METROLINK

Integrated Transport. Integrated Life.

A9.6 Data Collection Report

Contents

1. Introduction

This report details the array of data sources utilised to inform the assessments undertaken in the Traffic and Transport Assessments, and the Environmental Impact Assessment Report Chapter 9 (Traffic and Transport). A mix of qualitative and quantitative data sources have been used.

The NTA's East Regional Model (ERM) has been used as an appraisal tool for the assessment of the proposed Project. The ERM provides a multi-modal forecasting capability required for the assessment of large-scale projects such as the proposed Project. The ERM has been used to provide forecast transport movements, such as passenger numbers, pedestrian movements for VisWalk assessment, origin/destination and changes in travel behaviour due to the proposed Project. The Transport Modelling Report (Appendix A9.4) should be referred to for further information on the ERM.

The latest version of ERM was calibrated to a base year of 2016, full details on the data collection used in the development of the model and in the validation and calibration of the model is contained within the Model Development Report – East Regional Model (National Transport Authority, 2020).

2. Qualitative Data Collection

2.1 Street Level Layout Drawings

The existing street level layout drawings were utilised in the assessment to understand the baseline conditions in the immediate vicinity of the station. For example, quantitative measurements of footways and cycle provisions were ascertained from the existing street level layouts. In a similar way, the proposed street level layouts as part of the Project were utilised to examine changes to road layouts, such as a reduction in traffic lanes, provision of bus lanes, provision of crossings or signalization of junctions. These layouts were also used to understand the proposed locations of station entrances and associated utilities, and as such were used for qualitative elements also.

Proposed street level layouts of the Temporary Traffic Management (TTM) measures were also used during the assessment of the Construction Phase to identify lane closures, impacts to the cycle and walking networks, and reductions in parking.

2.2 Mapping Outputs

2.2.1 Google Street View

As part of the assessment of the baseline conditions and accessibility review, Google Street View has been utilised to confirm the presence and location of street furniture to contribute to the pedestrian comfort assessment.

This tool was also utilised to verify directional flows of roads, as well as identifying other informal walking routes that may not be present within the strategic model. Key attractors and points of interest were also collated from this online tool.

2.2.2 Ordnance Survey Mapping

Ordnance Survey Mapping (OSM) is created by Ordnance Survey Ireland which provides detailed mapping for a variety of uses. For the assessments undertaken, OSM has been used to establish accurate road naming, the location of physical features, and identifying catchments of the Project, among others.

3. Quantitative Data Collection

3.1 Planning Datasheets

The NTA have provided Planning Datasheets for the years 2035, 2050 and 2065, that includes forecasts for key trip generation and destination variables such as:

- Population;
- Population by age cohorts;
- Population by school level (Primary, Secondary, Third Level);
- Principal Economic Status;
- Employment places at destination;
- Employment paces at destination by type (Health, Retail, Food Retail); and
- Education places at destination by level (Primary, Secondary, Third Level).

These planning sheets are the principal land use scenario for all plans and schemes. Interim year planning sheets for years between 2016 and 2040, are straight line interpolation between 2016 and 2040. For years after 2040, these planning datasheets are created by extending this straight-line interpolation onwards to the forecast year, such as 2050 or 2065.

3.2 Topographical Survey Mapping

Topographical survey mapping has been used to identify accurate locations and specifications of natural and human characteristics within the vicinity of the alignment and station, such as to identify locations and dimensions of street furniture or footbridges. Topographical surveys have also informed the Temporary Traffic Management measures proposed during the Construction Phase, to ensure all Utilities are accounted for.

3.3 Commissioned Traffic Surveys

To facilitate the transport planning and design process of the Project (hereafter referred to as ‘the Project’), traffic survey data was required to complement existing data in the vicinity of the Project alignment. The collected data facilitated assessing the potential traffic impacts associated with the construction process, in particular the impact of construction of station boxes and the associated temporary diversions to vehicle and pedestrian traffic.

The data was input into local junction and micro-simulations models which produced output results on where potential conflict and pinch points occur. From these results, a programme of mitigation has been drawn up to minimize the impact of the construction works that will take place in the vicinity of the alignment from North County Dublin to Dublin South Inner City and South County Dublin. The traffic and transport data that has been used in the modelling works was gathered in 2018, prior to the series of COVID-19 lockdowns. Due to the ongoing COVID-19 pandemic, the ability to collect new information since March 2020 has been limited, as surveys in this period would not be representative of typical transport conditions.

3.3.1 Junction Turning Counts (JTCs and PED)

Junction Turning Counts with Pedestrians (JTCs PED) were undertaken in 2018 at 108 locations as shown in Appendix A. The counts took place over a 24-hour period on a mid-weekday (Tuesday, Wednesday or Thursday) in accordance with TII Project Appraisal Guidelines for National Roads Unit 5.2 Data Collection.

The surveys were required to be delivered in two formats:

- Tenderers standard format; and
- National Transport Authority specific format.

The locations of the sites where JTCs and PED surveys were undertaken are specified in Appendix A.

Table 3.1: Summary of Surveys Undertaken

Junction Type	Total
3 Arm JTC & PED	47
4 Arm JTC & PED	56
5 Arm JTC & PED	4
6 Arm JTC & PED	1
Total	**108**

The following outlines the specifications and requirements of the classified junction turning counts that were delivered:

- Cover a 24-hour period;
- Gathered in 15-minute periods;
- Undertaken mid-week (Tuesday, Wednesday or Thursday);
- Vehicle classifications to include: Car, LGV, OGV 1, OGV 2, PSV, Motorcycles (m/C) and Pedal Cycle (P/C); and
- Capture all turning movements at the junction, including U-turn movements.

The following outlines the specifications and requirements of the pedestrian counts that were delivered:

- Cover a 24-hour period;
- Gathered in 15-minute periods;

- Undertaken mid-week (Tuesday, Wednesday or Thursday);
- Pedestrian classifications to include: Child <5, Child <16, Adult, OAP and Disabled;
- Capture pedestrian crossing movements on every junction arm in each direction (see Red and Blue movements in Figure 3.1);
- Capture pedestrian entering movements on each side of every junction arm (see Green movements in Figure 3.1);
- Capture pedestrian exiting movements on each side of every junction arm (see Purple movements in Figure 3.1).

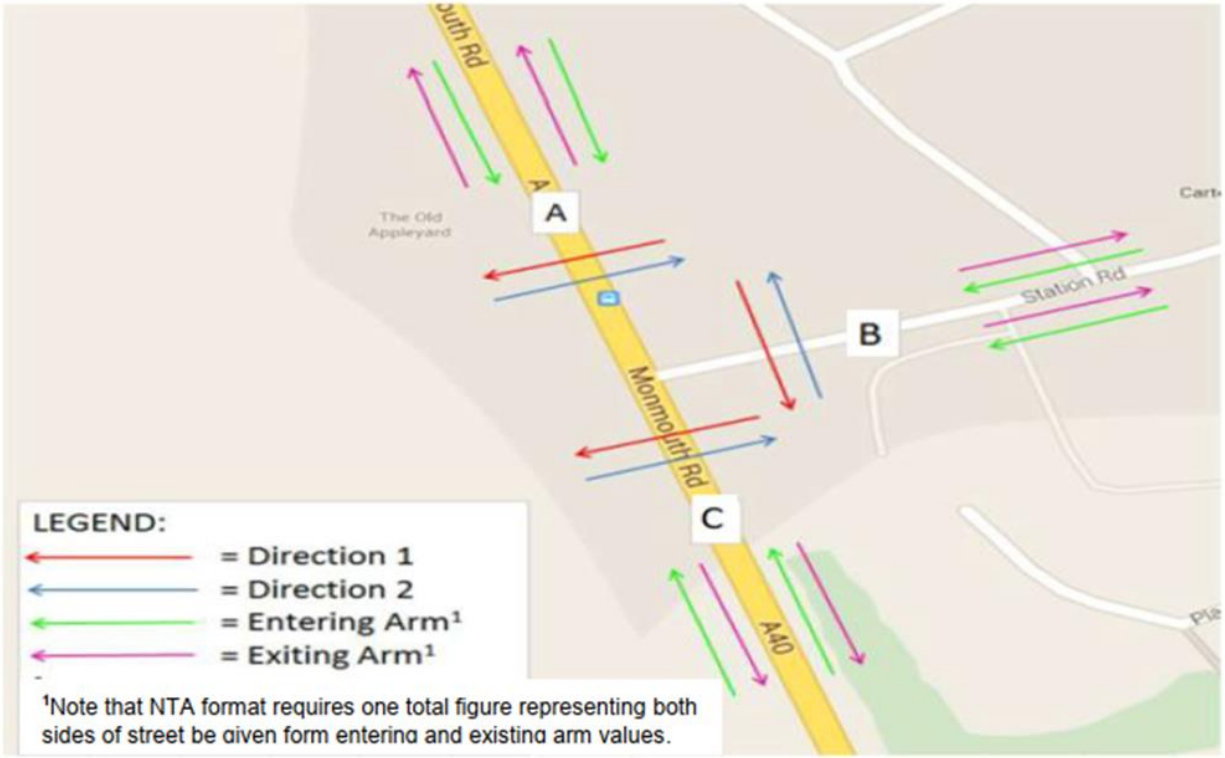

Figure 3.1: Pedestrian Survey Junction Schematic

3.3.2 Quality Control

The contractor ensured that the counts were not undertaken during adverse or untypical situations, such as school holidays, strikes, protests, very heavy rainfall/snow/sleet, fuel crisis, 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. Disruptions to traffic during the surveys were noted by the enumerators and transcribed onto the output.

As part of the specification, the traffic survey contractor was required to prepare a report covering the following aspects of data collection:

- Background/Introduction of surveys;

- Details of each survey with site location, survey dates/day, vehicle categories, comments for any hindrance;
- Details of the methodology adopted for data analysis;
- Summary tables for the broad data analysis such as journey time data analysis;
- Figures with locations and direction of movement with names;
- Site notes and photographs; and
- Any other issues relating to data collection.

3.4 TII Traffic Counters

Permanent TII Automatic Traffic Counts are located on national strategic roads across the network, with data publicly available online.

3.5 DAA Traffic Data

Forecast vehicle flows and pedestrian movements have been received from Dublin Airport Authority (DAA) to facilitate assessment of the internal network at Dublin Airport. Bus flows and Terminal passenger data was provided to contribute to the development of an accurate VisWalk model at this location, in conjunction with pedestrian data extracted from the ERM. Data was provided for the locations on the internal network at Dublin Airport shown in Figure 3.2.

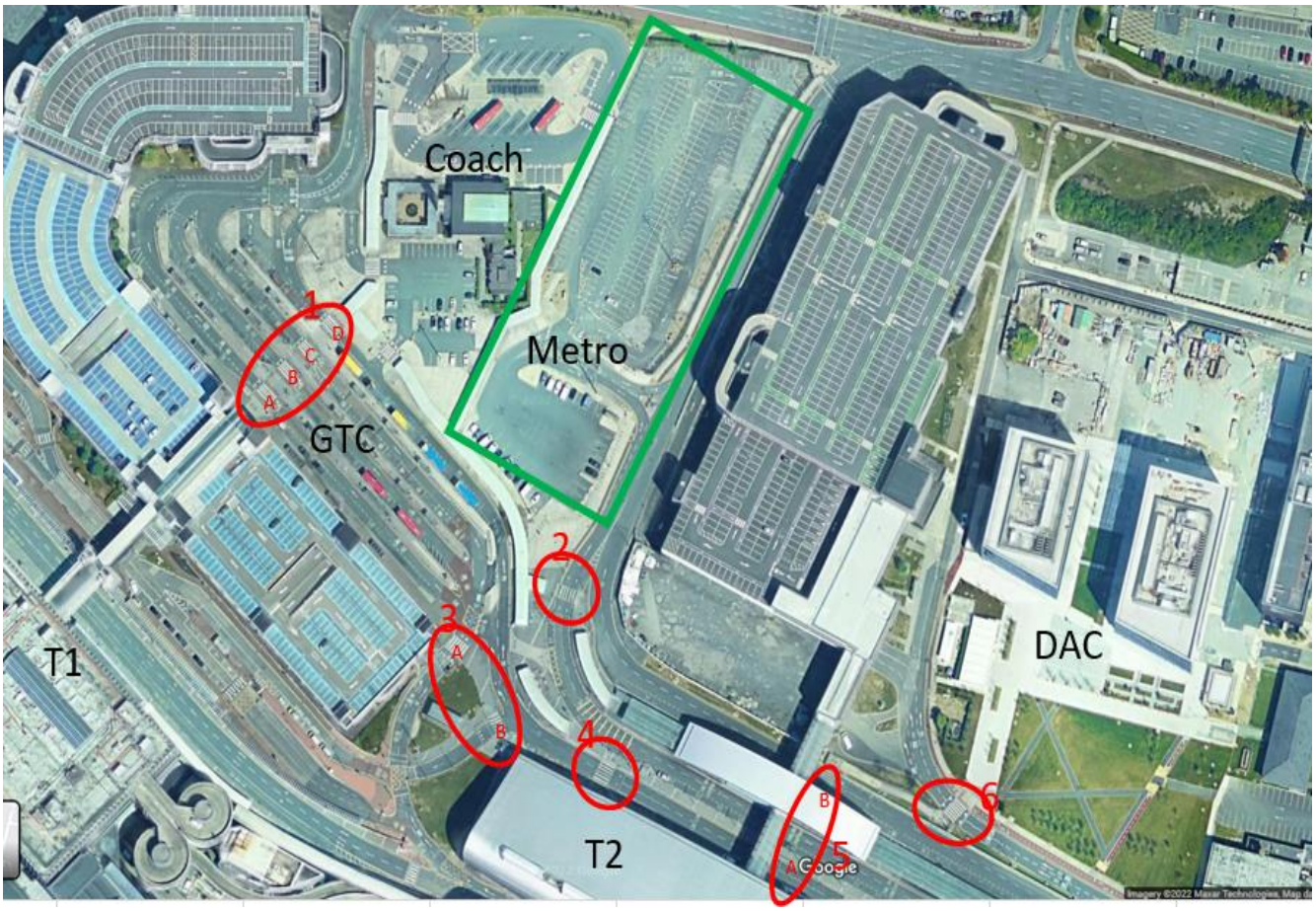

Figure 3.2: DAA Data Collection Locations

Appendix A. Traffic Survey Locations

Table 0.1: 2018 Traffic Survey Locations

ROAD NAME/LOCATION	X	Y	JUNCTION SURVEY TYPE REQUIRED
Lissenhall Junction/M1	319198	249037	4 ARM JTC
R132 Lissenhall R125	318599	247585	4 ARM JTC PED
R132/Seatown	318733	247079	4 ARM JTC PED
R132/R106 Roundabout	318654	246350	4 ARM JTC PED
R132/L2305 Opposite the Wright Venue	317743	245303	4 ARM JTC PED
M1/Sillogue Rd Intersection	315357	241269	4 ARM JTC
Shangan Rd/Balbutcher Lane	315457	239911	4 ARM JTC PED
Glasnevin Ave/Collins Ave Extension	315479	239045	4 ARM JTC PED
Phibsborough Road/Cross Gun's bridge	315074	236263	3 ARM JTC PED
Dorset St/North Frederick St	315748	235358	4 ARM JTC PED
Lindsay Road	315039	236426	3 ARM JTC PED
Parnell St	315748	234993	4 ARM JTC PED
Canal Rd/Ranelagh Rd	315906	232531	4 ARM JTC PED
Leeson St Lwr/SSG E	316073	233191	4 ARM JTC PED
O'Connell Bridge/Burgh Quay	315942	234378	5 ARM JTC PED
Pearse St/Lombard St E	316585	234082	4 ARM JTC PED
Tara St/Butt Bridge	316191	234446	4 ARM JTC PED
Main St/Malahide Rd	318215	246621	3 ARM JTC PED
North St/Seatown Rd	318269	246978	3 ARM JTC PED
Swords Rd Rdbt/Lakeshore Drv	318210	245633	4 ARM JTC PED
Rathingle Rd/Forrest Rd	317083	245573	4 ARM JTC PED
Corballis Rd N/Westlink Rd	317042	243557	3 ARM JTC PED
R106/Northwood	315379	240699	3 ARM JTC PED
Collins Ave/Albert College Pk	315722	238977	3 ARM JTC PED
Ballymun Rd/Albert College Dr	315418	238857	3 ARM JTC PED
Berkeley Rd/Eccles St	315178	235737	4 ARM JTC PED
Dorset St Upr/NCR	315752	235805	4 ARM JTC PED
Dorset St Upr/Gardiner St Upr	315702	235714	4 ARM JTC PED
Gardiner St Lwr/Summerhill	316049	235190	4 ARM JTC PED

ROAD NAME/LOCATION	X	Y	JUNCTION SURVEY TYPE REQUIRED
Bolton St/Capel St	315185	234826	3 ARM JTC PED
Parnell St/Capel St	315244	234666	3 ARM JTC PED
Georges Quay/Moss St	316405	234437	4 ARM JTC PED
Lombard St E/City Quay	316672	234373	3 ARM JTC PED
Townsend St/Tara St	316186	234271	4 ARM JTC PED
Pearse St/Tara St	316191	234204	3 ARM JTC PED
Moss St/Townsend St	316390	234259	4 ARM JTC PED
Pearse St/Shaw St	316385	234148	3 ARM JTC PED
Lombard St E/Sandwith St Lwr	316636	234231	4 ARM JTC PED
Kildare St/SSG N	316111	233484	3 ARM JTC PED
SSG E/Merrion Row	316198	233459	4 ARM JTC PED
Merrion Row/Merrion St Upr	316315	233407	4 ARM JTC PED
Baggot St Lwr/Fitzwilliam St Lwr	316616	233273	4 ARM JTC PED
SSG W/Cuffe St	315713	233333	4 ARM JTC PED
Wexford St/Kevin St	315501	233330	4 ARM JTC
Bride St/Kevin St Upr	315267	233385	5 ARM JTC PED
Dartmouth Rd/Ranelagh Rd	315976	232403	4 ARM JTC PED
Richmond St S/Harrington St	315580	232775	4 ARM JTC PED
Camden St Upr/Camden Crt	315567	232891	3 ARM JTC PED
Camden Crt/Harcourt St	315690	232911	3 ARM JTC PED
Hatch St Upr	315705	232940	3 ARM JTC PED
Harcourt Rd/Harcourt St	315713	232793	4 ARM JTC PED
Charlemont St/Harcourt Rd	315673	232786	3 ARM JTC PED
Heytesbury St/Harrington St	315347	232757	4 ARM JTC PED
Leonards Corner	314887	232718	4 ARM JTC PED
Fitzwilliam Plc/Leeson St Lower	316347	232793	4 ARM JTC PED
Grand Parade/Leeson St Upr	316391	232719	4 ARM JTC PED
Mespil Rd/Sussex Rd	316472	232751	3 ARM JTC PED
Leeson St/Upr Sussex Rd	316429	232627	3 ARM JTC PED
Sussex Tce/Sussex Rd	316473	232641	3 ARM JTC PED
Leeson St/Upr Burlington Rd	316664	232442	3 ARM JTC PED
Burton Hall Rd/Blackthorn Drive	319787	226363	4 ARM JTC PED

ROAD NAME/LOCATION	X	Y	JUNCTION SURVEY TYPE REQUIRED
Blackthorn Rd/Blackthorn Ave	319614	226787	3 ARM JTC PED
Blackthorn Drive/Benildus Ave	319068	227064	3 ARM JTC PED
Blackthorn Ave/St Raphaelas Rd	319313	226926	3 ARM JTC PED
Kilmacud Rd Upr/St Raphaelas Rd	319422	227523	3 ARM JTC PED

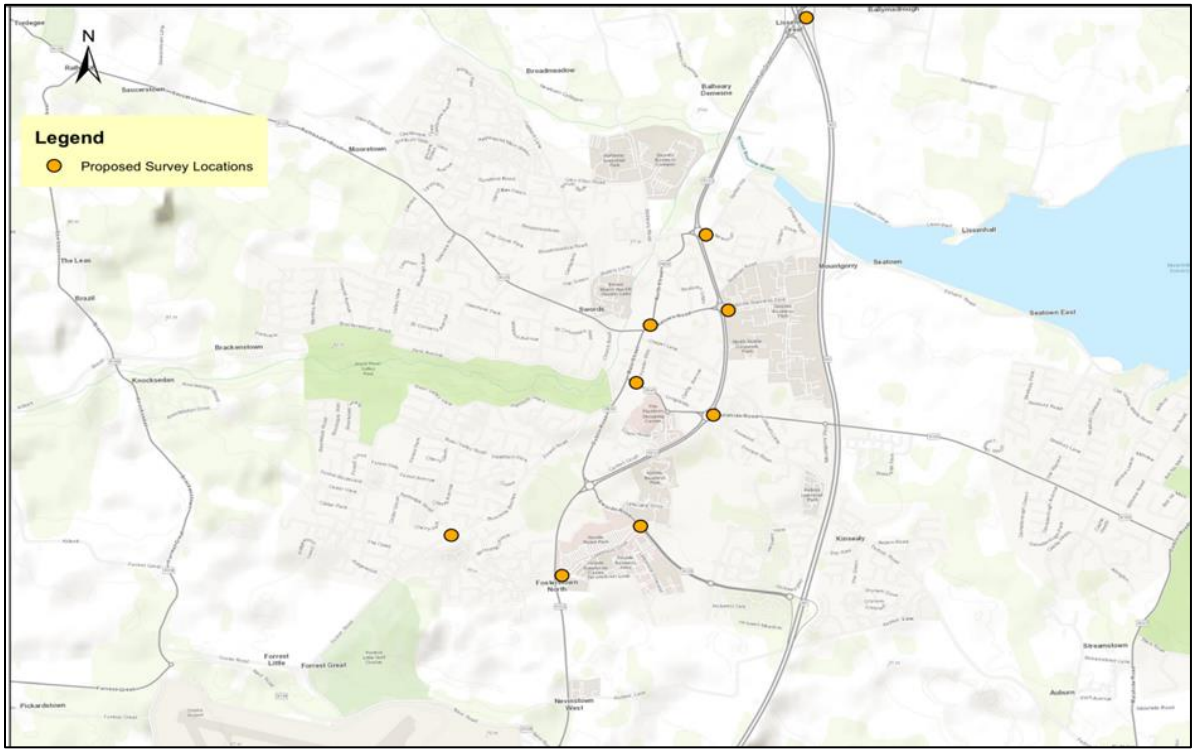

Figure 0.1: Survey Locations North of Dublin Airport

Figure 0.2: Survey Locations South of Airport and on M50

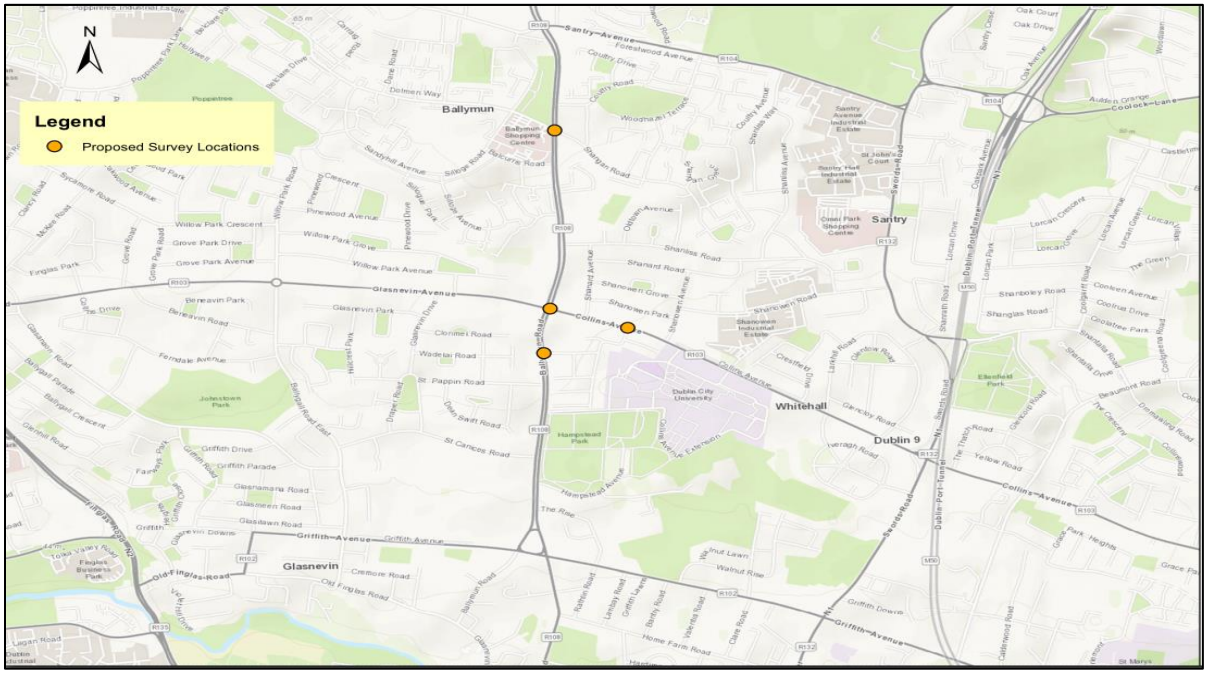

Figure 0.3: Survey Locations in Ballymun/Glasnevin

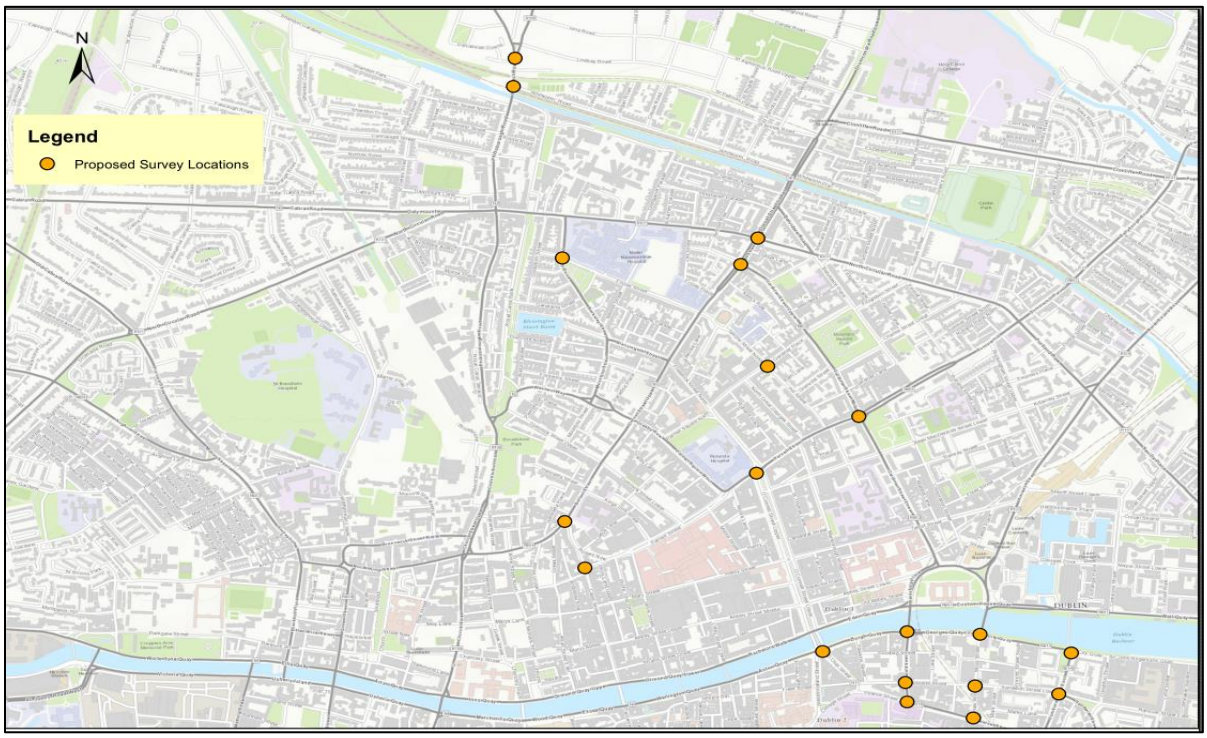

Figure 0.4: Survey Locations in North and South City

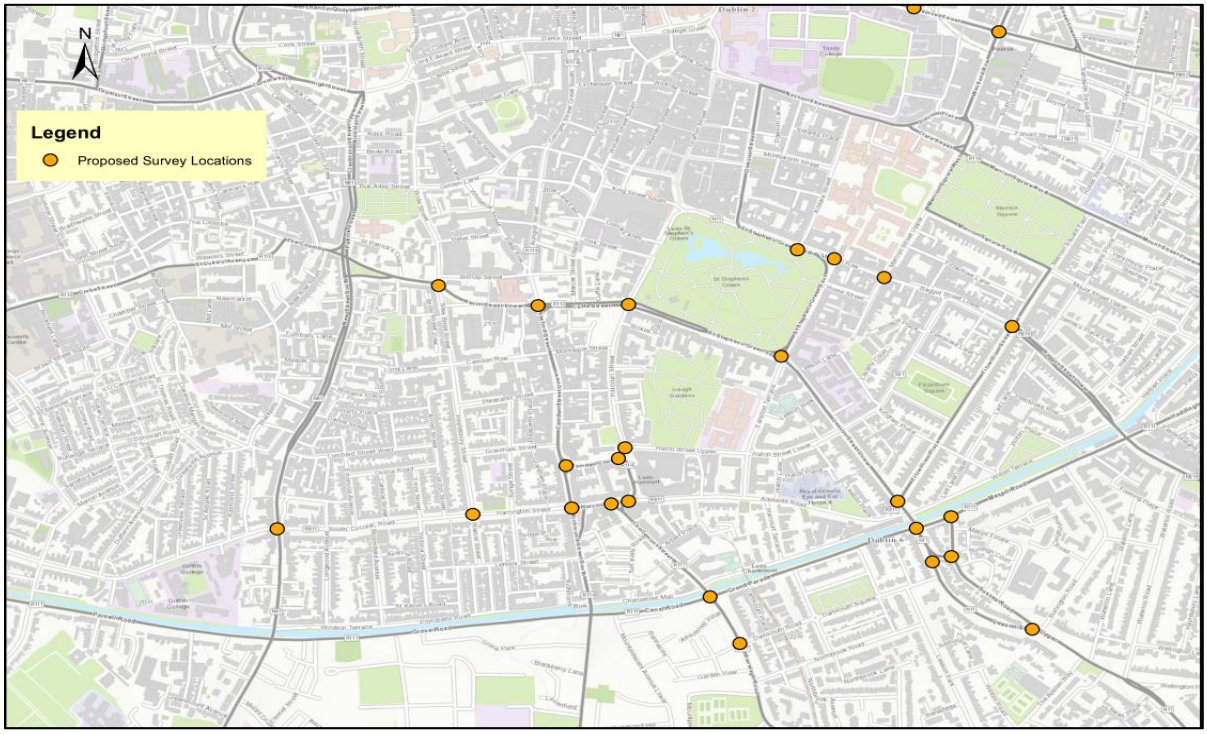

Figure 0.5: Survey Locations in South City

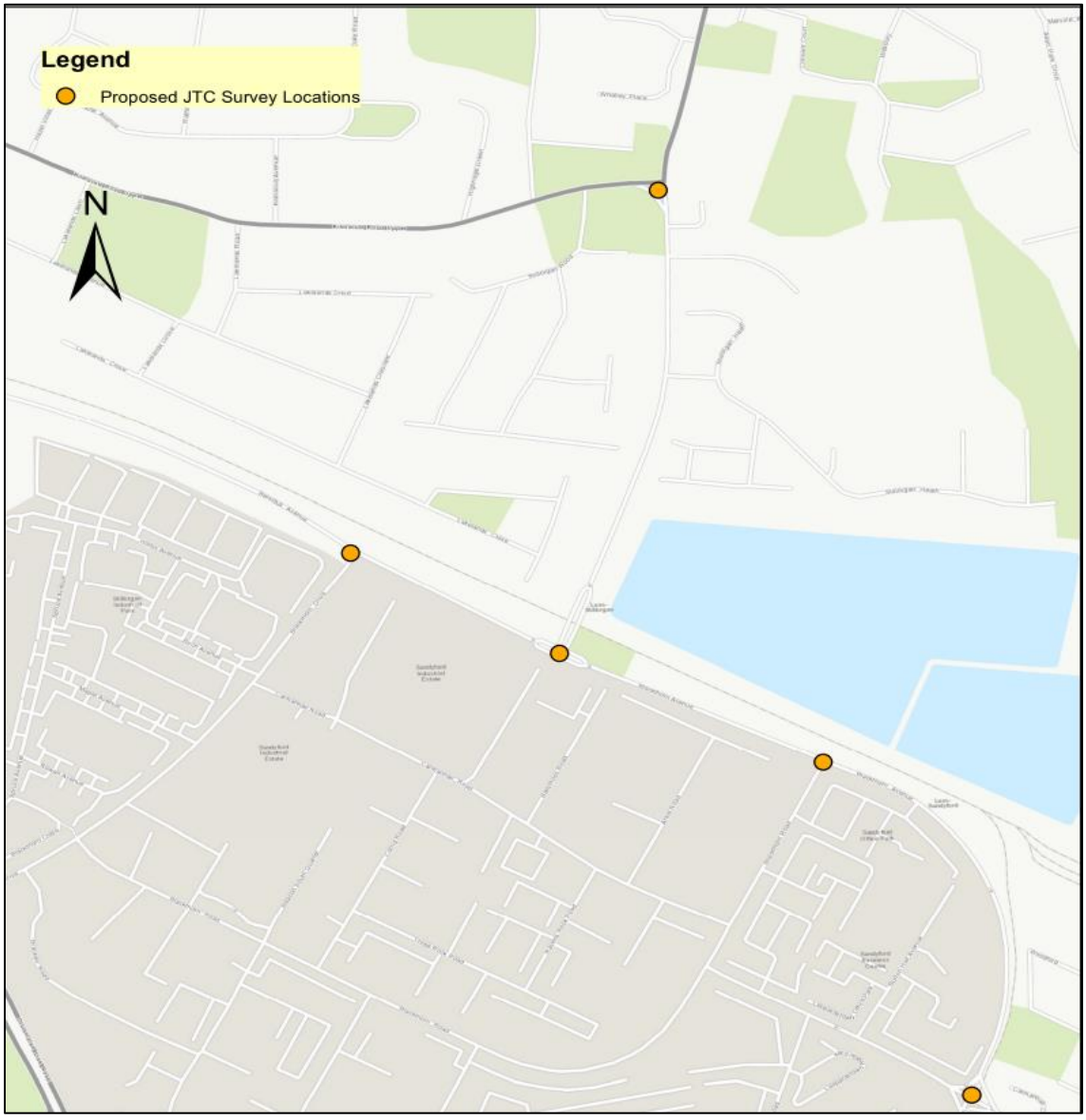

Figure 0.6: Survey Locations in Dun Laoghaire Rathdown