Counts should be done in hourly intervals;
9. Counts should be done for both Taxi’s and Car’s as separate user classes and the results of these should be presented in separate tables;
10. Please note that all counts should be inclusive of the driver. For example, if there is a driver and a front seat passenger in a vehicle, this will amount to Occupancy of 2 people. Please include this explanation in the spreadsheet;
11. In addition to a breakdown of occupancy by number of people in a car, please also give a total per time period;
12. Where the VO counts are carried out in conjunction with JTC or ATC counts, the total number of vehicles on the road during each hourly period should also be tabulated in the excel spreadsheet; and
13. A pin should be marked on a schematic/map showing the exact location that the equipment was set up. The equipment may not necessarily be the exact location specified on Request for Tender documentation as specified locations may not be available for equipment setup due to lack of street furniture to secure it to or health and safety reasons etc. Where the survey is done by manual enumerator, a photo of the exact location where the enumerator stood, facing the road should be taken.

### Data Format

All data to be presented as reference in Section 3.7.5.

All counts to be recorded in hourly intervals.

### Vehicle Occupancy Guidelines

1. For the raw data, the preferred classifications are Occ1, Occ2, Occ3, Occ4, Occ5, Occ6, and Occ7;
2. Separate lines of data should be completed for each vehicle class for each time period; and
3. Spreadsheet should include site number, site location, weather, date, start and end times, coordinates in Latitude/Longitude and Easting/Northing, explanation of occupancy classifications and a site image (photograph of the road where the count was carried out).

## Bus Occupancy Surveys (BO) / Boarding & Alighting Surveys (B&A)

### Data Required

Bus Occupancy data is required using the following classifications:

1. Operator;
2. Bus Arrival Time;
3. Bus Number/Route Number;
4. Registration Plate;
5. Fleet number;
6. Bus Type (double decker, single decker, single deck coach, double deck coach, minibus/coach);
7. Direction (inbound/outbound);
8. Bus service type (public, private, school);
9. Note if the bus stops at or passes by the stop;
10. Number boarding the bus;
11. Number alighting the bus;
12. Bus departure time;
13. Number of passengers left at the stop; and
14. Bus occupancy (for stopped and passing buses) (0%, 25%, 50%, 75%, 100%).

### Survey Period

[Contracting Authority to decide times dependent on requirements.]

For example, the surveys are to be undertaken for the following periods:

BOs/BAs: 12-hour period from 07:00:00 to 19:00:00 on a neutral weekday (Tuesday-Thursday). Extended time periods up to 24 hours are facilitated by the templates and 12 and/or 24-hour periods are recommended.

All surveys are to be undertaken over the same time period.

### Survey Method

All surveys are to be conducted by camera monitoring or manual enumerator. In each case, the manual enumerator or camera should be a position that as such all data can be collected easily and obstructions are minimized.

Surveys are not to be carried out on a day which coincides with school or public holidays unless with explicit permission from the Contracting Authority.

### Data Format

All data to be presented as referenced in Section 3.8.5 in Microsoft excel format.

All buses arriving/ departing to be recorded.

### Bus Occupancy Guidelines:

1. For the raw data, the preferred classifications are those stated above;
2. Counts should be conducted beside the bus stop, where vehicles are slowing down/stopping and occupancy can be easily captured. If a vehicle is travelling too quickly on approach skip this vehicle and move to the next one;
3. Counts should be done as the buses arrive/depart;
4. Counts should be done for all buses arriving/departing at the designated stop;
5. Separate lines of data should be completed for each arrival;
6. Spreadsheet should include site number, site location, weather, date, start and end times, coordinates in Latitude/Longitude and Easting/Northing, and a site image (photograph of the road where the count was carried out);
7. The data should be collected for every bus that stops at the stop or passes by the stop;
8. The relevant direction of the bus should be recorded (inbound/outbound);
9. Separate lines of data should be completed for each bus;
10. The full name of the operator should be used. (For example, in the case of Bus Éireann, the full operator’s name should be used, and not just ‘BE’);
11. Registration numbers should be complete and checked to ensure they are in the correct format;
12. The classifications for bus type are as follows:
13. Double Decker;
14. Single Decker;
15. Single Deck Coach;
16. Double Deck Coach;
17. Midi Coach;
18. Mini Bus;
19. The Type of service that should be recorded is:
20. Public Service Vehicle;
21. Private;
22. School Bus; and
23. In the case that other service types exist, please record these;
24. Occupancy of buses should also be recorded where specified and should be categorized as follows
25. 0% occupancy (empty);
26. 25% occupancy (small number of people on board);
27. 50% occupancy (bus is half full);
28. 75% occupancy (all seats filled); and
29. 100% occupancy (all seats filled and standing space occupied);
30. Arrival time and departure time should be noted down to the second (hh:mm:ss), the same value should not be recorded for arrival and departure.

## Origin/Destination (ANPR) Surveys

### Data Required

Origin/Destination data is required using the following classifications: CAR, LGV, OGV 1, OGV 2, PSV and Motorcycle (M/C).

### Survey Period

[Contracting Authority to decide times dependent on requirements.]

For example, surveys are to be undertaken **while the two-week ATC Survey is in operation** for the following periods:

ANPR: One 14-hour period from 06:00:00 to 20:00:00 on a neutral weekday (Tuesday-Thursday). A capture rate of no less than 85% of the total number of vehicles that pass any given ANPR camera must be demonstrated in each 1-hour period, from 06:00 to 20:00.

All surveys are to be undertaken over the same time period.

### Survey Method

The data provided shall be encrypted to provide each vehicle with a unique alpha-numeric identifier which will not disclose the original Vehicle Registration Number. The data collected shall be recorded in a trip chain format, which will detail the route of each vehicle time stamped as it passes each location, it will also document the journey time between each capture point.

### Data Format

All data to be presented as follows:

GPS Survey Location in AutoCAD, or compatible format.

MS Excel Sheets detailing:

* List of unique alpha-numeric vehicle identifier and their corresponding vehicle time and vehicle class;
* Record of the matched alpha-numeric vehicle identifier between each of the cameras. This data should be presented in a matrix format by vehicle type;
* Record of the sample rate;
* Survey Day;
* Survey Date;
* Photo of Survey Site (with instrumentation/site personnel). The photo shall be georeferenced with GPS Survey location;
* A record of any issues encountered during the survey.

## Appendix A – Traffic Count Templates

Templates for 5 different standardised formats of traffic count have been developed. These include:

1. Automatic Traffic Count (ATC)

2. Junction Turn Count (JTC)

3. Junction Turn Count – Pedestrian Traffic (JTC - PED)

4. Vehicle Occupancy (VO)

5. Bus Occupancy (BO)

6. Bus Boarding and Alighting (B&A)

For simplicity in template usage the supplied Excel Sheets have been locked – only the cells where information is required to be inputted are unrestricted.

