Detailed Assessment for Belfast City Council

In fulfillment of the Environment (Northern Ireland) Order 2002 - Local Air Quality Management

September 2010

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Executive Summary

The Environment Order (NI) 2002 places a responsibility on councils to periodically review and assess air quality within their boundaries. As part of this process, Belfast City Council presents the Detailed Assessment 2010. This assessment has been undertaken in compliance with LAQM-TG(09).

In April 2009 Belfast City Council published an Updating and Screening Assessment (USA). The findings of this assessment highlighted three areas throughout Belfast where LAQM-TG(09) criteria indicated it was necessary to conduct a 'Detailed Assessment'. Concern from Local Community Groups after completion of the USA regarding air quality in the Short Strand area resulted in this area also being considered.

The following areas were identified for Detailed Assessment:

- The City Centre for nitrogen dioxide based on exceedences monitored at city centre diffusion tube monitoring sites and residential receptors.
- Ormeau Road AQMA for nitrogen dioxide with a view to revoking this AQMA.
- M1/Westlink Corridor AQMA for both nitrogen dioxide and particulate matter to identify the effectiveness of extensive road works which have been undertaken.
- Short Strand with a view to extending the Cromac Street and Albertbridge Road Air Quality Management Area boundary in this area.

The areas were assessed for exceedences of mean nitrogen dioxide with the M1/Westlink also assessed for particulate matter (PM_{10}), both pollutants are associated with busy roads and junctions.
Exceedences of the mean nitrogen dioxide were identified during this assessment process in existing AQMAs and areas where no relevant exposure was identified. Therefore, the 2010 Detailed Assessment for Belfast City Council concludes that there is no need to declare new Air Quality Management Areas nor expand or revoke existing AQMAs.

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1 Introduction

1.1 Description of Local Authority Area

Air quality in Belfast today is generally considered to be of good quality although in some areas certain pollutants remain a concern. Belfast experienced significant improvements with the introduction of the Clean Air Act and Smoke Control programme in the late 1960s which targeted domestic particulate and sulphur dioxide emissions. The impact of this programme was further augmented by widespread availability of natural gas within both the commercial and domestic sectors, which has had a beneficial effect on particulate and sulphur dioxide emissions. Industrial emissions are principally controlled via Industrial Pollution Control permitting legislation. Currently the predominant sources of air pollution in Belfast are from vehicle exhausts. Our heavy reliance on road transport produces fine particulate matter (PM_{10} and $PM_{2.5}$) and nitrogen dioxide which contribute to the formation of low level ozone.

1.2 Purpose of Detailed Assessment

Where the Update and Screening Assessment has indicated that there is a risk of the air quality objectives not being achieved, the Local Authority (LA) will need to carry out a Detailed Assessment. A Detailed Assessment is also required in circumstances where an authority proposes to revoke or otherwise amend an existing Air Quality Management Area (AQMA).

The aim of the Detailed Assessment is to determine, with reasonable certainty, whether or not there is a likelihood of the objectives not being achieved. Where a likely exceedence of the objectives is identified, then the LA will also need to determine the magnitude and geographical extent of the exceedence.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in Northern Ireland** are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

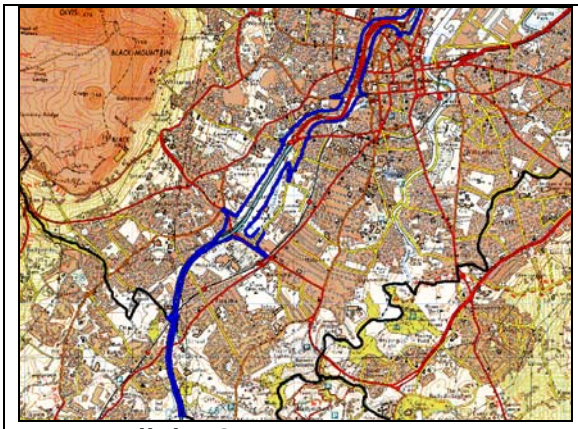
Table 1.1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in Northern Ireland.

Pollutant	Concentration Measured as		Date to be achieved by
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	3.25 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	Annual mean	31.12.2004
	0.25 $\mu g/m^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g/m^3$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

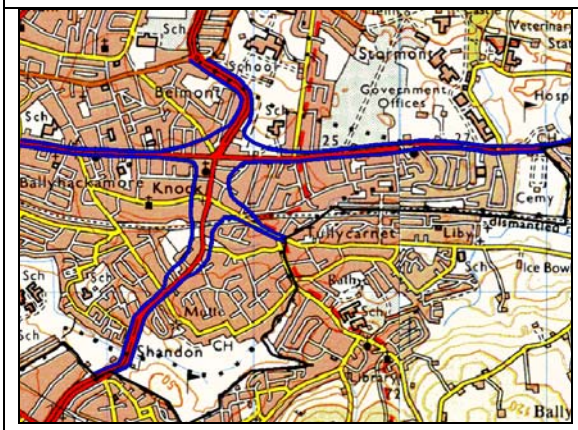
As part of the review and assessment process Belfast City Council conducted a Second and Third Stage Review and Assessment of air quality throughout its area in 2004. This concluded that modelled exceedences of the nitrogen dioxide and particulate matter were occurring in the city and would continue to do so after 2010. Consequently, in August 2004 four Air Quality Management Areas (AQMAs) were declared, comprising the M1 Motorway and Westlink corridor, Cromac Street to the junction of Short Strand, Woodstock Link and the Albertbridge Road, the Upper Newtownards Road and the Ormeau Road. The M1-Westlink AQMA was declared on the basis that the annual mean and hourly mean nitrogen dioxide concentrations would exceed the 2005 Objective. Particulate matter (annual and 24-hour means) was also predicted to exceed the relevant objectives for this area. The three other areas were declared on the grounds that they would exceed the annual mean nitrogen dioxide objective. These areas are defined in Figures 1.1.

Figure 1-1 Map of AQMA Boundaries

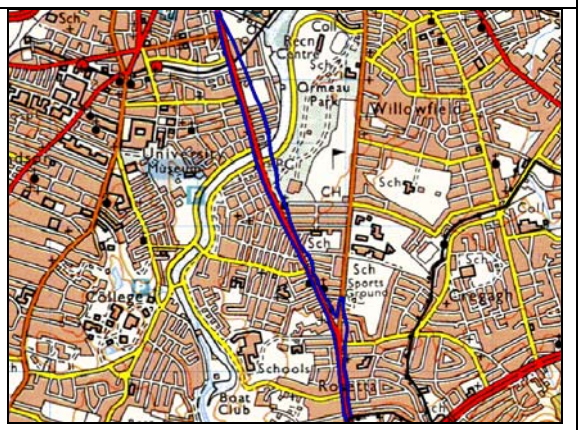


M1-Westlink AQMA

Cromac Street and Albertbridge Street AQMA



Upper Newtownards Road AQMA



Ormeau Road AQMA

In May 2006, Belfast City Council and 11 other parties published an Air Quality Action Plan setting out how air quality in these areas and across the city as a whole was to be tackled. In April 2006, Belfast City Council published their first Updating and Screening Assessment concluding that five further areas within the city required consideration. These areas underwent a detailed dispersion modelling exercise in 2007 however modelled results did not indicate it was necessary to declare any new AQMAs or extend or revoke existing AQMAs. The second Update and Screening Assessment was completed in April 2009 and concluded it was necessary to conduct a Detailed Assessment in the city centre, the Ormeau Road AQMA and the M1/Westlink Corridor AQMA. More recently concern has been expressed regarding exposure issues around Short Strand therefore this area will also be considered for the purpose of this Detailed Assessment.
This report follows Guidance LAQM.TG(09) issued by DEFRA and will focus on the areas, pollutants and reasons as outlined in Table 1-2.

Table 1-2 Summary of area's to be considered in this Detailed Assessment

Area	Pollutant	Aim	Reason
City Centre	Nitrogen dioxide	Determine if it is necessary to declare the City Centre as an AQMA.	Exceedences monitored at city centre diffusion tube monitoring sites and residential receptors.
Ormeau Road AQMA	Nitrogen dioxide	Determine if it is possible to revoke Ormeau Road AQMA.	Monitored data indicated annual mean nitrogen dioxide are below the objective
M1/Westlink Corridor AQMA	Nitrogen dioxide Particulate matter	Establish if exceedences are still occurring at relevant exposure in this AQMA following the road works.	Extensive road works undertaken throughout this AQMA.
Short Strand	Nitrogen dioxide	Determine if it is necessary to extend the boundary of the Cromac Street and Albertbridge Street AQMA at the Short Strand end.	Concerns from Local Community Groups.

2 Dispersion Modelling

2.1 ADMS-Urban Dispersion Model

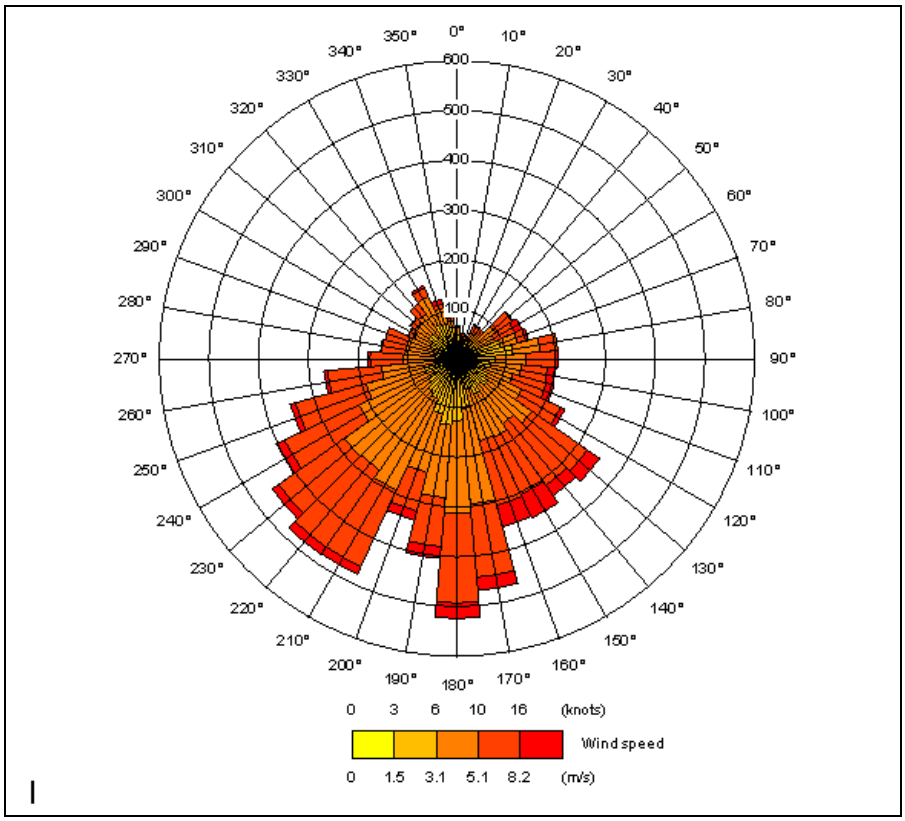
Belfast City Council uses the Cambridge Environmental Research Consultants (CERC) Atmospheric Dispersion Modelling Software (ADMS-Urban) to model air quality within its district. The model is a comprehensive tool for tackling air pollution problems in cities and towns and is used by over 70 Local Authorities within the UK. It can be used to examine emissions from 6,000 sources simultaneously, including 70,000 roads links and 1,500 point sources. The model incorporates the latest understanding of the boundary layer structure, and goes beyond the simplistic Pasquill-Gifford stability categories method with explicit calculation of important parameters. The model uses advanced algorithms for the height-dependence of wind speed, turbulence and stability to produce improved predictions.
Model inputs include; source parameters (road widths and canyon heights, stack heights, diameters, exit velocities etc), diurnal profiles, met data and background ambient concentrations. One of the most important advanced modules in ADMS-Urban is the chemistry module which allows the user to calculate NOx chemistry. By using the 8 reaction Generic Reaction Set the model can calculate reactions with ozone and hydrocarbons enabling the user to calculate the NO_x chemical reactions within a study area to get accurate predictions of NO_2 concentrations. Outputs can be displayed in numerical format or overlain on maps using the ArcView GIS software. Pollution concentrations can be calculated for averaging times in line with limit values as stipulated by the National Air Quality Strategy. Modelled results can be verified by making comparisons with locally monitored data**.** This can be done by outputting results at receptor points corresponding to monitoring site locations. Modelled and monitored concentrations can then be compared as a time series plot. Results can be presented as colour contour plots using an intelligent gridding system enabling users to model a large area yet obtain high spatial resolution in areas of particular interest.

2.2 Data Sources

2.2.1 Meteorological Data

The nearest meteorological station to Belfast is located at Aldergrove (Belfast International Airport). An ADMS compatible data set was obtained for the year 2009. Although the monitoring station is located some distance from Belfast and in a rural area it is deemed the most representative and authoritative data available. The data comprised of hourly sequential recordings of surface temperature, precipitation, wind speed, wind direction, relative humidity and cloud cover. The wind rose for 2009 (Figure 2-1) shows the prominent wind direction is south/south west with mean speeds of approximately 10 knots.

Figure 2-1 Meteorological Data, 2009



2.2.2 Background Data

Background air quality data for each of the areas considered was derived from the 2008 updated UK Air Quality Archive available at:
http://laqm1.defra.gov.uk/review/tools/background-maps
Data for the Northern Ireland Ordinance Grid system and the appropriate 1 km grid projection maps for 2009 were used.

2.2.3 Road Source Modelling

Road sources are defined within the ADMS-Urban model by inputting the start and finish co-ordinates of the road. The width of the road is then entered and the elevation in the case of flyovers or bridges, etc. If the road is flanked by tall buildings on both sides, then a measure of the canyon height should also be input. The model employs the street canyon module for roads with canyon heights greater than 0.5m. LAQM.TG (09) defines a canyon as a relatively narrow street with buildings on both sides, where the height of the buildings is generally greater than the width of the road. The technical guidance definition has been employed in this stage of the review and assessment process.
In order to accurately predict traffic flows, speeds and composition Belfast City Council commissioned a traffic count company to undertake a series of manual classified counts, automatic traffic counts and speed surveys. In addition to these surveys further traffic information was provided by NI Road Service. The locations of these traffic count surveys and the data are provided in Appendix B. Surveys were carried out at each location for a 24 hour period in February 2010. These surveys

are considered to be realistic representations of the average and general flow patterns for each road.
The road width, elevation and spot heights were derived from Ordnance Survey digital vector data maintained by Belfast City Council.

2.2.4 Monitoring Data and Verification Process

In order to verify modelled derived data results were compared with actual monitored data. Belfast City Council operates a network of nitrogen dioxide diffusion tube monitoring points throughout the city. For each of the study areas the nearest Air Quality Monitoring Station (AQMS) or Nitrogen Dioxide tube location was used. Data from these locations is derived by following the LAQM.TG (09). Tube analysis is carried out at a WASP accredited lab using 50% TEA in acetone. A locally derived Bias Adjustment factor was applied using co-located tube data from the AURN monitoring station in Lombard Street. Full bias-adjustment sheets are presented in Appendix A.

3 Detailed Assessment Results

3.1 City Centre

3.1.1 Background

The 2009 USA process identified the City Centre as an area where potential exceedences of the nitrogen dioxide annual means could occur. Exceedences of the annual mean nitrogen dioxide Objective regularly occur at roadside locations within the City Centre however, most of the locations have no relevant exposure. The exception to this is the area around the Albert Clock and College Square East. Both these areas were considered in the 2007 Detailed Assessment whereby it was concluded that Objectives were not exceeded at relevant receptors. This conclusion was based purely on modelled results and it was recommend that roadside diffusion tube monitoring be carried out at these locations to confirm this and enable further modelling to be carried out. This assessment will consider these two areas again by verifying the model against site specific monitoring and existing monitoring locations through the City Centre providing further confidence that previous assumptions are valid and robust. Figure 2 shows the area in detail, the relevant receptors (red circles) and the automatic and diffusion tube monitoring locations used for model verification (black circles).

3.1.2 Site Specific Input Data

Background Data
Background data was sourced from the 2008 updated UK Air Quality Archive for the 1 kilometre grid square appropriate to the area and projected to 2009. Background concentrations used for the City Centre are provided in Table 3 -1.

Table 3-1 Background nitrogen dioxide and particulate matter concentrations for Belfast City Centre.

NIOS X	NIOS Y	2009 Background Concentration (ugm^{-3})		
		NO_x	NO_2	PM_{10}
333500	373500	39	(a)	17
334500	373500	38	(a)	17
333500	374500	43	(a)	17
334500	374500	45	(a)	17

Notes (a) as per Technical Guidance 2009, the spreadsheet tool was used to calculate the roadside and background NO2 concentrations using the oxidant partitioning approach.

Road Traffic Data
Belfast City Council commissioned a suitable company to carry out traffic surveys at twelve locations within the City Centre over a two week period in February 2010. During the model verification process it was recognised that additional traffic data would be required for a number of roads within the City Centre. This additional traffic data was provided by Road Service NI from surveys undertaken for the EWAY project. Full traffic flow data is provided in Appendix B.

3.1.3 Model Verification

Site specific input data (provided in Appendix B) includes road width ranging from 8 to 30 meters wide, street canyon influences of 15 and 30 and surface roughness which was set at 1 (Cities and Woodlands).
In order to verify the model, annual nitrogen dioxide concentrations observed in 2009 at Lombard Air Quality Monitoring Station and diffusion tube sites in the City Centre were compared against 2009 modelled results. The verification process followed LAQM.TG(09) and gives an acceptable agreement between the modelled and measured concentration at all sites. Table 3-2 presents the comparison between monitored and modelled concentrations.

Table 3-2 Modelled and monitored annual mean NO_2 concentrations, Belfast City Centre, 2009.

Site Location	NIOS X	NIOS Y	2009 Measured Annual Mean ugm^{-3}	Modelled Annual Mean ugm^{-3}	Percentage Difference	Exceedence of the Objective
Albert Clock	334212	373988	43 Data Capture 100%	42.2	-1.4	Yes
Chichester Street	334147	373122	40 Data Capture 92%	40.4	1	Yes
College Square East	333498	374248	37 Data Capture 92%	41.2	11.4	No
Donegall Square South	333837	373877	43 Data Capture 83%	39.5	-8.1	Yes
Great Victoria Street	333547	373972	45 Data Capture 100%	45	0	Yes
Lombard Street AQMS	333898	373100	34 Data Capture 100%	33.9	-0.3	No
Victoria Street	334200	371342	39 Data Capture 92%	44.3	13.6	No
Receptor 1	334201	374491	-	37	-	No
Receptor 2	333494	374262	-	35	-	No

The results as presented in Table 3-2 indicates that the model predicts well and provides confidence that modelled results are a relatively accurate prediction of the mean concentrations experienced during 2009. The average of modelled results from the seven sites differ from the monitored results by an overestimate of 2.7%. This would give further support to the assumption that the modelled City Centre roadside results are a true reflection of the actual roadside concentrations experienced in 2009.

3.1.4 Modelled results

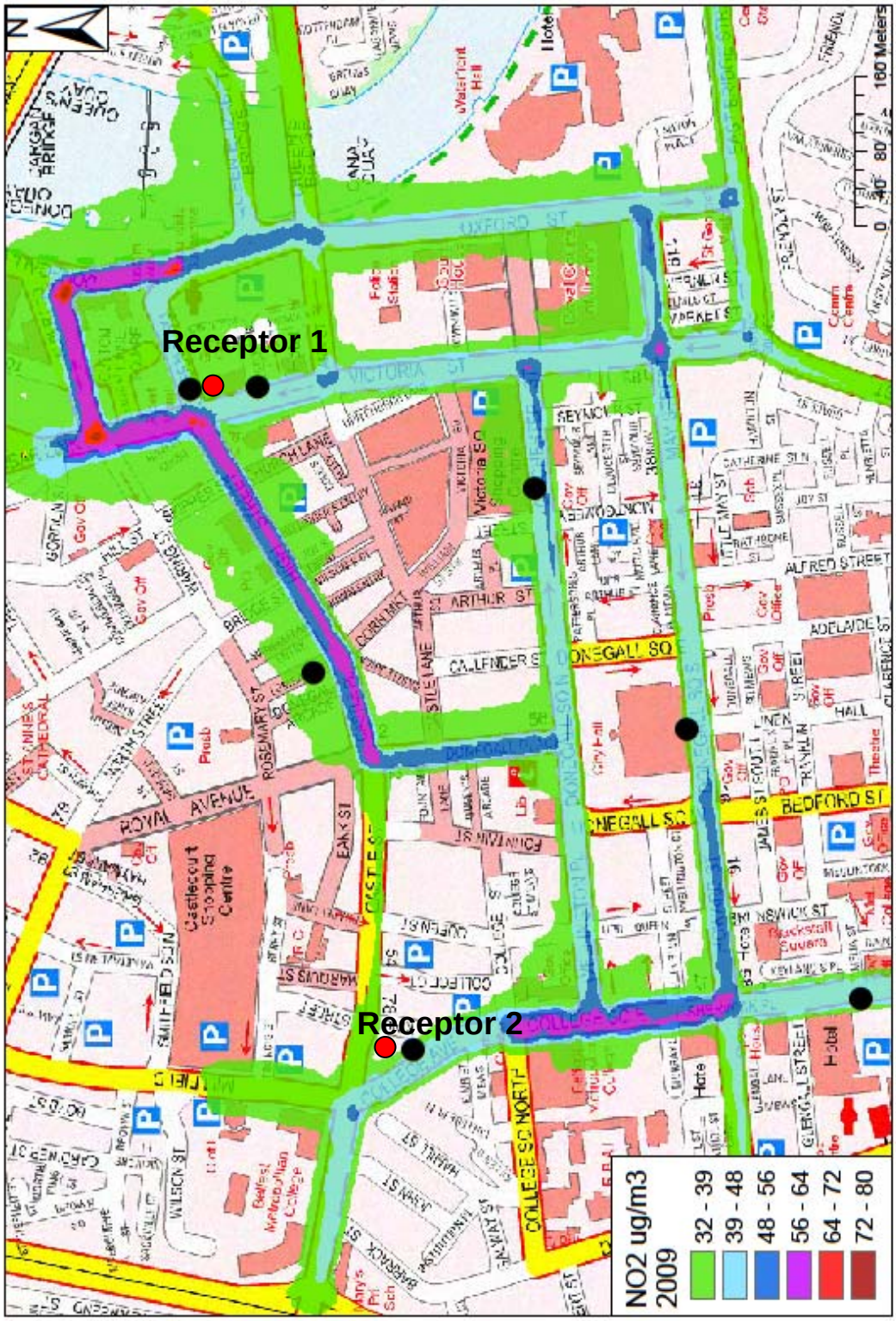
Using the verified input data the model was run for annual mean NO_2 predictions throughout the City Centre. Figure 3-1 graphically represents the predicted concentrations and shows significant modelled exceedences occur along all the major roads within the City Centre. However, no relevant exposure (as defined by LAQM.TG(09)) occurs in many of these areas. Areas where predicted exceedences occur close to residential properties include the apartments on Victoria Street next to the Albert Clock (Receptor 1) and the apartments at College Avenue (Receptor 2). Roadside predictions adjacent to both these receptors ranged from 39-48 $\mu g/m^3$,

however no exceedence of the annual mean was predicted at the receptors with concentrations of 37 µg/m^3 predicted at Receptor 1 and 35 µg/m^3 predicted at Receptor 2. These results correspond with results from the 2007 Detailed Assessment providing further confidence that determinations made in 2007 are valid.

3.1.5 Conclusions

The 2009 Updating and Screening Assessment identified Belfast City Centre as an area where potentially exceedences of the annual nitrogen dioxide Objectives could occur at relevant receptors. A detailed dispersion model based on site specific and up-to-date meteorological data confidently concludes that the identified receptors within the City Centre are not exposed to exceedences of the relevant Air Quality Objective. This assessment was demonstrated to be a robust and accurate reflection of annual mean NO_2 concentrations in Belfast City Centre in 2009. Consequently, it is considered unnecessary to declare Belfast City Centre as an Air Quality Management Area on the grounds of nitrogen dioxide.

Figure 3-1 Modelled annual mean nitrogen dioxide concentrations, Belfast City Centre, 2009.



3.2 Ormeau Road

3.2.1 Background

The 2009 USA process identified three consecutive years of roadside monitored data along the Ormeau Road with annual mean nitrogen dioxide concentrations at three locations below the Objective. This area was declared as an Air Quality Management Area following the 2004 Detailed Assessment which concluded predicted exceedences of the annual mean nitrogen dioxide Objective along the majority of the Ormeau Road. These exceedences were most significant from the Cromac Street junction to the Ormeau Bridge and again beyond the junction of the Ravenhill and Ormeau Road. This assessment will consider the area in relation to relevant exposure to determine if it is possible to revoke the Ormeau Road AQMA based on monitoring and modelled data. Figure 3-2 shows the area in detail, the relevant receptor (red circle) and the automatic and diffusion tube monitoring locations used for model verification (black circles).

3.2.2 Site Specific Input Data

Background Data
Background data was sourced from the 2008 updated UK Air Quality Archive for the 1 kilometre grid square appropriate to the area. Background concentrations used for the Ormeau Road are provided in Table 3-3.

Table 3-3 Background nitrogen dioxide and particulate matter concentrations for Ormeau Road.

NIOS X	NIOS Y	2009 Background Concentration (ugm^{-3})		
		NO_x	NO_2	PM_{10}
333500	370500	15	(a)	13
334500	370500	15	(a)	13
335500	370500	18	(a)	14
333500	371500	20	(a)	14
334500	371500	20	(a)	14
335500	371500	20	(a)	15
333500	372500	29	(a)	16
334500	372500	26	(a)	15
335500	372500	24	(a)	15
333500	373500	39	(a)	17
334500	373500	38	(a)	17
335500	373500	32	(a)	16

Notes (a) as per Technical Guidance 2009, the spreadsheet tool was used to calculate the roadside and background NO2 concentrations using the oxidant partitioning approach.

Road Traffic Data
Belfast City Council commissioned a suitable company to carry out traffic surveys at three locations along the Ormeau Road in February 2010. Full traffic flow data is provided in Appendix B.

3.2.3 Model Verification

Site specific input data (provided in Appendix B) includes road width ranging from 10 to 20 meters wide, street canyon and elevation were kept at zero as the area is relatively open and free from tall obstructions that may influence the dispersal of pollutants and surface roughness was set at 0.5 (Open Sub-urban).
In order to verify the model, annual nitrogen dioxide concentrations observed in 2009 at Ormeau Road Air Quality Monitoring Station and two diffusion tube sites along the Ormeau Road were compared against 2009 modelled results. The verification process followed LAQM.TG(09) and gives an acceptable agreement between the modelled and measured concentration at all locations. Table 3-4 presents the comparison between monitored and modelled concentrations.

Table 3-4 Modelled and monitored annual mean NO_2 concentrations, Ormeau Road, 2009.

Site Location	NIOS X	NIOS Y	2009 Measured Annual Mean ugm^{-3}	Modelled Annual Mean ugm^{-3}	Percentage Difference	Exceedence of the Objective
Ormeau Road AQMS	334272	373012	34 Data Capture 85%	32.9	-3.2	No
400 Ormeau Road	335006	369850	29 Data Capture 100%	29.8	2.7	No
Ormeau Road (Junction with Ravenhill Road)	334942	375493	26 Data Capture 100%	25.2	-3.1	No
Receptor	334954	371268	-	37	-	No

The results as presented in Table 3-4 indicates that the model predicts well and provides confidence that modelled results are a relatively accurate prediction of the mean concentrations experienced during 2009. The average of modelled results from the three sites differs from the monitored results by an underestimate of 1.2%. This is an acceptable difference to consider modelled results as a true reflection of the actual roadside concentrations experienced in 2009.

3.2.4 Modelled results

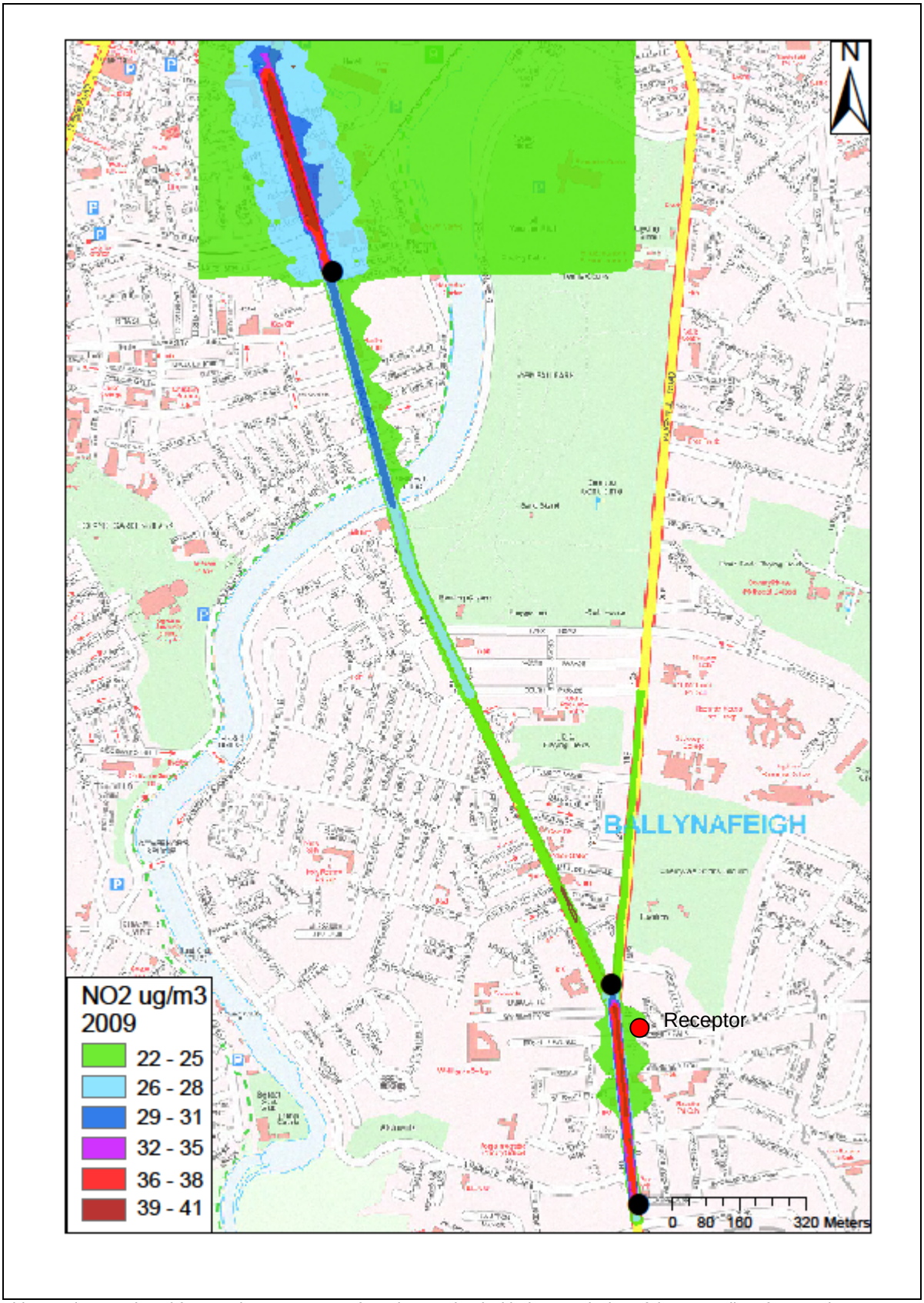
Using the verified input data the model was run for annual mean nitrogen dioxide predictions along the Ormeau Road. Figure 3-2 graphically represents the predicted concentrations and shows modelled results along the road are generally well within the Objectives with the exception of the stretch of road beyond the Cromac Street junction and again beyond the junction of the Ravenhill and Ormeau Road where concentrations range from 39-41 $\mu g/m^3$ at both hotspots. No relevant exposure (as defined by LAQM.TG(09)) occurs in the hotspot beyond the Cromac Street junction however relevant roadside receptors have been identified adjacent to the hotspot just after the junction where the Ravenhill and Ormeau Road meet. The modelled concentration at the closest receptor in this area was predicted to be 37 $\mu g/m^3$. Although this value is below the Objective there is always some uncertainty surrounding modelled results and Local Authorities are advised not to revoke an Air Quality Management Area where modelled results are close to the Objective unless

there is three years monitored data to confirm levels have dropped below 36 µg/m^3 at the relevant receptor. Belfast City Council propose to establish new diffusion tube monitoring at the façade of the nearest receptor to the road to continually assess and monitor concentrations at this hot spot in more detail.

3.2.5 Conclusions

The 2009 USA process identified three locations as having three consecutive years of roadside monitored data along the Ormeau Road with annual mean nitrogen dioxide concentrations below the Objective.
A detailed dispersion model based on site specific and up-to-date meteorological data concludes that the identified receptor adjacent to the stretch of road beyond the Ravenhill and Ormeau Road junction are exposed to levels close to the relevant Air Quality Objective. This assessment was demonstrated to be a robust and accurate reflection of annual mean NO_2 concentrations along the Ormeau Road in 2009.
Based on modelled results is considered not appropriate to revoke the Ormeau Road Air Quality Management Area on the grounds of potential exceedences of nitrogen dioxide at relevant receptors.

Figure 3-2 Modelled annual mean nitrogen dioxide concentrations, Ormeau Road, 2009.



3.3 Westlink/M1 Corridor AQMA

3.3.1 Background

The 2009 USA process identified the Westlink/M1 Corridor AQMA as an area which has recently undergone extensive road works. This area was declared as an Air Quality Management Area following the 2004 Detailed Assessment which concluded predicted exceedences of both the nitrogen dioxide and particulate matter annual mean Objective as well as exceedences of the particulate matter 24 hour mean Objective and the nitrogen dioxide 1 hour mean Objective. It is confirmed through continual roadside automatic and diffusion tube monitoring that exceedences of nitrogen dioxide continue to occur. However, as pollutants disperse so quickly from the road, this assessment will model the Westlink to determine if relevant exposure occurs at residential dwellings. As the Westlink/M1 Corridor AQMA extends over a number of miles, the modelling assessment was split into four areas as follows:

- Westlink 1 – M1 Motorway at Black's Road.
- Westlink 2 – Area around Stockman's Lane.
- Westlink 3 – Broadway to beyond Grosvenor Road.
- Westlink 4 – Grosvenor Road to Junction at York Street and Great George Street.

Figure 3-3 to 3-10 show all areas in detail, the relevant receptors (red circle) and the automatic and diffusion tube monitoring locations used for model verification (black circle).

3.3.2 Site Specific Input Data

Background Data
Background data was sourced from the 2008 updated UK Air Quality Archive for the 1 kilometre grid square appropriate to the area. Background concentrations used for the Westlink/M1 Corridor are provided in Table 3-5.

Table 3-5 Background nitrogen dioxide and particulate matter concentrations for the Westlink/M1 Corridor.

NIOS X	NIOS Y	2009 Background Concentration (ugm^{-3})		
		NO_x	NO_2	PM_{10}
329500	369500	26	(a)	17
330500	369500	20	(a)	17
330500	370500	25	(a)	15
331500	370500	20	(a)	15
330500	371500	25	(a)	15
331500	371500	25	(a)	15
331500	372500	26	(a)	17
332500	372500	32	(a)	17
333500	372500	29	(a)	17
331500	373500	26	(a)	17
332500	373500	32	(a)	17

333500	373500	39	(a)	17
331500	374500	26	(a)	17
332500	374500	32	(a)	17
333500	374500	43	(a)	17
334500	374500	45	(a)	17
333500	375500	35	(a)	17
334500	375500	35	(a)	17

Notes (a) as per Technical Guidance 2009, the spreadsheet tool was used to calculate the roadside and background NO2 concentrations using the oxidant partitioning approach.

Road Traffic Data

Belfast City Council commissioned a suitable company to carry out traffic surveys at a number of locations along the Westlink/M1 Corridor in February 2010. Additional traffic data was provided by Road Service NI. Full traffic flow data is provided in Appendix B.

3.3.3 Model Verification

Site specific input data (provided in Appendix B) includes road width ranging from 10 to 23 meters wide, street canyon and elevation were kept at zero as the area is relatively open and free from tall obstructions that may influence the dispersal of pollutants and surface roughness was set at 0.5 (Open Sub-urban).

All model runs for annual nitrogen dioxide concentrations were verified against monitoring locations located within the study area. The verification process followed LAQM.TG(09) and gives an acceptable agreement between the modelled and measured concentration for Westlink 3 and 4, however, modelled concentrations at Westlink 1 and 2 were not considered acceptable. Subsequently an appropriate model adjustment factor was derived for Westlink 1 and 2 following the process as outlined in LAQM.TG(09) (details of the model adjustment factors are provided in Appendix C. Table 3-6 presents the comparison between monitored and modelled concentrations following the verification and adjustment process.

Table 3-6 Modelled and monitored annual mean NO_2 concentrations, Westlink/M1 Corridor AQMA, 2009.

Site Location	NIOS X	NIOS Y	2009 Measured Annual Mean ugm^{-3}	Modelled Annual Mean ugm^{-3}	Percentage Difference	Exceedence of the Objective
Black's Road	329782	374408	44 Data Capture 100%	48.1	9.3	Yes
Stockman's Lane AQMS	331004	371230	67 Data Capture 79%	68.3	1.9	Yes
Milner Street	332476	372519	31 Data Capture 42%	33.9	9.3	Yes
College Square East	333498	380450	37 Data Capture 92%	41.2	11.4	Yes
Receptor 1	329727	369807	-	43	-	Yes
Receptor 2	330994	371288	-	44	-	Yes
Receptor 3	333063	374003	-	49	-	Yes

The results as presented in table 3-6 indicates that the model predicts well and provides confidence that modelled results are a relatively accurate prediction of the mean concentrations experienced during 2009. The results support the assumption that the modelled Westlink/M1 Corridor roadside results are a true reflection of the actual roadside concentrations experienced in 2009.

3.3.4 Modelled results

Using the verified input data, four model runs for annual mean NO_2 predictions along the Westlink/M1 Corridor were undertaken. Figures 3-3, 3-5, 3-7 and 3-9 graphically represent the predicted concentrations and show significant modelled exceedences occur along the entire Westlink. However, no relevant exposure (as defined by LAQM.TG(09)) occurs along most of the road . Areas where predicted exceedences do occur at residential properties were identified in Westlink 1,2 and 3, no relevant exposure was found in Westlink 4. Westlink 1 identified predicted exceedences at residential dwellings in St. Anne's Square with concentrations of 43 $\mu g/m^3$ at properties running adjacent to the Westlink (Receptor 1). Predicted exceedences of the Objective were also identified at residential properties along Stockman's Lane (Westlink 2, Receptor 2) with modelled concentrations of 44 $\mu g/m^3$ and modelled concentrations of 49 $\mu g/m^3$ adjacent to the road at Devonshire Street (Westlink 3, Receptor 3). Belfast City Council propose to establish new diffusion tube monitoring at the façade of the nearest receptor to the road in these areas to continually assess and monitor concentrations at these hot spot in more detail.
The verification process conducted during the nitrogen dioxide assessment gives confidence that the input data used in the modelling process is accurate and representative.

Using this input data the model was re-run for the mean particulate matter predictions. Background concentrations were measured in gravimetric equivalence and hence the 1.3 conversion factor was not applied to the modelling run. Figures 3-4, 3-6, 3-8 and 3-10 graphically represents the particulate matter concentrations along the Westlink/M1 Corridor. Annual mean concentrations along the entire Westlink Corridor range from 20 to 32 ugm^{-3}, with the highest concentrations occurring around Black's Road (Westlink 1). Particulate matter concentrations at Stockman's Lane AQMS were predicted at 21 ugm^{-3} which is very close to actual 2009 monitored results of 22 ugm^{-3}. This would give confidence that these modelled concentrations are a true representative of particulate matter encountered along the Westlink Corridor in 2009. Monitored concentrations of particulate matter at Stockman's Lane AQMA have dropped significantly since 2007 when the levels were above the Objective at 43 ugm^{-3}. The concentrations dropped to 36 ugm^{-3} in 2008 and then to 22 ugm^{-3}. Belfast City Council propose to review the situation over the next year, with a view to revoking the Westlink/M1 Corridor on grounds of particulate matter in 2011 on the basis of three years monitored data with concentrations well below the Objective.

3.3.5 Conclusions

The 2009 USA process identified the Westlink/M1 Corridor AQMA as an area which has recently undergone extensive road works. Roadside monitoring confirmed exceedences of nitrogen dioxide continue to occur along the road; however there was uncertainty as to whether exceedences continue to occur at relevant receptors

as identified in the 2004 Detailed Assessment, the grounds on which this AQMA was declared. No exceedences of the particulate matter objective were predicted. This situation will continue to be monitored closely over the next year with a view to revoking on grounds of particulate matter in 2011. It would still remain as an AQMA on grounds of nitrogen dioxide.

A detailed dispersion model based on site specific and up-to-date meteorological data confidently concludes that three residential areas along the Westlink/M1 Corridor are exposed to exceedences of the relevant Air Quality Objective. This assessment was demonstrated to be a robust and accurate reflection of annual mean nitrogen dioxide and particulate matter concentrations along the Westlink/M1 Corridor in 2009.

Consequently, the Westlink/M1 Corridor will continue to be declared as an Air Quality Management Area on the grounds of nitrogen dioxide and particulate matter. Belfast City Air Quality Action Plan, May 2006 will continue to target air quality issues in this area.

Figure 3-3 Modelled annual mean nitrogen dioxide concentrations, Westlink 1, 2009.

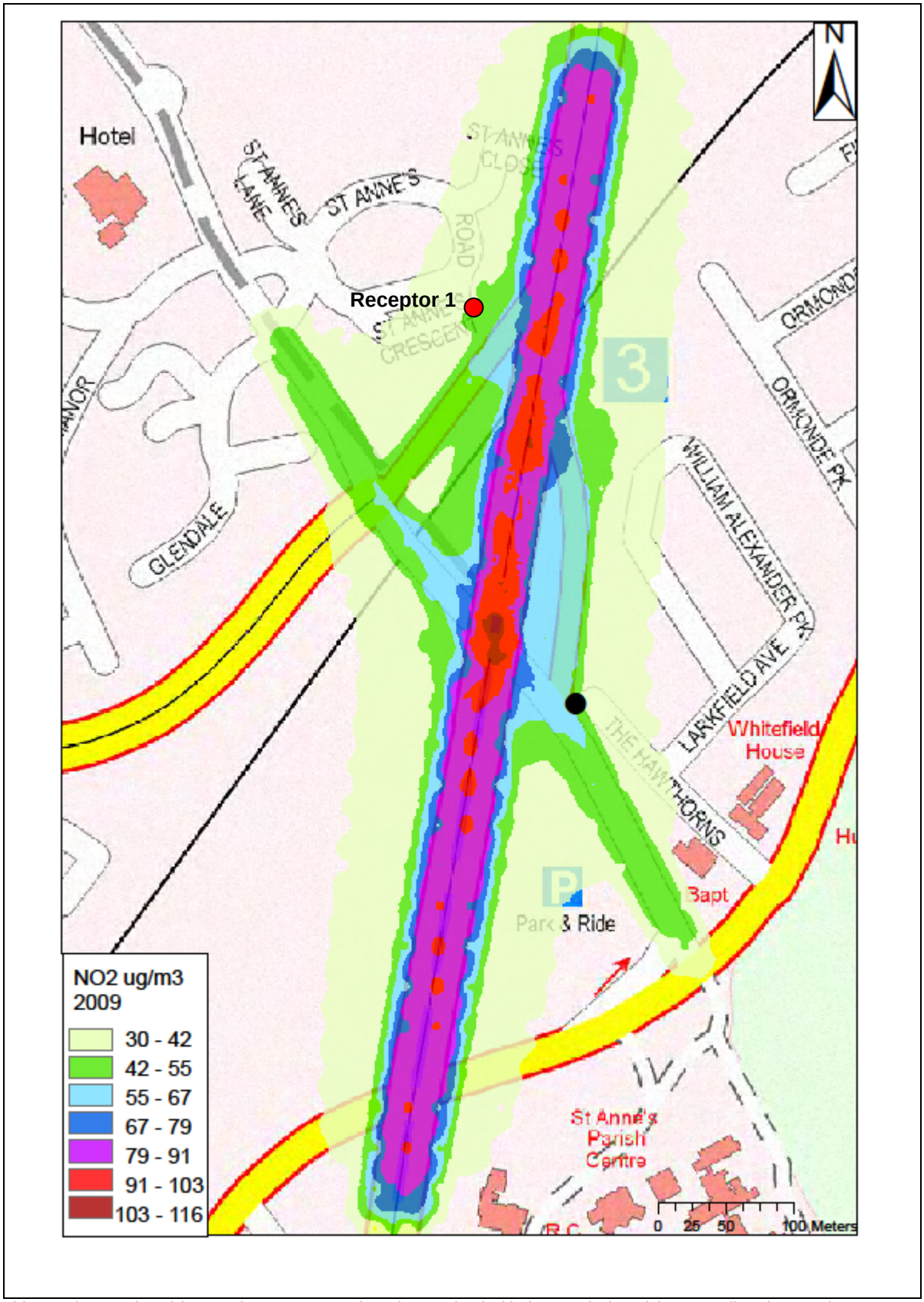


Figure 3-4 Modelled annual mean particulate matter concentrations, Westlink 1, 2009.

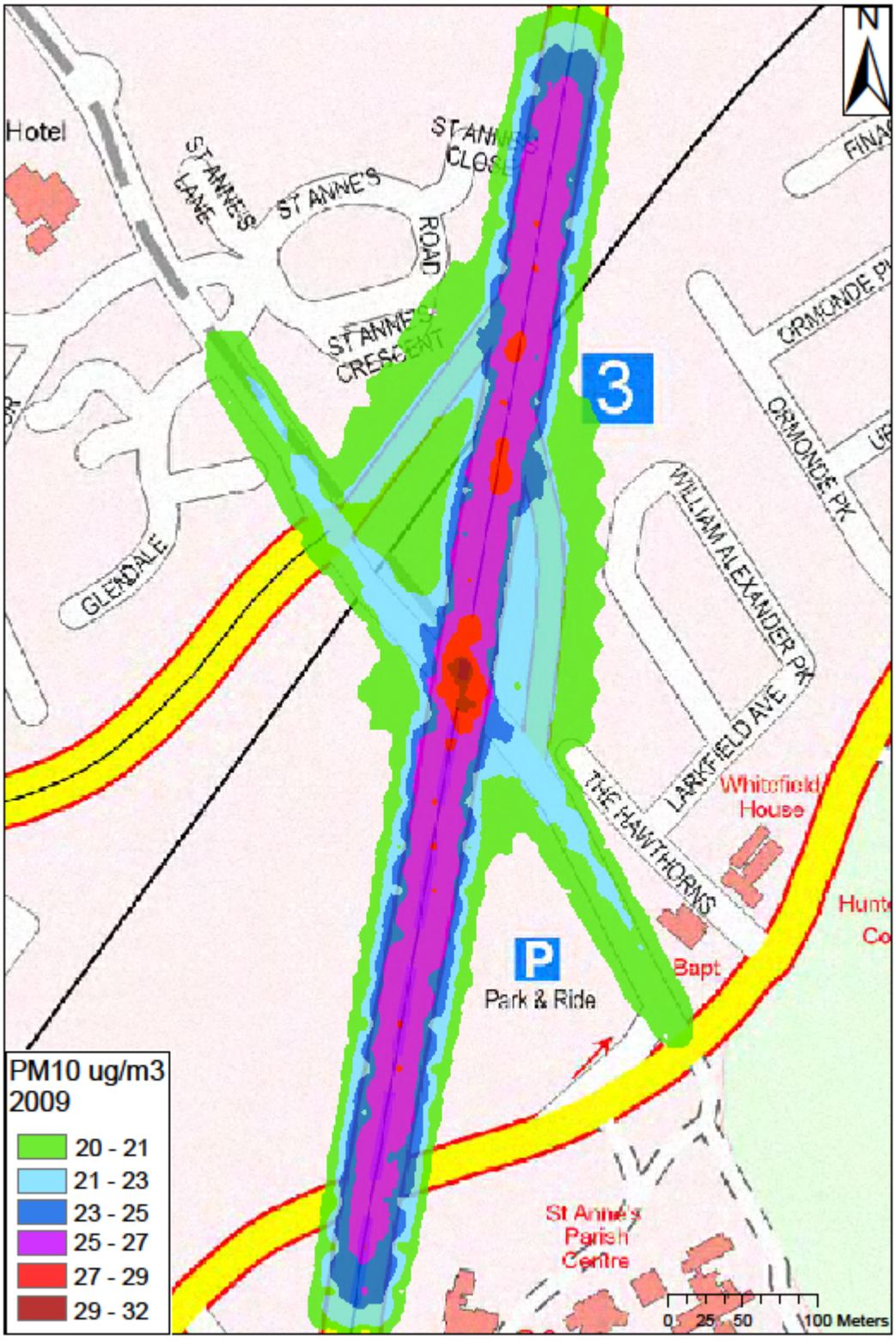


Figure 3-5 Modelled annual mean nitrogen dioxide concentrations, Westlink 2, 2009.

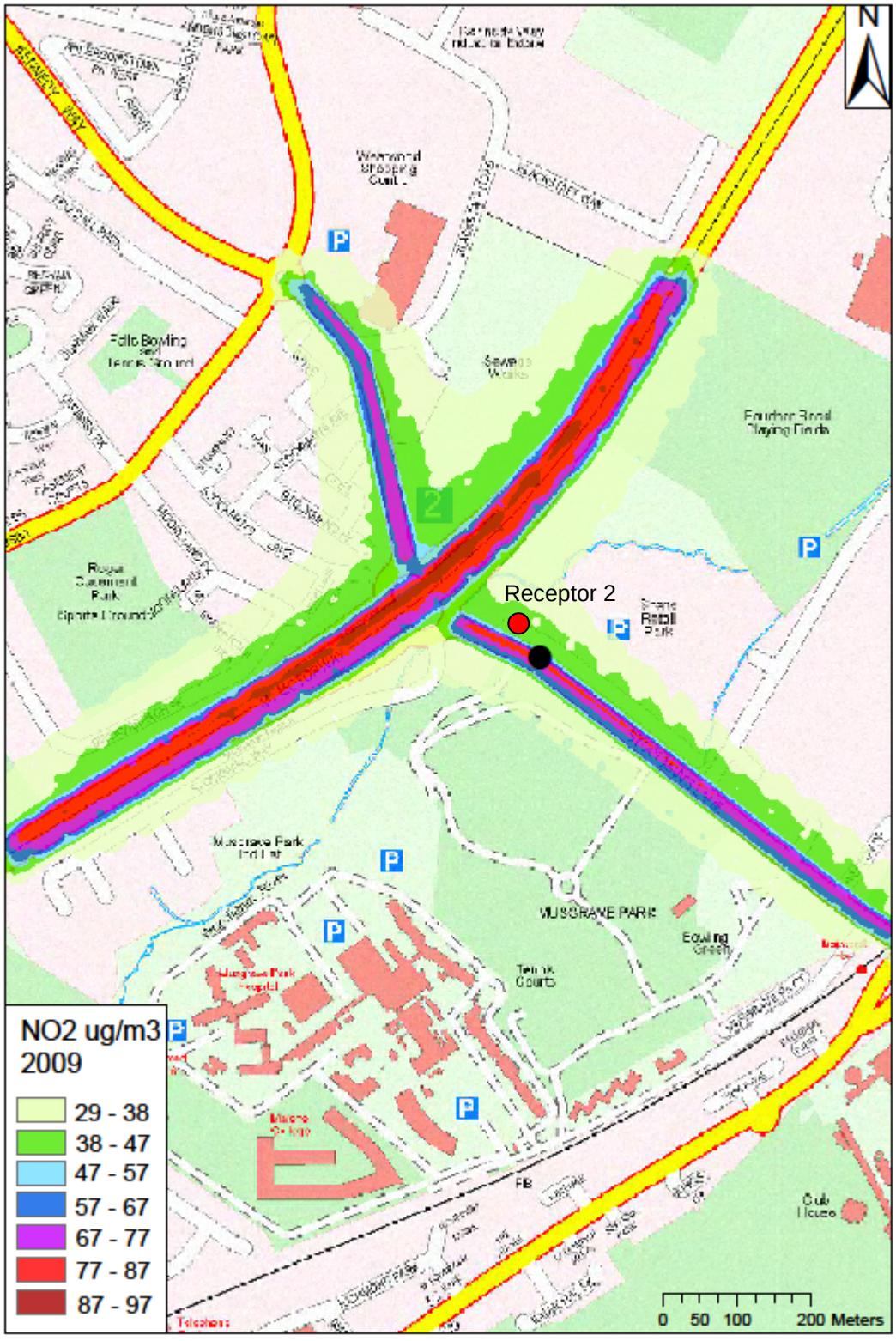


Figure 3-6 Modelled annual mean particulate matter concentrations, Westlink 2, 2009.

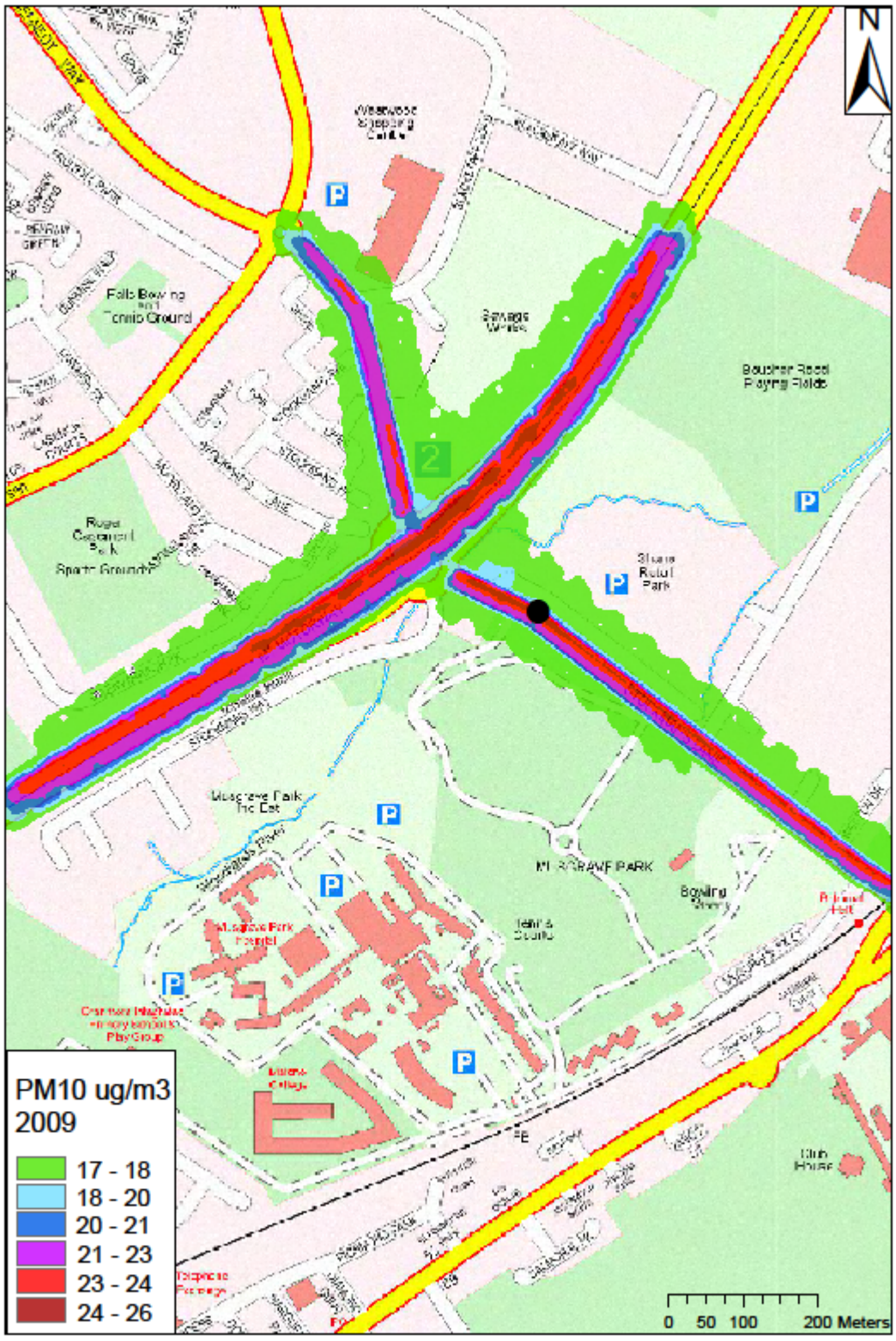


Figure 3-7 Modelled annual mean nitrogen dioxide concentrations, Westlink 3, 2009.

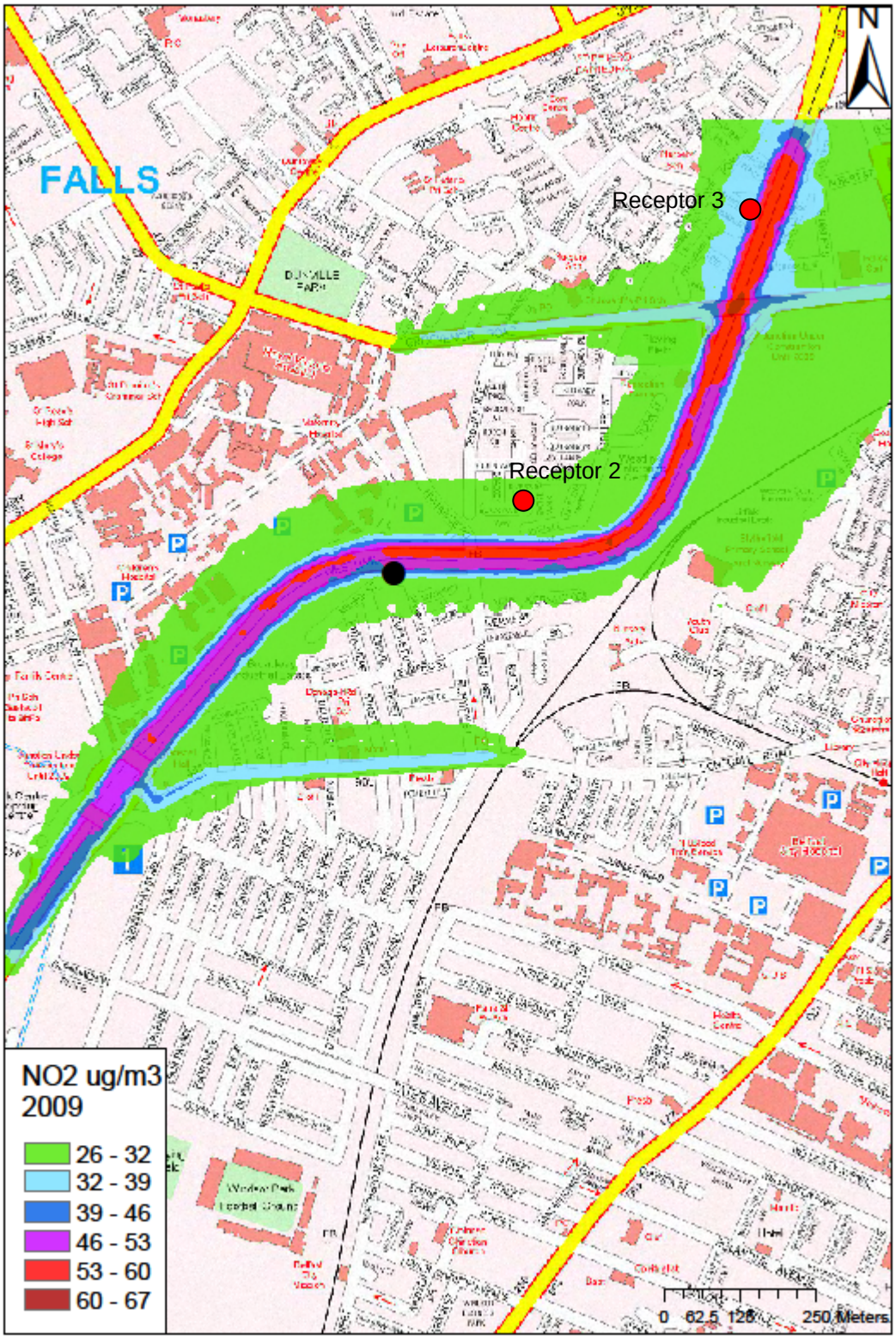


Figure 3-8 Modelled annual mean particulate matter concentrations, Westlink 3, 2009.

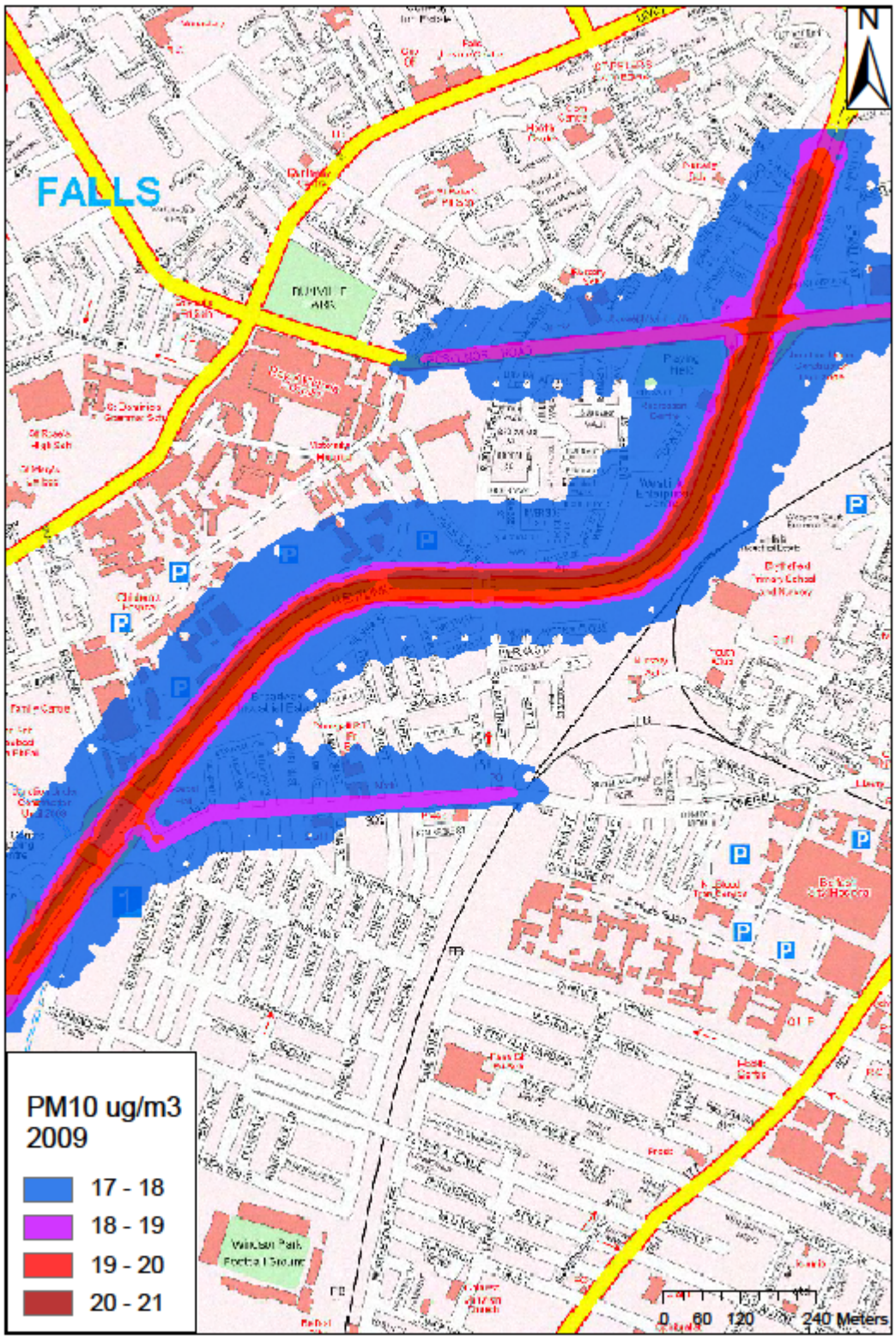


Figure 3-9 Modelled annual mean nitrogen dioxide concentrations, Westlink 4, 2009.

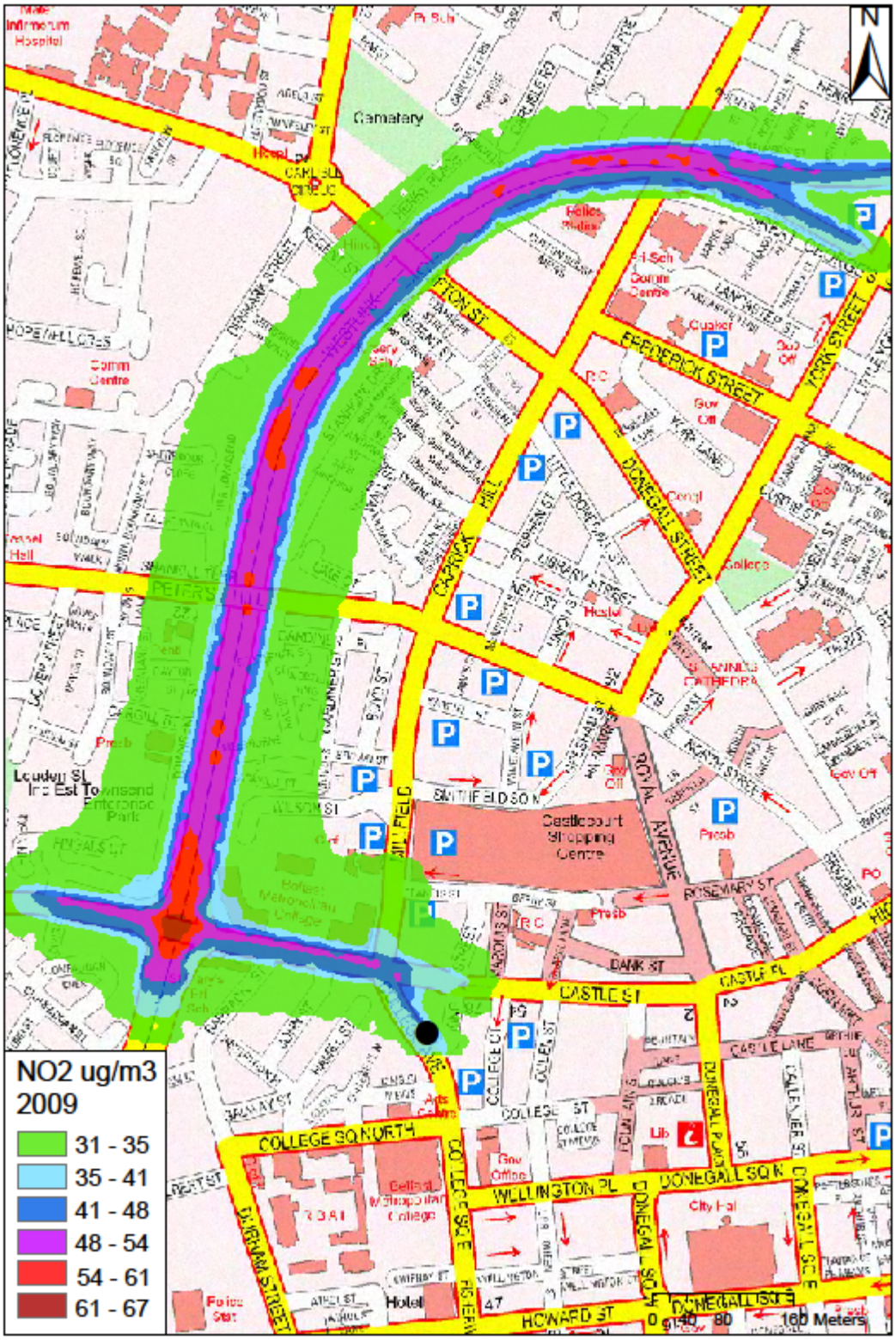
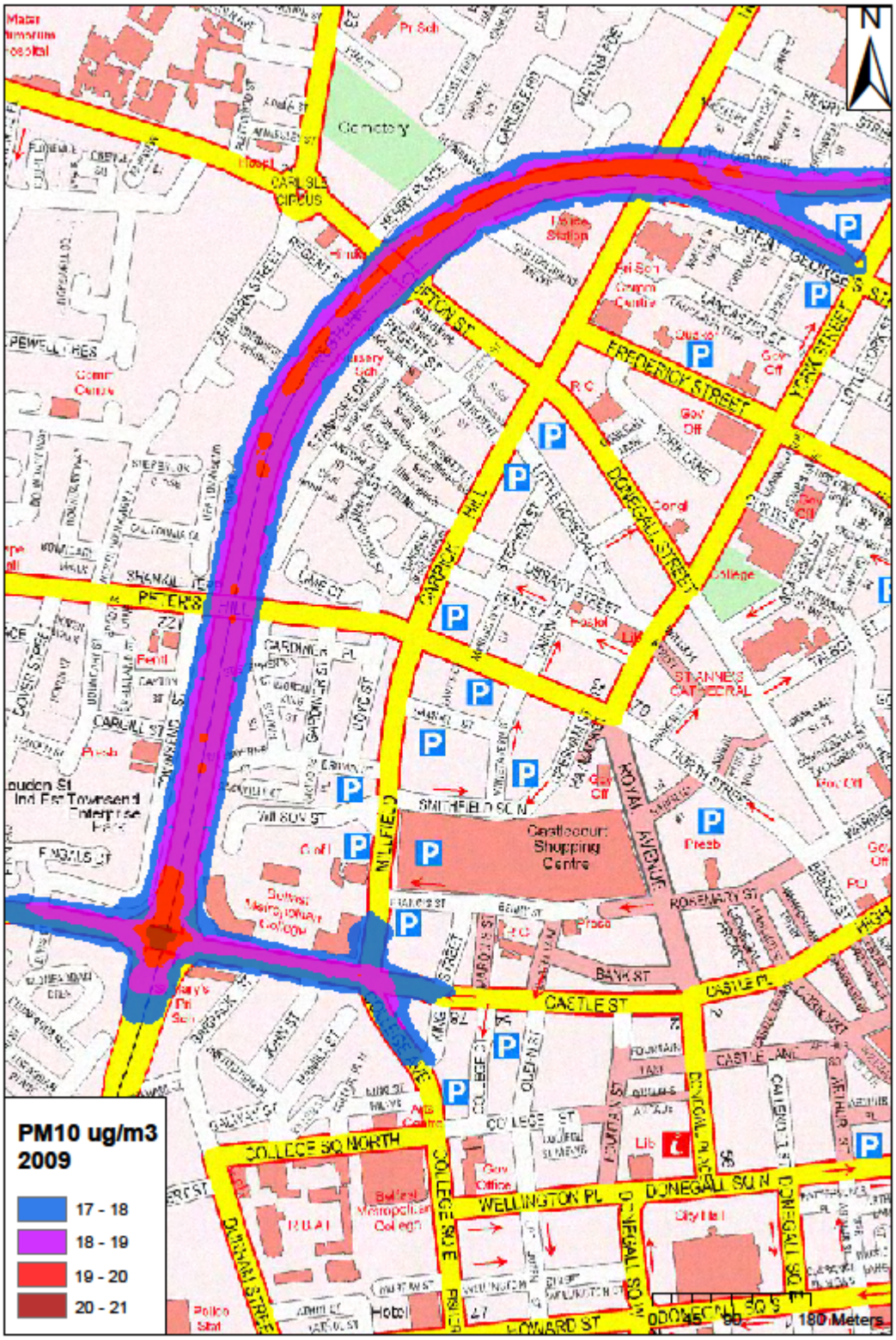


Figure 3-10 Modelled annual mean particulate matter concentrations, Westlink 4, 2009.



3.4 Short Strand

3.4.1 Background

Further to the 2009 USA process Local Community Groups expressed concerns regarding localised air quality around the Short Strand area. It was therefore deemed appropriate to include this area in the Detailed Assessment process. This assessment will consider the area in relation to relevant exposure with a view to extending the boundary of the Cromac Street and Albert Bridge Road AQMA at the Short Strand end on grounds of nitrogen dioxide. The model is verified against two roadside diffusion tube sites within the vicinity of Short Strand.
Figure 3-11 shows the area in detail, the relevant receptor (red circle) and the automatic and diffusion tube monitoring locations used for model verification (black circles).

3.4.2 Site Specific Input Data

Background Data
Background data was sourced from the 2008 updated UK Air Quality Archive for the 1 kilometre grid square appropriate to the area. Background concentrations used for all areas are provided in Table 3-7.

Table 3-7 Background nitrogen dioxide and particulate matter concentrations for Short Strand.

NIOS X	NIOS Y	2009 Background Concentration (ugm^{-3})		
		NO_x	NO_2	PM_{10}
334500	373500	46	(a)	17
334500	374500	46	(a)	17
335500	373500	46	(a)	17
335500	374500	46	(a)	17

Notes (a) as per Technical Guidance 2009, the spreadsheet tool was used to calculate the roadside and background NO2 concentrations using the oxidant partitioning approach.

Road Traffic Data
As Short Strand was not originally planned for inclusion in the Detailed Assessment Belfast City Council had not considered the area as part of the traffic surveys undertaken in February 2010 for the purpose of the Assessment. However, appropriate 2009 traffic data for the area was provided by Road Service NI from surveys undertaken for the EWAY project. Full traffic flow data is provided in Appendix B.

3.4.3 Model Verification

Site specific input data (provided in Appendix B) includes road width ranging from 10 to 15 meters wide, street canyon and elevation were kept at zero as the area is relatively open and free from tall obstructions that may influence the dispersal of pollutants and surface roughness was set at 0.5 (Open Sub-urban).
In order to verify the model, annual nitrogen dioxide concentrations observed in 2009 at the Short Strand and Ravenhill Road diffusion tube sites were compared against

2009 modelled results. The verification process followed LAQM.TG(09) and gives an acceptable agreement between the modelled and measured concentration at both locations. Table 3-8 presents the comparison between monitored and modelled concentrations.

Table 3-8 Modelled and monitored annual mean NO_2 concentrations, Short Strand, 2009.

Site Location	NIOS X	NIOS Y	2009 Measured Annual Mean ugm^{-3}	Modelled Annual Mean ugm^{-3}	Percentage Difference	Exceedence of the Objective
Ravenhill Road	335014	373972	31 Data Capture 100%	30.9	-0.3	No
Short Strand	334980	376602	48 Data Capture 100%	45.8	-4.5	Yes
Receptor	335050	374423	-	37	-	No

The results as presented in Table 3-8 indicates that the model predicts reasonably well and provides confidence that modelled results are a relatively accurate prediction of the mean concentrations experienced during 2009. The average of modelled results from the two sites differs from the monitored results by an underestimate of 2.4%. This is an acceptable difference to consider modelled results as a true reflection of the actual roadside concentrations experienced in 2009.

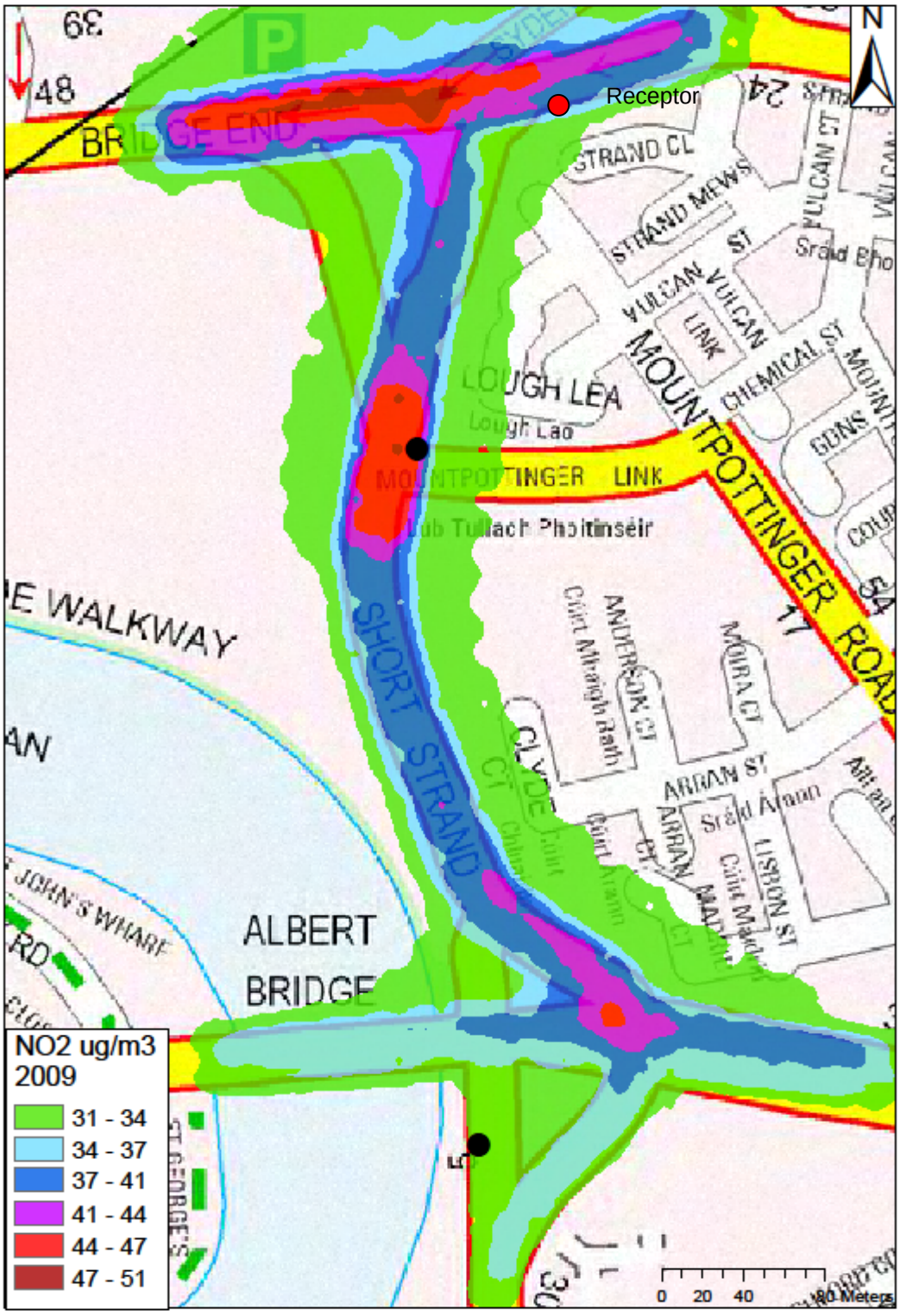
3.4.4 Modelled results

Using the verified input data the model was run for annual mean nitrogen dioxide predictions along Short Strand. Figure 3-11 graphically represents the predicted concentrations and shows modelled exceedences occur along the entire road which ranges from 37-41 $\mu g/m^3$. Significant hotspots are identified at both ends of Short Strand and also at the junction of Mountpottinger Link where the existing AQMA boundary ends. In terms of relevant exposure (as defined by LAQM.TG(09)) the nearest receptor to the road was identified and no exceedence of the annual mean was predicted with a modelled value of 37 $\mu g/m^3$. As this predicted level is close to the objective, rather than extend the existing AQMA boundary unnecessarily Belfast City Council propose to establish new diffusion tube monitoring at the façade of the nearest receptor to the road to continually assess and monitor concentrations at this location in more detail.

3.4.5 Conclusions

Local Community Groups expressed concerns regarding localised air quality around the Short Strand area. A detailed dispersion model based on site specific and up-to-date meteorological data confidently concludes that receptors at the Bridge End side of Short Strand outside the boundary of the existing AQMA are not exposed to exceedences of the relevant Air Quality Objective. This assessment was demonstrated to be a robust and accurate reflection of annual mean NO_2 concentrations in Belfast City Centre in 2009.
Consequently, it is considered unnecessary to extend the Cromac Street and Albert Bridge Road AQMA at the Short Strand boundary on the grounds of nitrogen dioxide.

Figure 3-11 Modelled annual mean nitrogen dioxide concentrations, Short Strand, 2009.



4 Conclusions

In April 2009 Belfast City Council published an Updating and Screening Assessment (USA). The findings of this assessment highlighted three areas throughout Belfast where LAQM-TG(09) criteria indicated it was necessary to conduct a 'Detailed Assessment' (City Centre, Ormeau Road and Westlink/M1 Corridor). Concern from Local Community Groups after completion of the USA regarding air quality in the Short Strand area resulted in this area also being considered.

Detailed dispersion modelling software (ADMS) was employed to predict concentrations of nitrogen dioxide and particulate matter within the study areas. Site specific input data included; traffic flow data, background nitrogen dioxide and particulate matter concentrations, meteorological data, surface roughness, road width and street canyons. For each assessment the worst case scenario was selected. Where street canyons and building heights were required for dispersal factors an over estimate of actual building heights were employed. Consequently, it is considered that each of the individual assessments is a reflection of the worst case situations that could have occurred in 2009.

The model verification process included a comparison with 2009 bias adjusted diffusion tube monitoring results and continuous analyser results. For each of the individual assessments the modelled results were shown to have a true correlation or over prediction of the actual monitored results.
Belfast City Council is confident that the information used in this assessment is robust and accurate and can therefore make the following conclusions:

- It is considered unnecessary to declare Belfast City Centre as an Air Quality Management Area on the grounds of nitrogen dioxide.
- Based on modelled results is considered not appropriate to revoke the Ormeau Road Air Quality Management Area on the grounds of potential exceedences of nitrogen dioxide at relevant receptors.
- The Westlink/M1 Corridor will continue to be declared as an Air Quality Management Area on the grounds of nitrogen dioxide and particulate matter. Belfast City Air Quality Action Plan, May 2006 will continue to target air quality issues in this area.
- It is considered unnecessary to extend the Cromac Street and Albert Bridge Road AQMA at the Short Strand boundary on the grounds of nitrogen dioxide.

Based on modelled and monitored data for the purpose of this Detailed Assessment Belfast City Council propose to continue monitoring at all existing locations and to extend the monitoring to the façade of identified residential properties where concentrations were predicted to exceed or close to the annual mean nitrogen dioxide Objective.

In summary, the 2010 Detailed Assessment for Belfast City Council concludes that there is no need to declare new Air Quality Management Areas nor expand or revoke existing AQMAs.

5 References

Belfast City Council, 2007. Belfast City Detailed Air Quality Assessment, 2007, Final Version, April 2007. Available at: www.airqualityni.co.uk/laqm

Belfast City Council, 2008. Belfast City Progress Report 2008, Final Version, April 2008. Available at: www.airqualityni.co.uk/laqm

Belfast City Council, 2009. Belfast City Update and Screening Assessment, 2009, Final Version, April 2009. Available at: www.airqualityni.co.uk/laqm

Local Air Quality Management – Technical Guidance (09). 2009. Available at: www.defra.gov.uk/environment/airquality/index

Appendices

Appendix A: Bias Adjusted Nitrogen Dioxide Diffusion Tube Monitoring Results for 2009.

Appendix B: Traffic Survey Data

Appendix C: Adjustment Factors Applied to Model

Appendix A: Bias Adjusted Nitrogen Dioxide Diffusion Tube Monitoring Results for 2009.

Belfast City Council use Gradko International for the supply and analysis of diffusion tubes. The laboratory constantly delivers high performance both in terms of results and service, it operates in accordance with LAQM-TG(09), and participates in the WASP scheme.

Checking Precision and Accuracy of Triplicate Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tubes Measurements

Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 µgm^{-3}	Tube 2 µgm^{-3}	Tube 3 µgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean
1	07/01/2009	04/02/2009	48.2	42.3	43.0	45	3.2	7	8.0
2	04/02/2009	04/03/2009	35.8	61.3	46.8	48	12.8	27	31.8
3	04/03/2009	01/04/2009	41.4	39.0	43.5	41	2.3	5	5.6
4	01/04/2009	29/04/2009	32.4	37.7	38.8	36	3.4	9	8.4
5	29/04/2009	04/06/2009	37.8	43.8	36.2	39	4.0	10	10.0
6	04/06/2009	01/07/2009	35.7	33.2	35.9	35	1.5	4	3.7
7	01/07/2009	29/07/2009	29.5	29.7	26.4	29	1.9	7	4.6
8	29/07/2009	02/09/2009	29.8	30.5	29.1	30	0.7	2	1.7
9	02/09/2009	30/09/2009	35.5	31.2	42.6	36	5.8	16	14.3
10	30/09/2009	04/11/2009	23.4	22.8	26.7	24	2.1	9	5.1
11	04/11/2009	01/12/2009	45.2	47.8	47.6	47	1.4	3	3.5
12	01/12/2009	07/01/2010	54.2	40.3	40.5	45	8.0	18	19.8
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Automatic Method		Data Quality Check	
Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
36	99	Good	Good
38	91	Poor Precision	Good
33	99.8	Good	Good
31	99.7	Good	Good
29	99.7	Good	Good
26	99.5	Good	Good
20	99.6	Good	Good
22	74	Good	or Data Capture
24	43.8	Good	or Data Capture
36	94.2	Good	Good
42	95	Good	Good
49	96	Good	Good
Overall survey -->		Good precision	Good Overall DC

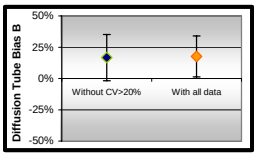
(Check average CV & DC from Accuracy calculations)

Site Name/ ID:	Lombard Str (16, 19, 20)

Precision: 11 out of 12 periods have a CV smaller than 20%

Accuracy (with 95% confidence interval) without periods with CV larger than 20%	
Bias calculated using 9 periods of data	
Bias factor A	0.89 (0.76 - 1.06)
Bias B	13% (-6% - 31%)
Diffusion Tubes Mean:	38 µgm^{-3}
Mean CV (Precision):	8
Automatic Mean:	34 µgm^{-3}
Data Capture for periods used:	98%
Adjusted Tubes Mean:	34 (29 - 40) µgm^{-3}

Accuracy (with 95% confidence interval) WITH ALL DATA	
Bias calculated using 10 periods of data	
Bias factor A	0.87 (0.76 - 1.02)
Bias B	14% (-2% - 31%)
Diffusion Tubes Mean:	39 µgm^{-3}
Mean CV (Precision):	10
Automatic Mean:	34 µgm^{-3}
Data Capture for periods used:	97%
Adjusted Tubes Mean:	34 (30 - 40) µgm^{-3}



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Version 03 - November 2006

Adjustment of SINGLE Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tube Measurements

Site Name/ID	Periods 1	2	3	4	5	6	7	8	9	10	11	12	13	Raw Mean	Valid periods
1. RVH	35.8	35.5	30.5	25.9	23.2	21.3	16.9	18.4	22.2	21.2	27.6	34.9		26.1	12
2. Blacks Rd	58.1	51.5	51.0	43.6	48.4	46.4	39.9	41.3	54.9	52.9	57.5	59.9		50.4	12
3. 61 Cromac Str	53.0	51.6	55.0	43.7	49.5	48.7	35.4	39.4	44.9	46.2	52.9	62.8		48.6	12
4. Ravenhill Rd	41.6	44.5	37.9	33.5	35.6	42.3	27.7	24.0	33.2	17.8	32.4	51.0		35.1	12
5. Queens Bridge	33.4	35.6	30.8		34.7		20.0							30.9	5
6. North Road	21.8	28.7	20.4	15.0	15.0	12.8	11.1	11.5	17.7	13.6	23.3	14.3		17.1	12
7. Donegal Sq. South	52.3	57.8	57.6	47.6	46.9	56.6	38.4	37.2			44.1	61.2		50.0	10
8. Milner Str		47.3					24.7			29.7	34.1	40.2		35.2	5
9. Short Strand	64.9	58.6	53.2	54.3	56.3	59.2	44.6	39.8	50.2	59.7	56.8	58.4		54.7	12
10. 301 Ormeau Rd	46.4	47.1	41.7	34.4	41.3	38.7	32.5	33.0	33.9	18.7	43.2	50.0		38.4	12
11. 400 Ormeau Rd	41.1	42.7	36.1	37.8	31.9	32.0	24.0	22.6	27.5	17.8	38.1	48.8		33.4	12
12. Knock Rd	55.9	61.4	54.5	45.0	57.8	54.2	35.4	39.7	42.5	38.9	51.0	65.3		50.1	12
13. Gr Georges Str	70.3	61.6	58.6	61.8	58.9	79.8	48.6	42.6	46.0	33.3	39.6	59.0		55.0	12
14. Lisburn Rd		47.7		33.0	37.4		27.4	27.4	39.5	19.6	41.1	52.6		36.2	9
15. Shaftesbury Sq	53.6	62.6	43.1	38.7	44.1	47.9	33.9	33.6	36.4	26.8	36.5			41.6	11
17. Albert Clock	68.1	45.5	55.3	47.4	53.5	54.1	36.8	43.7	35.8	36.6	56.1	55.0		49.0	12
18. Victoria Str	48.1	45.6	42.6	52.1		51.5	35.8	31.0	37.1	31.0	54.4	61.6		44.6	11
25. Whitewell Rd		23.7			25.7	38.4	21.7		18.0	16.2	21.1	27.9		24.1	8
26. Donegal Rd	40.5	40.5	40.1	32.8	32.3	40.5	28.6	23.5	33.6	25.7	36.8			34.1	11
27. Grovesner Rd	60.1	57.2	53.6	46.3	42.1	38.4	26.7	27.3				49.0		44.5	9
28. Falls and Andytown	46.2	45.6		36.3	36.3		27.2	26.5	32.0	31.3	32.9	40.2		35.4	10
29. Sydenham Bypass	34.6	49.0	40.1	26.7	28.3	28.6	27.1	26.1	35.1	23.3	33.6	41.1		32.8	12
30. Station Rd		42.2	36.1	24.7	18.5	22.7	20.8	18.5	29.3	23.7	32.5	40.3		28.1	11
31 House of Sport	32.6	29.9	29.2	26.4	21.1	23.9		15.8	21.3	16.2	28.3	41.3		26.0	11

Adjusted measurement (95% confidence interval) with all the data 10 periods used in this calcuations	
Bias Factor A 0.87 (0.76 - 1.02)	
Bias B 14% (-2% - 31%)	
Tube Precision: 10	Automatic DC: 97%
Adjusted with 95% CI	23 (20 - 27)
Adjusted with 95% CI	44 (38 - 51)
Adjusted with 95% CI	42 (37 - 50)
Adjusted with 95% CI	31 (27 - 36)
Adjusted with 95% CI	27 (23 - 32)
Adjusted with 95% CI	15 (13 - 17)
Adjusted with 95% CI	43 (38 - 51)
Adjusted with 95% CI	31 (27 - 36)
Adjusted with 95% CI	48 (42 - 56)
Adjusted with 95% CI	33 (29 - 39)
Adjusted with 95% CI	29 (25 - 34)
Adjusted with 95% CI	44 (38 - 51)
Adjusted with 95% CI	48 (42 - 56)
Adjusted with 95% CI	31 (28 - 37)
Adjusted with 95% CI	36 (32 - 42)
Adjusted with 95% CI	43 (37 - 50)
Adjusted with 95% CI	39 (34 - 46)
Adjusted with 95% CI	21 (18 - 25)
Adjusted with 95% CI	30 (26 - 35)
Adjusted with 95% CI	39 (34 - 45)
Adjusted with 95% CI	31 (27 - 36)
Adjusted with 95% CI	29 (25 - 33)
Adjusted with 95% CI	24 (21 - 29)
Adjusted with 95% CI	23 (20 - 27)
Adjusted with 95% CI	#VALUE!

The bias adjustment factor used in these calculations include all the data and no screening of data due to poor precision has been applied.

Checking Precision and Accuracy of Triplicate Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tubes Measurements

Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 µgm^{-3}	Tube 2 µgm^{-3}	Tube 3 µgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean
1	07/01/2009	04/02/2009	48.2	42.3	43.0	45	3.2	7	8.0
2	04/02/2009	04/03/2009	35.8	61.3	46.8	48	12.8	27	31.8
3	04/03/2009	01/04/2009	41.4	39.0	43.5	41	2.3	5	5.6
4	01/04/2009	29/04/2009	32.4	37.7	38.8	36	3.4	9	8.5
5	29/04/2009	04/06/2009	37.8	43.8	36.2	39	4.0	10	10.0
6	04/06/2009	01/07/2009	35.7	33.2	35.9	35	1.5	4	3.7
7	01/07/2009	29/07/2009	29.5	29.7	26.4	29	1.9	6	4.6
8	29/07/2009	02/09/2009	29.8	30.5	29.1	30	0.7	2	1.8
9	02/09/2009	30/09/2009	35.5	31.2	42.6	36	5.8	16	14.4
10	30/09/2009	04/11/2009	23.4	22.8	26.7	24	2.1	9	5.1
11	04/11/2009	01/12/2009	45.2	47.8	47.6	47	1.4	3	3.5
12	01/12/2009	07/01/2010	54.2	40.3	40.5	45	8.0	18	19.8
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Automatic Method		Data Quality Check	
Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
36	99	Good	Good
38	91	Poor Precision	Good
33	99.8	Good	Good
31	99.7	Good	Good
29	99.7	Good	Good
26	99.5	Good	Good
20	99.6	Good	Good
22	74	Good	Poor Data Capture
24	43.8	Good	Poor Data Capture
36	94.2	Good	Good
42	95	Good	Good
49	96	Good	Good
Overall survey -->		Good precision	Good Overall DC

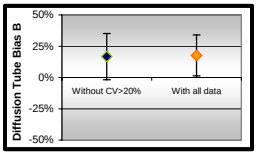
(Check average CV & DC from Accuracy calculations)

Site Name/ ID:	Lombard Str (16, 19, 20)

Precision: 11 out of 12 periods have a CV smaller than 20%

Accuracy (with 95% confidence interval)
without periods with CV larger than 20%
Bias calculated using 9 periods of data
Bias factor A 0.89 (0.76 - 1.06)
Bias B 13% (-6% - 31%)
Diffusion Tubes Mean: 38 µgm^{-3}
Mean CV (Precision): 8
Automatic Mean: 34 µgm^{-3}
Data Capture for periods used: 98%
Adjusted Tubes Mean: 34 (29 - 40) µgm^{-3}

Accuracy (with 95% confidence interval)
WITH ALL DATA
Bias calculated using 10 periods of data
Bias factor A 0.87 (0.76 - 1.02)
Bias B 14% (-2% - 31%)
Diffusion Tubes Mean: 39 µgm^{-3}
Mean CV (Precision): 10
Automatic Mean: 34 µgm^{-3}
Data Capture for periods used: 97%
Adjusted Tubes Mean: 34 (30 - 40) µgm^{-3}



Jaume Targa
jaume.targa@aeat.co.uk
Version 03 - November 2006

Adjustment of SINGLE Tubes

AEA Energy & Environment
From the AEA group

Diffusion Tube Measurements

Site Name/ID	Periods 1	2	3	4	5	6	7	8	9	10	11	12	13	Raw Mean	Valid periods
33 Great Victoria Street	56.9	63.5	60.2	45.5	47.6	43.2	41.1	42.0	57.2	58.7	54.4	56.6		52.2	12
34 College Square East	47.9	47.3	40.6	48.6	38.8	56.7	26.5	28.4		25.5	40.1	61.4		42.0	11
35 Chichester Street	49.5	50.7	57.1	42.8	42.5	48.5	44.7		44.5	18.9	39.5	72.8		46.5	11
36 Cromac/Ormeau Avenue	39.3	46.2	38.2	35.1		43.6	33.0	34.0	40.6	27.7	41.6	54.9		39.5	11
37 M1 End Donegall Road	43.9	56.3	49.5					31.1	37.8		40.3			43.2	6
38 Creche on M1/Westlink	42.1		33.9	0.5	0.2	35.7								22.5	5
39 Ormeau Rd/Ravenhill Rd	34.8	34.1	34.9	27.8	31.3	37.1	26.6	22.6	27.2	13.8	26.9	43.0		30.0	12
40 Upper Newtownards Rd/Hollywoo	42.8	43.1	36.9	30.7	31.8	30.3	25.7		23.8	25.8	44.9	45.5		34.7	11
41 Crumlin Rd	45.9	32.2	36.4	42.7	38.9	44.5	28.0	25.3	34.4	38.0	42.0	50.7		38.2	12
42 228 AntrimRd		50.0			41.5				33.9	28.3	37.1	46.4		39.5	6
43 Shore Rd (M2 End)	21.4	36.0	33.4		30.3	32.5					33.2	49.0		33.7	7
44 Shore Rd (Ivan St. End)	54.1	37.1	46.4	43.6	45.3	43.3	32.2	32.8	33.9	23.3	44.9	62.6		41.6	12
45 North Circular Rd			30.4		27.4		18.0	18.9	22.3			29.5		24.4	6

Adjusted measurement (95% confidence interval) with all the data
10 periods used in this calcuations
Bias Factor A 0.87 (0.76 - 1.02)
Bias B 14% (-2% - 31%)
Tube Precision: 10 Automatic DC: 97%

Adjusted with 95% CI	45 (40 - 53)
Adjusted with 95% CI	37 (32 - 43)
Adjusted with 95% CI	40 (35 - 47)
Adjusted with 95% CI	34 (30 - 40)
Adjusted with 95% CI	38 (33 - 44)
Adjusted with 95% CI	20 (17 - 23)
Adjusted with 95% CI	26 (23 - 31)
Adjusted with 95% CI	30 (26 - 35)
Adjusted with 95% CI	33 (29 - 39)
Adjusted with 95% CI	34 (30 - 40)
Adjusted with 95% CI	29 (26 - 34)
Adjusted with 95% CI	36 (32 - 42)
Adjusted with 95% CI	21 (19 - 25)
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!
Adjusted with 95% CI	#VALUE!

The bias adjustment factor used in these calculations include all the data and no screening of data due to poor precision has been applied.

Appendix B: Traffic Data

Appendix B: Traffic Survey Data

City Centre Traffic Data

Site Report

Count On Us installed Metrocount Series 5600 Automatic Traffic Counters (ATCs), attached to pneumatic tubes, to provide vehicle class and speed data as below.

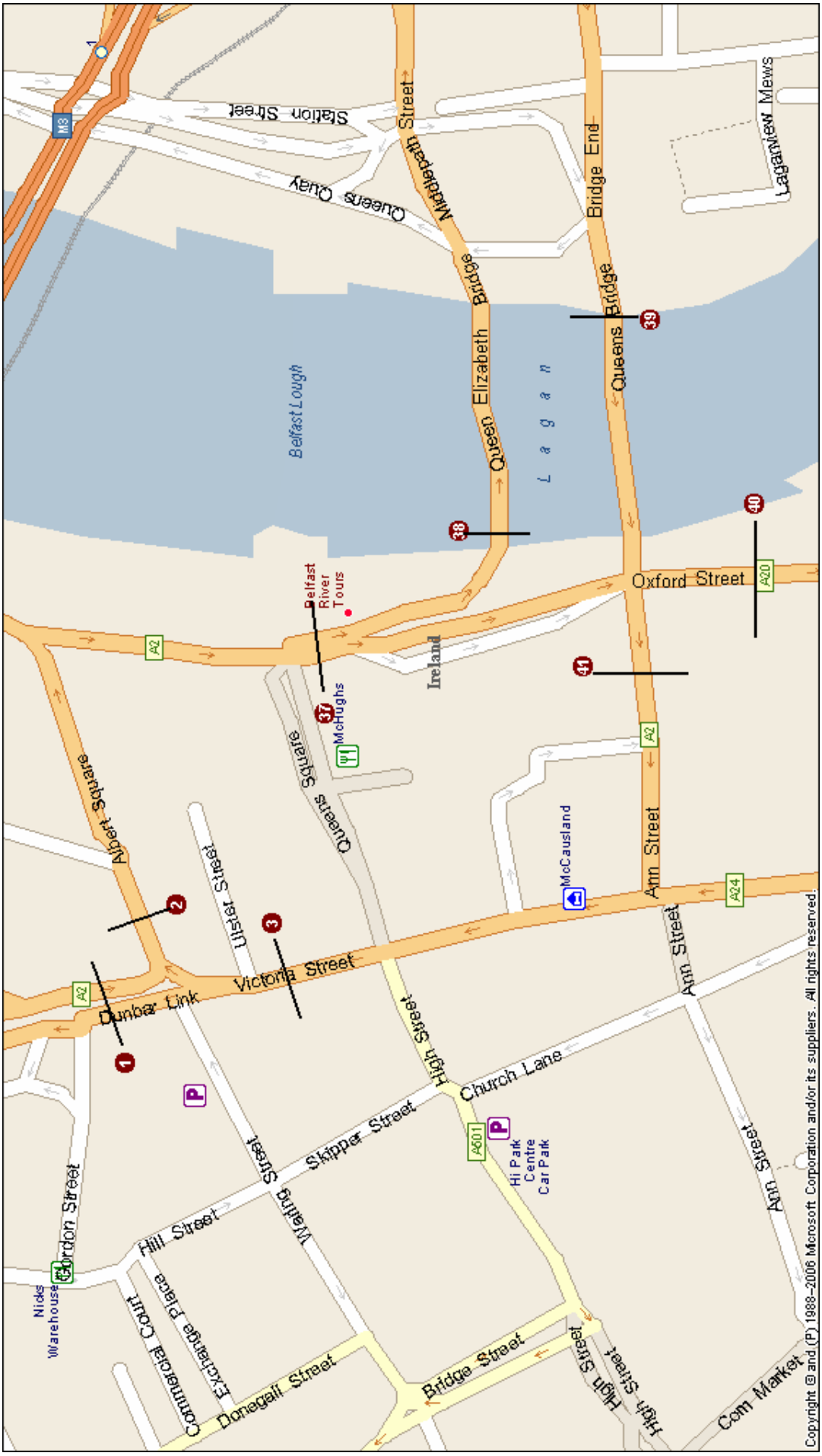
39077 BELFAST CITY ATC'S - CITY CENTRE

FEBRUARY 2010

Site	Location	Direction	Start Date	End Date	Posted Speed Limit (PSL)	Total Vehicles	LGV	HGV	Mean Speed	Road width
1	Dunbar Link, 20m north of Waring Street	Northbound	22 February 2010		30	15068	14004	1064	24.7	25
		Southbound	22 February 2010		30	11772	9914	1858	19.0	
2	Albert Square, 30m east of Dunbar Link	Eastbound	22 February 2010		30	22840	19822	3018	21.9	8
3	Victoria Street, 15m south of Ulster Street	Northbound	23 February 2010		30	31178	27769	3409	23.3	12
4	Cormac Street, 50m south of May Street	Northbound	24 February 2010		30	18039	16716	1323	18.7	12
5	Cormac Sguare, 20m east of Market Street	Eastbound	22 February 2010		30	7012	6323	689	22.0	17
		Westbound	22 February 2010			26039	24472	1567	24.1	
6	Cormac Square, 40m south of Hamilton Street	Northbound	24 February 2010		30	16888	16037	851	19.6	10
		Southbound	24 February 2010			20803	20129	674	25.1	
7	Great Victoria Street, 50m south of Howard Street	Northbound	01 March 2010		30	12067	11113	954	15.6	10

		Southbound	01 March 2010		6532	5948	584	18.2	
8	Howard Street, 30m east of Great Victoria Street	Westbound	04 March 2010	30	14630	12760	1870	16.1	10
9	Great Victoria Street, 30m north of Howard Street	Northbound	01 March 2010	30	21738	19387	2351	18.0	10
		Southbound	01 March 2010		6336	5662	674	15.9	
10	Grosvenor Road, 30m west of Great Victoria Street	Eastbound	01 March 2010	30	4437	4232	205	23.2	10
		Westbound	01 March 2010		9274	8563	711	20.0	
11	Millfield, 40m north of Divis Street	Northbound	01 March 2010	30	10381	9453	928	25.5	30
		Southbound	01 March 2010		14159	13552	607	19.8	
12	Castle Street, 30m east of Millfield	Eastbound	04 March 2010	30	5677	4938	739	17.1	15
		Westbound	04 March 2010		4241	3830	411	13.0	
13	Divis Street, 65m west of Millfield	Eastbound	01 March 2010	30	9776	9021	755	23.9	15
		Westbound	01 March 2010		12213	11405	808	23.1	
14	Millfield, 50m south of Castle Street	Northbound	01 March 2010	30	12922	12268	654	23.6	15
		Southbound	01 March 2010		11515	10457	1058	24.3	
15	Chichester Street, 40m west of Victoria Street	Eastbound	24 February 2010	30	11209	9999	1210	15.1	10
16	Albert Bridge, 30m east from Lagan Bank Road	Eastbound	25 February 2010	30	14138	13035	1103	26.9	10
		Westbound	25 February 2010		14597	13483	1114	23.8	

36	May Street, 20m west of Victoria Street	Westbound	25 February 2010	30	12387	10763	1624	21.5	10
37	Donegall Quay, 15m south of Queens Square	Southbound	22 February 2010	30	28926	25126	3800	25.7	15
38	Queen Elizabeth Bridge, 150m west of Queens Quay	Eastbound	22 February 2010	30	12743	10794	1949	23.8	12
39	Queens Bridge, 50m west of Queens Quay Link	Westbound	22 February 2010	30	18637	17428	1209	27.9	12
40	Oxford Street, 60m south of Queens Bridge	Southbound	22 February 2010	30	25657	23965	1692	28.2	12
41	Ann Street, 45m from Oxford Street	Westbound	22 February 2010	30	8213	7708	505	23.0	12


Station Street
Queens Quay
Middlepath Street
Bridge End
Lagan View Mews
Belfast Lough
Queen Elizabeth Bridge
Queens Bridge
L a g a n
Oxford Street
Belfast River Tours
Ireland
McHughs
Albert Square
Queens Square
Ulster Street
McCausland
Ann Street
Victoria Street
Dunbar Link
High Street
Church Lane
Skipper Street
Hill Street
Waring Street
Gordon Street
Hi Park Centre Car Park
Nicks Warehouse
Exchange Place
Commercial Court
Donegall Street
Bridge Street
High Street
Com Market
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Howden
Sirocco
Belfast Lough
L a g a n
The Edge
Industrial
Complex
Lagan Bank Road
Mays Meadow
Stewart Street
Ireland
Lanyon Place
East Bridge Street
A20
Friendly Way
Oxford Street Oxford Street
Chichester Street
Verner Street
Cromac Square
Friendly Street
Stanfield Street
Lower
Market Street
A20
A24
Victoria Street
Market Street
Cromac Street
Chichester Street Car Park
A20
Seymour Street
May Street
Hamilton Street
Grace Street
Cromac Street Car Park
Catherine Street North
16
15
36
4
6
6
5
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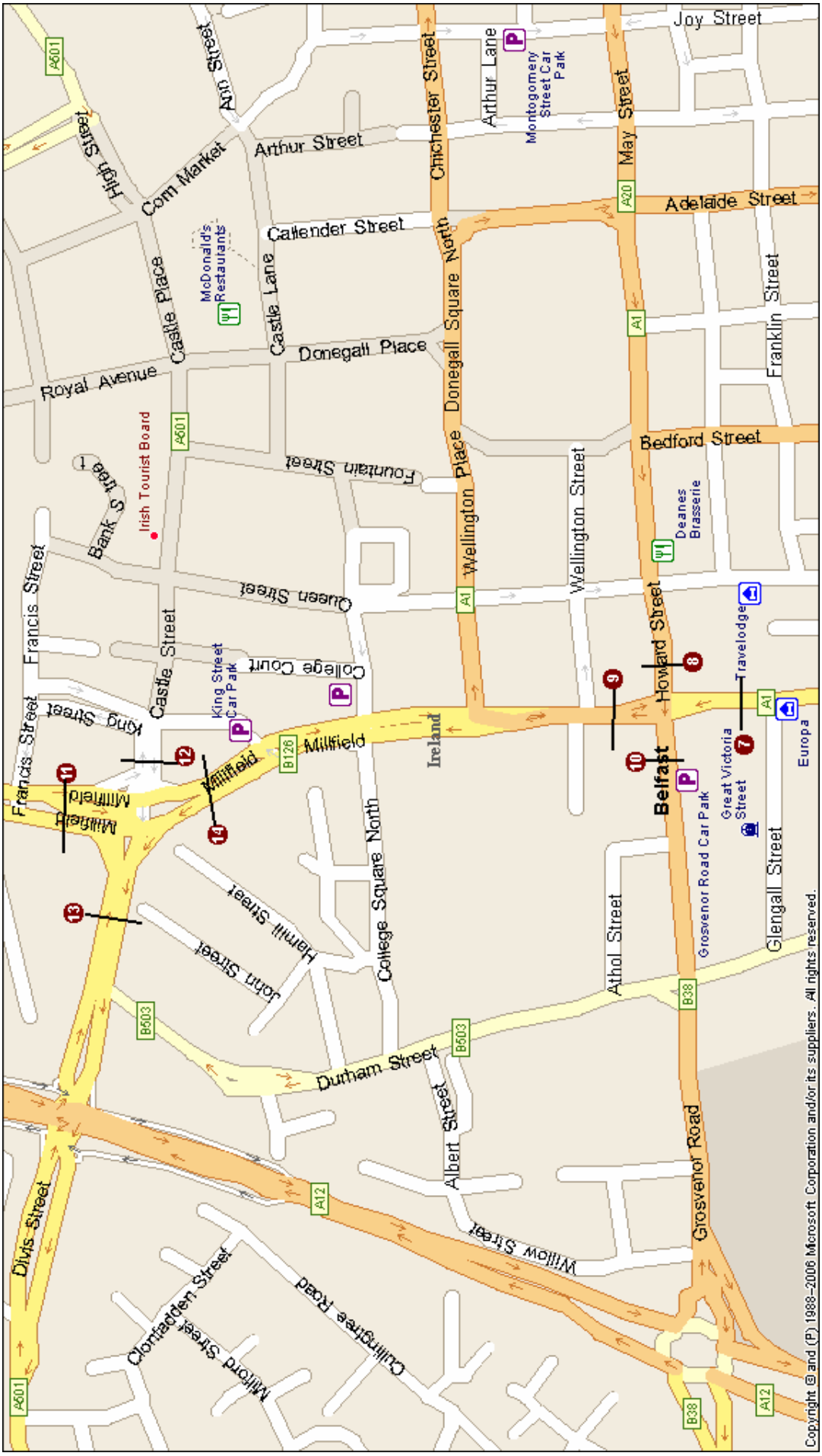
Joy Street
Arthur Lane
Montgomery Street Car Park
Chichester Street
May Street
Ann Street
High Street
Corn Market
Arthur Street
Adelaide Street
Callender Street
McDonald's Restaurants
Castle Lane
Castle Place
Donegall Square North
Franklin Street
Donegall Place
Royal Avenue
Fountain Street
Bedford Street
Irish Tourist Board
Bank's Lane
Wellington Place
Wellington Street
Deanes Brasserie
Francis Street
Queen Street
Howard Street
Travelodge
College Court
King Street Car Park
Castle Street
King Street
Millfield
Ireland
Belfast
Great Victoria Street
Europa
Grosvenor Road Car Park
Glengall Street
Athol Street
College Square North
Hannil Street
John Street
Durham Street
Albert Street
Divis Street
Willow Street
Grosvenor Road
Clonfadden Street
Milford Street
Cullingtree Road
A601
A20
A1
A12
B126
B503
B38
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Ormeau Road Traffic Data

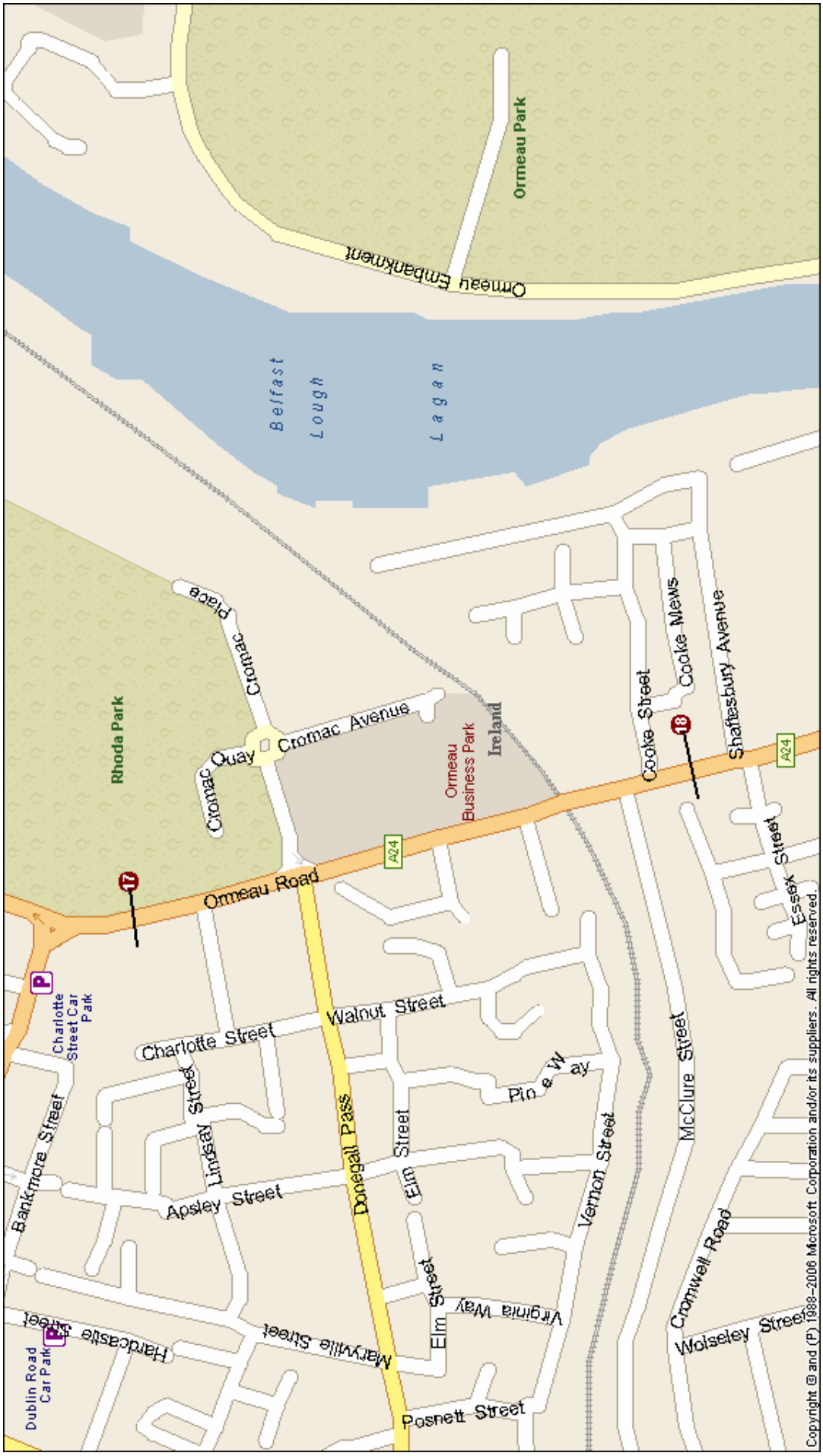
Site Report

Count On Us installed Metrocount Series 5600 Automatic Traffic Counters (ATCs), attached to pneumatic tubes, to provide vehicle class and speed data as below.

39077 BELFAST CITY ATC'S - ORMEAU ROAD

FEBRUARY 2010

Site	Location	Direction	Start Date	End Date	Posted Speed Limit (PSL)	Total Vehicles	LGV	HGV	Mean Speed	Road Width (m)
17	Ormeau Road, 70m south of Ormeau Avenue	Northbound	25 February 2010		30	16299	14780	1519	21.2	15.0
		Southbound	25 February 2010			16585	15296	1289	23.8	
18	Ormeau Road, 20m north of Shaftesbury Avenue	Northbound	25 February 2010		30	13653	13055	598	25.3	10.0
		Southbound	25 February 2010			11330	10563	767	25.1	
19	Ormeau Road, 100m south of Ardmore Avenue	Northbound	25 February 2010		30	10697	10389	308	29.0	20.0
		Southbound	25 February 2010			10984	10444	540	26.9	
20	Ravenhill Road, 10m south of Rosetta Park	Northbound	24 February 2010		30	7646	7352	294	24.5	10.0
		Southbound	24 February 2010			7227	6832	395	23.0	
21	Ormeau Road, 25m north of Rosetta Avenue	Northbound	24 February 2010		30	16562	14730	1832	21.6	10.0
		Southbound	24 February 2010			16263	14935	1328	18.2	


Ormeau Park
Ormeau Embankment
Belfast Lough
Lagan
Rhoda Park
Cromac Place
Cromac Quay
Cromac Avenue
Ormeau Business Park
Ireland
Cooke Street
Cooke Mews
Shaftesbury Avenue
A24
Ormeau Road
Essex Street
McClure Street
Cromwell Road
Wolseley Street
Charlotte Street Car Park
Walnut Street
Charlotte Street
Lindsay Street
Bankmore Street
Apsley Street
Donegall Pass
Elm Street
Pine Way
Vernon Street
Virginia Way
Marlville Street
Hardcastle Street
Dublin Road Car Park
Posnett Street
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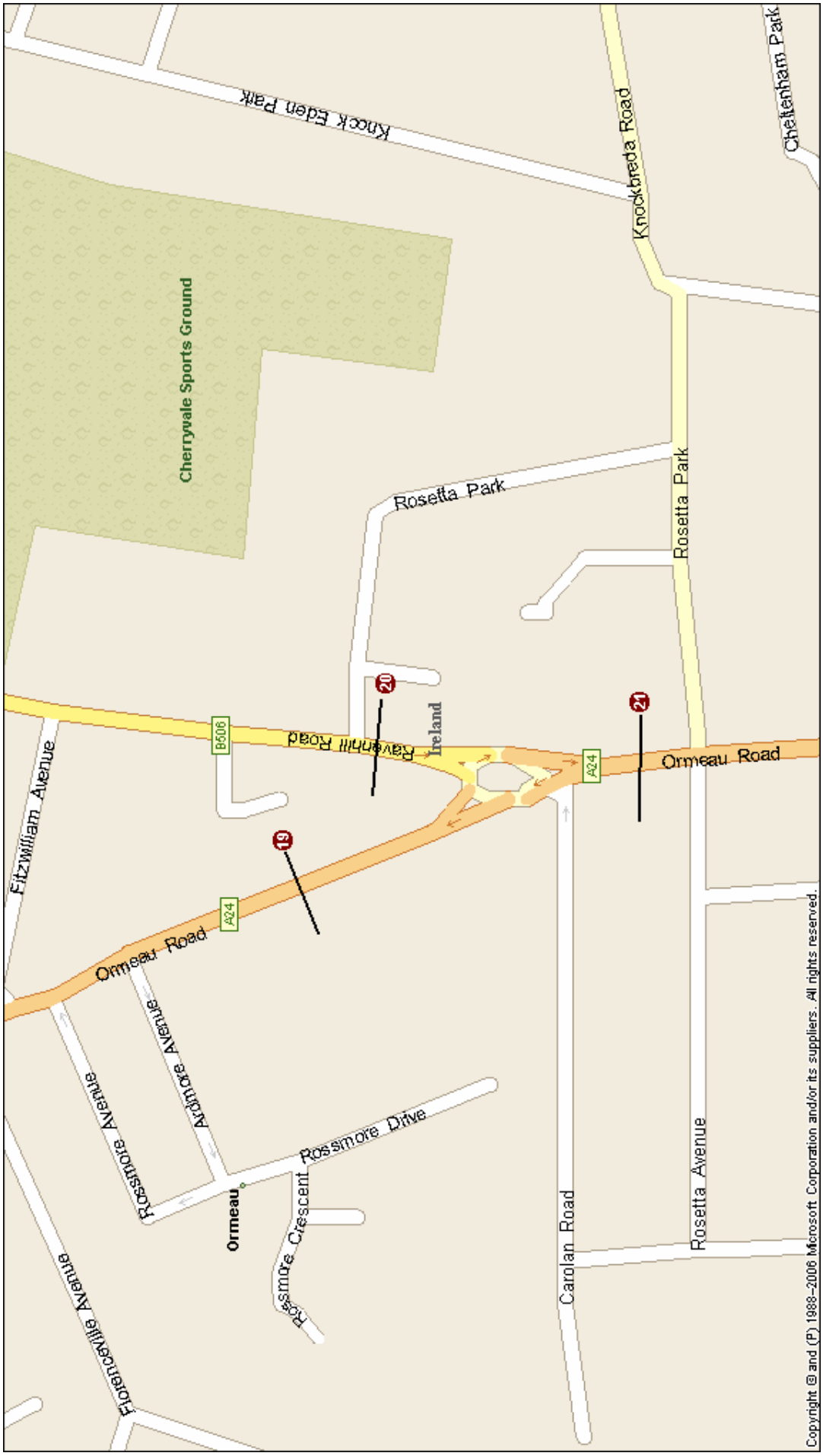
Knock Eden Park
Knockbreda Road
Cheltenham Park
Cherrywale Sports Ground
Rosetta Park
Rosetta Park
B606
Ravenhill Road
Ireland
A24
Ormeau Road
20
21
19
FitzWilliam Avenue
A24
Ormeau Road
Rossmore Avenue
Ardmore Avenue
Rossmore Drive
Ormeau
Rossmore Crescent
Carolan Road
Rosetta Avenue
Florencevile Avenue
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Westlink/M1 Corridor Traffic Survey Data

Site Report

The Traffic Data Information Below was provided by Road Service NI.

39077 BELFAST CITY ATC'S - Westlink

Site	Location	2010 Start Date	End Date	Posted Speed Limit (PSL)	Total Vehicles	LGV	HGV	Mean Speed	Road width
201	Gantry at Broadway	16th Nov 2009 - 25April 2010		50	77128	71198	5930	54	23
202	Fortwilliam Interchange Inbound	1st May 2009 - 30th April 2010		50	48705	45692	3012	63	23
203	Fortwilliam Interchange Outbound	1st May 2009 - 30th April 2010		50	48482	45503	2978	64	23
204	Antrim Road Outbound	1st June 2009 - 30th April 2010		50	31843	28699	3144	62	23
204	Antrim Road Inbound	11th May 2009 - 25th April 2010		50	31968	28808	3157	64	23
206	M5 under M2 Bridge, Greencastle - Whiteabbey	1st May 2009 - 30th April 2010		50	32710	31357	1354	64	23
207	A8 Sandyknowes to Corrs Corner	1st May 2009 - 30th April 2010		50	15039	13317	1720	56	23
213	Gantry before Roden Street	1st May 2009 - 30th April 2010		50	81252	74611	6650	49	23
227	Stockman's Lane	4th May 2009 - 7th February 2010		50	61139	56112	5025	55	23
230	Black Road Inbound	1st May 2009 - 30th April 2010		50	17781	16983	795	32	23
231	Black Road Outbound	1st May 2009 - 30th April 2010		50	16505	15744	758	41	23
291	Clifton Street Inbound	16th Nov 2009 - 25April 2010		50	39480	36051	857	52	23

520	Hillhall Road	1st September 2009 - 30th April 2010	50	51456	46858	4594	60	23

Note: Survey location maps are not available for these sites.

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: A - Slip to B506 Short Strand

	Left to B									S/B to C									Right to D											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	S/B PCU	Right PCU
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Vehicle
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: B - A20

	Left to C									W/B to D									Right to A											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	W/B PCU	Right PCU
0700 - 0715	0	0	0	0	0	0	0	0	0	3	6	162	0	12	2	2	6	193	0	0	0	0	0	0	0	0	0	0	196.6	0
0715 - 0730	0	0	0	0	0	0	0	0	0	3	6	264	5	21	0	0	8	307	0	0	0	0	0	0	0	0	0	0	309	0
0730 - 0745	0	0	0	0	0	0	0	0	0	8	11	322	1	29	1	1	10	383	0	0	0	0	0	0	0	0	0	0	381.8	0
0745 - 0800	0	0	0	0	0	0	0	0	0	9	5	334	5	27	3	0	6	389	0	0	0	0	0	0	0	0	0	0	386.3	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**28**	**1082**	**11**	**89**	**6**	**3**	**30**	**1272**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1273.7**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	17	7	364	6	28	1	0	12	435	0	0	0	0	0	0	0	0	0	0	429.7	0
0815 - 0830	0	0	0	0	0	0	0	0	0	10	8	316	1	19	1	0	14	369	0	0	0	0	0	0	0	0	0	0	370.7	0
0830 - 0845	0	0	0	0	0	0	0	0	0	15	8	329	8	19	1	0	8	388	0	0	0	0	0	0	0	0	0	0	379.7	0
0845 - 0900	0	0	0	0	0	0	0	0	0	9	5	320	3	22	1	0	12	372	0	0	0	0	0	0	0	0	0	0	374.3	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**51**	**28**	**1329**	**18**	**88**	**4**	**0**	**46**	**1564**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1554.4**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	6	10	295	2	18	1	3	11	346	0	0	0	0	0	0	0	0	0	0	350.6	0
0915 - 0930	0	0	0	0	0	0	0	0	0	6	6	278	7	18	2	0	13	330	0	0	0	0	0	0	0	0	0	0	335.6	0
0930 - 0945	0	0	0	0	0	0	0	0	0	5	7	265	2	25	2	0	10	316	0	0	0	0	0	0	0	0	0	0	318.8	0
0945 - 1000	0	0	0	0	0	0	0	0	0	5	3	212	2	19	3	1	9	254	0	0	0	0	0	0	0	0	0	0	260	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**26**	**1050**	**13**	**80**	**8**	**4**	**43**	**1246**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1265**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	3	4	166	6	16	5	0	7	207	0	0	0	0	0	0	0	0	0	0	211.7	0
1015 - 1030	0	0	0	0	0	0	0	0	0	1	0	152	1	18	9	1	7	189	0	0	0	0	0	0	0	0	0	0	201	0
1030 - 1045	0	0	0	0	0	0	0	0	0	1	0	169	2	19	2	3	9	205	0	0	0	0	0	0	0	0	0	0	218.1	0
1045 - 1100	0	0	0	0	0	0	0	0	0	1	0	135	4	15	1	0	6	162	0	0	0	0	0	0	0	0	0	0	167.7	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**4**	**622**	**13**	**68**	**17**	**4**	**29**	**763**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**798.5**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	1	121	2	7	5	0	6	142	0	0	0	0	0	0	0	0	0	0	149.9	0
1115 - 1130	0	0	0	0	0	0	0	0	0	1	1	124	6	15	3	0	10	160	0	0	0	0	0	0	0	0	0	0	170.1	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	1	163	5	20	4	2	8	203	0	0	0	0	0	0	0	0	0	0	215	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	2	150	5	15	5	0	5	182	0	0	0	0	0	0	0	0	0	0	188.3	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**558**	**18**	**57**	**17**	**2**	**29**	**687**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**723.3**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	134	7	12	4	0	8	165	0	0	0	0	0	0	0	0	0	0	175	0
1215 - 1230	0	0	0	0	0	0	0	0	0	1	1	149	6	11	6	0	6	180	0	0	0	0	0	0	0	0	0	0	187.6	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	143	4	11	4	0	10	172	0	0	1	0	0	0	0	0	1	0	184	1
1245 - 1300	0	0	0	0	0	0	0	0	0	2	1	163	6	11	2	0	3	188	0	0	0	0	0	0	0	0	0	0	189.8	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**2**	**589**	**23**	**45**	**16**	**0**	**27**	**705**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**736.4**	**1**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	139	5	7	1	1	11	164	0	0	0	0	0	0	0	0	0	0	176.8	0
1315 - 1330	0	0	0	0	0	0	0	0	0	2	2	140	1	8	3	1	5	162	0	0	0	0	0	0	0	0	0	0	167	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	1	187	3	14	2	0	9	216	0	0	0	0	0	0	0	0	0	0	225.4	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	1	158	6	18	4	1	8	196	0	0	0	0	0	0	0	0	0	0	206.7	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**624**	**15**	**47**	**10**	**3**	**33**	**738**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**775.9**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	1	1	154	6	15	2	0	6	185	0	0	0	0	0	0	0	0	0	0	190.6	0
1415 - 1430	0	0	0	0	0	0	0	0	0	2	4	152	8	20	1	0	12	199	0	0	0	0	0	0	0	0	0	0	207.5	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	3	159	4	12	4	1	7	190	0	0	0	0	0	0	0	0	0	0	198.5	0
1445 - 1500	0	0	0	0	0	0	0	0	0	1	1	145	1	16	5	0	11	180	0	0	0	0	0	0	0	0	0	0	192.1	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**9**	**610**	**19**	**63**	**12**	**1**	**36**	**754**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**788.7**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	2	1	115	6	7	2	1	10	144	0	0	0	0	0	0	0	0	0	0	154.1	0
1515 - 1530	0	0	0	0	0	0	0	0	0	1	2	124	6	14	1	0	9	157	0	0	0	0	0	0	0	0	0	0	164.5	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	126	3	23	1	0	8	161	0	0	0	0	0	0	0	0	0	0	169.5	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	1	125	5	15	1	2	12	161	0	0	0	0	0	0	0	0	0	0	175.5	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**4**	**490**	**20**	**59**	**5**	**3**	**39**	**623**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**663.6**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	1	131	2	14	2	0	6	156	0	0	0	0	0	0	0	0	0	0	162.4	0
1615 - 1630	0	0	0	0	0	0	0	0	0	2	3	136	3	9	4	0	11	168	0	0	0	0	0	0	0	0	0	0	177.6	0
1630 - 1645	0	0	0	0	0	0	0	0	0	1	1	140	4	12	0	0	10	168	0	0	0	0	0	0	0	0	0	0	176.6	0
1645 - 1700	0	0	0	0	0	0	0	0	0	2	1	162	2	11	4	0	11	193	0	0	0	0	1	0	0	0	1	0	203.8	1
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**6**	**569**	**11**	**46**	**10**	**0**	**38**	**685**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**720.4**	**1**
1700 - 1715	0	0	0	0	0	0	0	0	0	3	2	163	3	14	1	0	11	197	0	0	0	0	0	0	0	0	0	0	204.9	0
1715 - 1730	0	0	0	0	0	0	0	0	0	2	0	177	1	4	0	0	11	195	0	0	0	0	0	0	0	0	0	0	204.4	0
1730 - 1745	0	0	0	0	0	0	0	0	0	1	2	167	1	3	0	0	7	181	0	0	0	0	0	0	0	0	0	0	186	0
1745 - 1800	0	0	0	0	0	0	0	0	0	3	1	153	0	7	1	0	5	170	0	0	0	0	0	0	0	0	0	0	172.5	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**5**	**660**	**5**	**28**	**2**	**0**	**34**	**743**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**767.8**	**0**
1800 - 1815	0	0	0	0	0	0	0	0	0	6	1	120	2	7	0	0	8	144	0	0	1	0	1	0	0	0	2	0	146.6	2
1815 - 1830	0	0	0	0	0	0	0	0	0	0	1	158	0	2	0	0	10	171	0	0	0	0	0	0	0	0	0	0	180.4	0
1830 - 1845	0	0	0	0	0	0	0	0	0	2	1	125	2	4	0	0	1	135	0	0	0	0	0	0	0	0	0	0	133.8	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	2	179	1	4	0	0	8	194	0	0	0	0	0	0	0	0	0	0	200.8	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**5**	**582**	**5**	**17**	**0**	**0**	**27**	**644**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**661.6**	**2**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**137**	**126**	**8765**	**171**	**687**	**107**	**20**	**411**	**10424**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**10729.3**	**4**

Bicycle = 0.2
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Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: C - Ravenhill Road

	Left to D									N/B to A									Right to B											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	N/B PCU	Right PCU
0700 - 0715	2	1	21	0	1	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	0	0
0715 - 0730	4	0	27	0	3	0	0	0	34	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	30.8	0	1.6
0730 - 0745	3	1	63	0	4	0	0	1	72	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	70	0.4	0
0745 - 0800	2	1	64	0	5	2	0	1	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74.8	0	0
Hourly Total	**11**	**3**	**175**	**0**	**13**	**2**	**0**	**2**	**206**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**198.4**	**0.4**	**1.6**
0800 - 0815	2	0	77	0	5	1	0	1	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85.9	0	0
0815 - 0830	2	1	66	0	4	1	0	0	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72.3	0	0
0830 - 0845	4	1	56	0	2	1	0	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60.7	0	0
0845 - 0900	5	4	86	0	5	0	0	1	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95.6	0	0
Hourly Total	**13**	**6**	**285**	**0**	**16**	**3**	**0**	**2**	**325**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**314.5**	**0**	**0**
0900 - 0915	4	1	55	0	3	1	0	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60.7	0	0
0915 - 0930	4	1	61	0	1	1	0	2	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68.7	0	0
0930 - 0945	5	0	43	0	4	3	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.5	0	0
0945 - 1000	7	0	53	0	6	2	0	1	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65.4	0	0
Hourly Total	**20**	**2**	**212**	**0**	**14**	**7**	**0**	**3**	**258**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**247.3**	**0**	**0**
1000 - 1015	3	0	29	0	3	0	0	1	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34.6	0	0
1015 - 1030	0	1	21	0	3	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	0	0
1030 - 1045	0	1	20	0	1	1	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	0	0
1045 - 1100	0	0	32	0	4	1	0	1	38	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	39.5	1	0
Hourly Total	**3**	**2**	**102**	**0**	**11**	**2**	**0**	**2**	**122**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**121.4**	**1**	**0**
1100 - 1115	0	0	41	3	2	1	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.5	0	0
1115 - 1130	3	0	24	1	2	1	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.1	0	0
1130 - 1145	0	1	28	1	6	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35.4	0	0
1145 - 1200	1	1	29	2	5	0	0	2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40.6	0	0
Hourly Total	**4**	**2**	**122**	**7**	**15**	**2**	**0**	**2**	**154**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**152.6**	**0**	**0**
1200 - 1215	0	1	29	2	3	2	0	0	37	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	37.4	1	0
1215 - 1230	0	1	27	1	1	1	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30.9	0	0
1230 - 1245	0	0	31	3	6	2	0	1	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	0	0
1245 - 1300	0	0	23	1	6	0	0	1	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0
Hourly Total	**0**	**2**	**110**	**7**	**16**	**5**	**0**	**2**	**142**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**145.3**	**1**	**0**
1300 - 1315	1	1	21	2	4	1	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.1	0	0
1315 - 1330	2	1	20	4	6	3	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35.3	0	0
1330 - 1345	2	0	26	5	3	1	0	0	37	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	35.9	1	0
1345 - 1400	0	1	27	2	7	1	0	1	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39.9	0	0
Hourly Total	**5**	**3**	**94**	**13**	**20**	**6**	**0**	**1**	**142**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**140.2**	**1**	**0**
1400 - 1415	0	0	29	2	4	1	0	1	37	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	38.5	1	0
1415 - 1430	0	0	34	6	9	1	0	0	50	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	50.5	1	0
1430 - 1445	0	0	30	4	11	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	0	0
1445 - 1500	0	0	28	3	5	0	0	2	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0
Hourly Total	**0**	**0**	**121**	**15**	**29**	**2**	**0**	**3**	**170**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**174**	**2**	**0**
1500 - 1515	1	0	31	1	2	0	0	1	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36.2	0	0
1515 - 1530	0	1	23	1	8	1	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33.9	0	0
1530 - 1545	0	1	30	2	7	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39.4	0	0
1545 - 1600	1	0	26	0	0	1	0	1	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.7	0	0
Hourly Total	**2**	**2**	**110**	**4**	**17**	**2**	**0**	**2**	**139**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**139.2**	**0**	**0**
1600 - 1615	1	0	26	2	4	0	0	3	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38.2	0	0
1615 - 1630	3	0	22	2	3	1	0	0	31	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	29.1	0	0.4
1630 - 1645	0	1	22	0	2	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	0	0
1645 - 1700	1	0	49	0	1	0	0	1	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52.2	0	0
Hourly Total	**5**	**1**	**119**	**4**	**10**	**1**	**0**	**4**	**144**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**143.9**	**0**	**0.4**
1700 - 1715	1	1	30	0	2	0	0	1	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34.6	0	0
1715 - 1730	1	1	31	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31.6	0	0
1730 - 1745	0	0	39	0	0	0	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	0	0
1745 - 1800	0	0	32	0	3	0	0	1	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	0	0
Hourly Total	**2**	**2**	**132**	**0**	**5**	**0**	**0**	**2**	**143**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**142.2**	**0**	**0**
1800 - 1815	0	0	30	0	3	0	0	0	33	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	33	1	0
1815 - 1830	0	0	19	0	1	0	0	1	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0
1830 - 1845	0	0	28	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0	0
1845 - 1900	0	0	31	0	1	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Vehicle
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

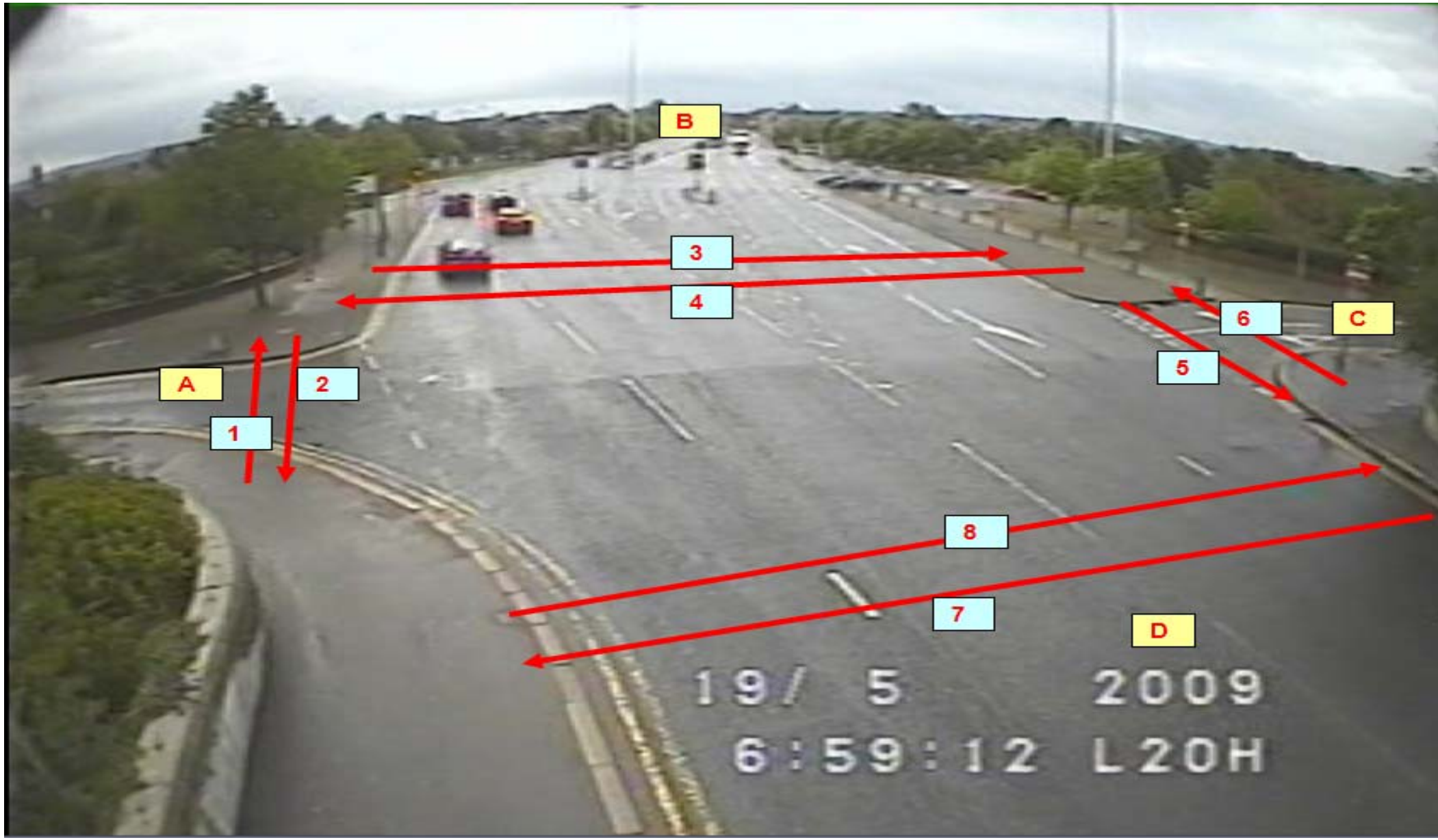
Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: D - A20 Albert Bridge

	Left to A									E/B to B									Right to C											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	E/B PCU	Right PCU
0700 - 0715	1	0	8	0	1	2	0	0	12	0	0	25	0	7	3	0	2	37	0	0	0	0	0	0	0	0	0	12.2	40.5	0
0715 - 0730	0	0	16	0	0	0	0	0	16	0	4	59	0	12	2	0	7	84	0	0	0	0	0	0	0	0	0	16	89.6	0
0730 - 0745	0	0	23	0	0	1	0	0	24	4	0	92	0	8	3	0	8	115	0	0	0	0	0	0	0	0	0	24.5	121.3	0
0745 - 0800	0	0	25	0	3	1	0	0	29	3	0	96	2	12	4	0	8	125	0	0	0	0	0	0	0	0	0	29.5	132.6	0
Hourly Total	**1**	**0**	**72**	**0**	**4**	**4**	**0**	**0**	**81**	**7**	**4**	**272**	**2**	**39**	**12**	**0**	**25**	**361**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**82.2**	**384**	**0**
0800 - 0815	0	0	30	0	0	0	0	0	30	2	1	102	4	16	5	0	8	138	0	0	0	0	0	0	0	0	0	30	146.3	0
0815 - 0830	0	0	35	0	2	2	0	0	39	2	0	120	6	15	1	0	7	151	0	0	0	0	0	0	0	0	0	40	156.9	0
0830 - 0845	2	1	33	0	1	0	0	1	38	1	1	114	2	13	3	0	10	144	0	0	0	0	0	0	0	0	0	36.8	154.1	0
0845 - 0900	0	0	31	0	5	1	0	2	39	1	0	118	4	13	4	1	8	149	0	0	0	0	0	0	0	0	0	41.5	159.5	0
Hourly Total	**2**	**1**	**129**	**0**	**8**	**3**	**0**	**3**	**146**	**6**	**2**	**454**	**16**	**57**	**13**	**1**	**33**	**582**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**148.3**	**616.8**	**0**
0900 - 0915	0	0	29	0	3	2	0	0	34	3	0	120	1	16	4	0	8	152	0	0	0	0	0	0	0	0	0	35	159.6	0
0915 - 0930	0	0	27	0	5	2	0	3	37	0	2	120	2	7	3	0	11	145	0	0	0	0	0	0	0	0	0	41	156.3	0
0930 - 0945	0	0	29	0	4	3	0	1	37	0	3	85	5	16	2	1	9	121	0	0	0	0	0	0	0	0	0	39.5	130.5	0
0945 - 1000	0	0	19	0	4	1	0	2	26	0	2	89	2	21	1	0	7	122	0	0	0	0	0	0	0	0	0	28.5	128.3	0
Hourly Total	**0**	**0**	**104**	**0**	**16**	**8**	**0**	**6**	**134**	**3**	**7**	**414**	**10**	**60**	**10**	**1**	**35**	**540**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**144**	**574.7**	**0**
1000 - 1015	0	0	23	0	5	0	0	1	29	0	3	122	5	13	4	1	8	156	0	0	0	0	0	0	0	0	0	30	165.5	0
1015 - 1030	0	0	26	0	3	1	0	3	33	0	1	97	6	17	3	1	8	133	0	0	0	0	0	0	0	0	0	36.5	143.2	0
1030 - 1045	0	0	24	0	3	1	0	0	28	0	1	111	5	28	7	0	7	159	0	0	0	0	0	0	0	0	0	28.5	168.9	0
1045 - 1100	0	0	18	0	2	1	0	0	21	0	3	138	4	14	6	0	7	172	0	0	0	0	0	0	0	0	0	21.5	180.2	0
Hourly Total	**0**	**0**	**91**	**0**	**13**	**3**	**0**	**4**	**111**	**0**	**8**	**468**	**20**	**72**	**20**	**2**	**30**	**620**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**116.5**	**657.8**	**0**
1100 - 1115	0	1	19	0	5	2	0	0	27	0	1	111	1	16	8	0	5	142	0	0	0	0	0	0	0	0	0	27.4	150.4	0
1115 - 1130	0	0	20	0	2	0	0	0	22	0	1	114	2	10	3	0	9	139	0	0	0	0	0	0	0	0	0	22	148.9	0
1130 - 1145	1	0	17	0	4	0	0	0	22	1	2	114	6	20	5	0	7	155	0	0	0	0	0	0	0	0	0	21.2	162.5	0
1145 - 1200	1	0	23	0	5	0	0	0	29	0	1	131	4	15	3	1	7	162	0	0	0	0	0	0	0	0	0	28.2	171.2	0
Hourly Total	**2**	**1**	**79**	**0**	**16**	**2**	**0**	**0**	**100**	**1**	**5**	**470**	**13**	**61**	**19**	**1**	**28**	**598**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**98.8**	**633**	**0**
1200 - 1215	0	0	24	0	5	0	0	1	30	1	1	141	8	16	6	0	6	179	0	0	0	0	0	0	0	0	0	31	186.6	0
1215 - 1230	0	0	28	0	2	2	0	1	33	0	3	164	6	9	2	0	9	193	0	0	0	0	0	0	0	0	0	35	201.2	0
1230 - 1245	1	0	22	0	5	0	0	0	28	1	0	145	7	18	3	0	6	180	0	0	0	0	0	0	0	0	0	27.2	186.7	0
1245 - 1300	0	0	26	0	4	1	0	0	31	0	0	132	8	16	3	0	8	167	0	0	0	0	0	0	0	0	0	31.5	176.5	0
Hourly Total	**1**	**0**	**100**	**0**	**16**	**3**	**0**	**2**	**122**	**2**	**4**	**582**	**29**	**59**	**14**	**0**	**29**	**719**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**124.7**	**751**	**0**
1300 - 1315	2	0	30	0	4	0	0	0	36	1	4	164	5	12	3	1	6	196	0	0	0	0	0	0	0	0	0	34.4	201.6	0
1315 - 1330	0	0	27	0	4	1	0	0	32	1	2	136	8	22	1	0	8	178	0	0	0	0	0	0	0	0	0	32.5	184.5	0
1330 - 1345	0	0	22	0	7	0	0	0	29	0	3	136	5	18	4	0	8	174	0	0	0	0	0	0	0	0	0	29	182.2	0
1345 - 1400	1	0	30	0	2	1	0	0	34	2	1	140	5	13	6	0	6	173	0	0	0	0	0	0	0	0	0	33.7	179.8	0
Hourly Total	**3**	**0**	**109**	**0**	**17**	**2**	**0**	**0**	**131**	**4**	**10**	**576**	**23**	**65**	**14**	**1**	**28**	**721**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**129.6**	**748.1**	**0**
1400 - 1415	0	0	34	0	5	1	0	0	40	0	5	155	12	19	1	0	9	201	0	0	0	0	0	0	0	0	0	40.5	207.5	0
1415 - 1430	0	0	28	0	1	0	0	0	29	2	4	137	10	12	3	0	9	177	0	0	0	0	0	0	0	0	0	29	183.5	0
1430 - 1445	0	0	33	0	3	2	0	0	38	1	4	144	12	22	2	0	7	192	0	0	0	0	0	0	0	0	0	39	196.8	0
1445 - 1500	1	0	29	0	4	0	0	0	34	1	1	145	15	17	2	0	9	190	0	0	0	0	0	0	0	0	0	33.2	198.6	0
Hourly Total	**1**	**0**	**124**	**0**	**13**	**3**	**0**	**0**	**141**	**4**	**14**	**581**	**49**	**70**	**8**	**0**	**34**	**760**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**141.7**	**786.4**	**0**
1500 - 1515	0	0	30	0	5	1	0	0	36	1	4	142	8	13	5	1	9	183	0	0	0	0	0	0	0	0	0	36.5	192.6	0
1515 - 1530	1	0	26	0	8	1	0	0	36	3	5	147	7	20	3	0	11	196	0	0	0	0	0	0	0	0	0	35.7	203.1	0
1530 - 1545	0	1	40	0	5	0	0	0	46	3	2	161	8	23	1	1	10	209	0	0	0	0	0	0	0	0	0	45.4	217.2	0
1545 - 1600	0	2	47	0	9	2	0	0	60	3	6	209	9	18	3	1	6	255	0	0	0	0	0	0	0	0	0	59.8	257.8	0
Hourly Total	**1**	**3**	**143**	**0**	**27**	**4**	**0**	**0**	**178**	**10**	**17**	**659**	**32**	**74**	**12**	**3**	**36**	**843**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**177.4**	**870.7**	**0**
1600 - 1615	0	0	66	0	5	0	0	0	71	2	6	228	3	15	0	1	8	263	0	0	0	0	0	0	0	0	0	71	267.1	0
1615 - 1630	1	0	41	0	5	0	0	0	47	0	4	242	3	13	1	0	11	274	0	0	0	0	0	0	0	0	0	46.2	283.1	0
1630 - 1645	0	0	51	0	10	0	0	0	61	6	6	233	7	23	0	0	9	284	0	0	0	0	0	0	0	0	0	61	284.6	0
1645 - 1700	0	1	52	0	3	0	0	0	56	1	4	243	8	10	1	0	11	278	0	0	0	0	0	0	0	0	0	55.4	286.3	0
Hourly Total	**1**	**1**	**210**	**0**	**23**	**0**	**0**	**0**	**235**	**9**	**20**	**946**	**21**	**61**	**2**	**1**	**39**	**1099**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**233.6**	**1121.1**	**0**
1700 - 1715	0	2	61	0	4	0	0	0	67	10	7	261	9	13	0	0	10	310	0	0	0	0	0	0	0	0	0	65.8	307.8	0
1715 - 1730	2	1	66	0	1	0	0	0	70	5	1	279	10	10	2	0	15	322	0	0	0	0	0	0	0	0	0	67.8	333.4	0
1730 - 1745	0	0	63	0	4	0	0	0	67	6	4	317	3	14	0	0	12	356	0	0	0	0	0	0	0	0	0	67	360.8	0
1745 - 1800	3	0	56	0	2	0	0	1	62	8	4	343	7	8	0	0	11	381	0	0	0	0	0	0	0	0	0	60.6	383.2	0
Hourly Total	**5**	**3**	**246**	**0**	**11**	**0**	**0**	**1**	**266**	**29**	**16**	**1200**	**29**	**45**	**2**	**0**	**48**	**1369**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**261.2**	**1385.2**	**0**
1800 - 1815	1	1	56	1	2	0	0	0	61	11	3	330	8	7	1	0	8	368	0	0	0	0	0	0	0	0	0	59.6	365.9	0
1815 - 1830	0	0	64	0	1	0	0	4	69	2	5	318	10	10	1	0	8	354	0	0	0	0	0	0	0	0	0	73	357.9	0
1830 - 1845	2	0	47	0	2	0	0	2	53	4	0	218	10	7	1	0	6	246	0	0	0	0	0	0	0	0	0	53.4	249.3	0
1845 - 1900	0	1	29	0	1	0	0	1	32	4	1	173	8	4	0	0	4	194	0	0	0	0	0	0	0	0	0	32.4	194.2	0

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Vehicle
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0


B
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6:59:12 L20H

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: A - B504 Short Strand

	Left to B									S/B to C									Right to D											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	S/B PCU	Right PCU
0700 - 0715	0	1	42	5	0	2	0	2	52	0	0	75	16	0	3	5	1	100	1	1	19	0	0	1	0	0	22	54.4	109	21.1
0715 - 0730	0	0	66	3	0	3	0	2	74	0	3	71	25	0	4	4	3	110	0	0	43	5	0	0	0	2	50	77.5	118.4	52
0730 - 0745	0	0	50	7	0	0	0	2	59	0	1	96	19	0	6	1	1	124	2	2	43	1	1	0	1	2	52	61	128.7	52.5
0745 - 0800	0	0	57	3	0	0	0	3	63	0	2	108	24	0	9	2	1	146	2	0	36	3	1	0	0	0	42	66	152.9	40.4
Hourly Total	**0**	**1**	**215**	**18**	**0**	**5**	**0**	**9**	**248**	**0**	**6**	**350**	**84**	**0**	**22**	**12**	**6**	**480**	**5**	**3**	**141**	**9**	**2**	**1**	**1**	**4**	**166**	**258.9**	**509**	**166**
0800 - 0815	0	0	45	6	0	1	0	2	54	0	1	151	22	0	4	3	1	182	4	0	65	3	0	0	0	0	72	56.5	188.3	68.8
0815 - 0830	0	0	50	5	0	1	0	0	56	0	0	111	23	0	9	5	0	148	2	2	52	0	0	1	0	0	57	56.5	159	54.7
0830 - 0845	0	0	84	8	0	1	1	2	96	0	1	134	17	1	6	3	2	164	3	0	68	6	0	0	0	1	78	99.8	172.3	76.6
0845 - 0900	0	0	63	6	0	4	2	2	77	0	2	112	18	0	11	1	2	146	1	1	64	3	0	0	0	1	70	83.6	153.6	69.6
Hourly Total	**0**	**0**	**242**	**25**	**0**	**7**	**3**	**6**	**283**	**0**	**4**	**508**	**80**	**1**	**30**	**12**	**5**	**640**	**10**	**3**	**249**	**12**	**0**	**1**	**0**	**2**	**277**	**296.4**	**673.2**	**269.7**
0900 - 0915	0	0	81	13	0	2	4	0	100	0	0	108	21	0	3	3	0	135	1	4	52	2	0	1	2	0	62	106.2	140.4	61.9
0915 - 0930	0	0	46	7	0	5	1	0	59	0	0	110	20	1	6	2	1	140	0	2	70	5	0	0	0	0	77	62.8	146.6	75.8
0930 - 0945	0	0	35	4	0	5	3	0	47	0	0	91	19	0	4	4	0	118	1	0	41	2	1	1	0	0	46	53.4	125.2	45.7
0945 - 1000	0	0	47	3	0	3	0	0	53	0	1	72	26	0	9	0	0	108	2	0	23	1	1	0	1	0	28	54.5	111.9	27.7
Hourly Total	**0**	**0**	**209**	**27**	**0**	**15**	**8**	**0**	**259**	**0**	**1**	**381**	**86**	**1**	**22**	**9**	**1**	**501**	**4**	**6**	**186**	**10**	**2**	**2**	**3**	**0**	**213**	**276.9**	**524.1**	**211.1**
1000 - 1015	0	0	35	5	0	2	1	0	43	0	1	73	17	0	10	2	0	103	1	1	27	5	0	1	0	0	35	45.3	110	34.1
1015 - 1030	0	0	48	6	0	4	1	0	59	0	0	80	12	0	6	2	0	100	0	0	25	1	0	2	1	1	30	62.3	105.6	33.3
1030 - 1045	0	0	43	9	0	3	1	0	56	0	1	63	16	0	3	3	0	86	0	0	17	2	0	0	2	0	21	58.8	90.8	23.6
1045 - 1100	0	0	44	8	0	2	0	0	54	0	0	45	19	0	4	4	0	72	0	0	15	2	0	0	0	0	17	55	79.2	17
Hourly Total	**0**	**0**	**170**	**28**	**0**	**11**	**3**	**0**	**212**	**0**	**2**	**261**	**64**	**0**	**23**	**11**	**0**	**361**	**1**	**1**	**84**	**10**	**0**	**3**	**3**	**1**	**103**	**221.4**	**385.6**	**108**
1100 - 1115	0	0	47	7	0	3	1	0	58	0	0	63	19	0	9	4	0	95	0	0	23	2	0	0	0	0	25	60.8	104.7	25
1115 - 1130	0	0	41	6	0	0	0	0	47	0	0	58	17	0	9	1	1	86	0	0	17	0	0	1	0	0	18	47	92.8	18.5
1130 - 1145	0	0	40	7	0	3	2	0	52	0	1	95	25	0	7	3	0	131	0	0	25	2	1	0	1	0	29	56.1	137.8	30.3
1145 - 1200	0	0	52	12	0	5	0	0	69	0	0	65	15	1	7	4	0	92	0	0	18	4	0	1	0	0	23	71.5	100.7	23.5
Hourly Total	**0**	**0**	**180**	**32**	**0**	**11**	**3**	**0**	**226**	**0**	**1**	**281**	**76**	**1**	**32**	**12**	**1**	**404**	**0**	**0**	**83**	**8**	**1**	**2**	**1**	**0**	**95**	**235.4**	**436**	**97.3**
1200 - 1215	0	0	42	8	0	3	0	0	53	0	0	86	12	0	5	2	0	105	0	0	16	2	0	0	0	0	18	54.5	110.1	18
1215 - 1230	0	0	51	5	0	6	0	0	62	0	1	89	18	0	8	2	0	118	0	1	14	1	0	2	0	0	18	65	124	18.4
1230 - 1245	0	0	40	4	0	2	0	0	46	0	1	87	15	0	15	2	0	120	0	0	23	1	0	0	0	0	24	47	129.5	24
1245 - 1300	0	0	48	2	0	2	0	0	52	0	0	86	9	0	9	4	0	108	1	0	17	3	0	0	0	0	21	53	117.7	20.2
Hourly Total	**0**	**0**	**181**	**19**	**0**	**13**	**0**	**0**	**213**	**0**	**2**	**348**	**54**	**0**	**37**	**10**	**0**	**451**	**1**	**1**	**70**	**7**	**0**	**2**	**0**	**0**	**81**	**219.5**	**481.3**	**80.6**
1300 - 1315	0	1	45	8	0	2	2	0	58	0	0	79	15	0	5	2	0	101	0	0	18	4	0	0	1	0	23	61	106.1	24.3
1315 - 1330	0	0	49	11	0	7	2	0	69	0	0	76	6	0	4	3	0	89	0	0	17	0	0	0	1	1	19	75.1	94.9	21.3
1330 - 1345	0	0	52	7	0	1	2	0	62	0	0	78	21	0	7	1	0	107	0	0	13	1	0	0	0	0	14	65.1	111.8	14
1345 - 1400	0	0	37	6	1	2	2	0	48	0	0	89	14	0	6	4	0	113	0	0	19	4	0	1	0	0	24	51.6	121.2	24.5
Hourly Total	**0**	**1**	**183**	**32**	**1**	**12**	**8**	**0**	**237**	**0**	**0**	**322**	**56**	**0**	**22**	**10**	**0**	**410**	**0**	**0**	**67**	**9**	**0**	**1**	**2**	**1**	**80**	**252.8**	**434**	**84.1**
1400 - 1415	0	0	49	7	0	6	1	0	63	0	0	105	18	1	7	3	0	134	0	0	24	2	0	0	0	0	26	67.3	141.4	26
1415 - 1430	0	0	46	5	0	2	0	0	53	0	0	82	12	1	6	2	0	103	1	1	19	3	0	0	0	0	24	54	108.6	22.6
1430 - 1445	0	0	42	9	0	2	2	0	55	0	0	112	25	1	3	1	0	142	0	1	23	1	1	1	0	0	27	58.6	144.8	26.9
1445 - 1500	0	0	37	9	0	2	1	0	49	0	0	105	13	0	6	2	2	128	0	0	27	0	0	0	0	1	28	51.3	135.6	29
Hourly Total	**0**	**0**	**174**	**30**	**0**	**12**	**4**	**0**	**220**	**0**	**0**	**404**	**68**	**3**	**22**	**8**	**2**	**507**	**1**	**2**	**93**	**6**	**1**	**1**	**0**	**1**	**105**	**231.2**	**530.4**	**104.5**
1500 - 1515	0	0	44	10	0	1	1	1	57	0	0	106	16	0	10	5	3	140	0	0	32	1	0	0	0	0	33	59.8	154.5	33
1515 - 1530	0	1	47	12	0	1	1	0	62	0	0	82	13	0	7	4	1	107	0	0	21	0	0	0	0	0	21	63.2	116.7	21
1530 - 1545	0	0	69	12	0	1	2	0	84	0	0	112	15	2	5	3	1	138	0	0	22	2	0	0	0	1	25	87.1	145.4	26
1545 - 1600	0	0	62	9	0	4	0	0	75	0	0	114	13	2	5	1	0	135	0	0	10	4	0	0	0	0	14	77	138.8	14
Hourly Total	**0**	**1**	**222**	**43**	**0**	**7**	**4**	**1**	**278**	**0**	**0**	**414**	**57**	**4**	**27**	**13**	**5**	**520**	**0**	**0**	**85**	**7**	**0**	**0**	**0**	**1**	**93**	**287.1**	**555.4**	**94**
1600 - 1615	0	0	74	7	0	3	0	0	84	0	0	115	15	1	4	5	0	140	0	0	14	1	0	0	0	1	16	85.5	148.5	17
1615 - 1630	0	0	87	8	0	1	0	0	96	0	0	149	22	1	5	2	0	179	1	1	13	1	0	0	0	0	16	96.5	184.1	14.6
1630 - 1645	0	0	101	14	0	3	0	0	118	0	0	127	16	1	5	1	0	150	0	0	13	1	0	0	0	0	14	119.5	153.8	14
1645 - 1700	0	0	109	8	0	4	0	0	121	0	0	132	14	1	2	2	0	151	0	0	23	2	0	0	0	0	25	123	154.6	25
Hourly Total	**0**	**0**	**371**	**37**	**0**	**11**	**0**	**0**	**419**	**0**	**0**	**523**	**67**	**4**	**16**	**10**	**0**	**620**	**1**	**1**	**63**	**5**	**0**	**0**	**0**	**1**	**71**	**424.5**	**641**	**70.6**
1700 - 1715	0	0	109	9	0	2	1	0	121	0	0	115	14	0	0	0	0	129	2	0	20	1	0	0	0	0	23	123.3	129	21.4
1715 - 1730	0	0	104	7	0	1	1	0	113	0	0	109	4	1	1	0	0	115	1	0	10	0	0	0	0	0	11	114.8	115.5	10.2
1730 - 1745	0	0	118	8	0	1	1	0	128	0	0	126	9	1	0	0	0	136	0	1	11	0	0	0	0	0	12	129.8	136	11.4
1745 - 1800	0	0	102	5	0	1	0	0	108	0	0	135	2	1	0	0	0	138	1	0	13	0	0	0	0	0	14	108.5	138	13.2
Hourly Total	**0**	**0**	**433**	**29**	**0**	**5**	**3**	**0**	**470**	**0**	**0**	**485**	**29**	**3**	**1**	**0**	**0**	**518**	**4**	**1**	**54**	**1**	**0**	**0**	**0**	**0**	**60**	**476.4**	**518.5**	**56.2**
1800 - 1815	0	0	67	3	0	1	0	0	71	0	0	118	4	1	1	0	1	125	2	0	11	1	0	0	0	0	14	71.5	126.5	12.4
1815 - 1830	0	0	89	4	0	1	0	0	94	0	0	148	6	1	3	0	0	158	0	0	20	0	0	0	0	0	20	94.5	159.5	20
1830 - 1845	0	0	72	3	0	1	0	0	76	0	0	125	6	1	3	1	0	136	1	1	18	1	0	0	0	0	21	76.5	138.8	23.6
1845 - 1900	0	0	65	5	0	1	0	0	71	0	0	107	4	0	0	0	0	111	0	1	22	1	0	0	0	0	24	71.5	111	23.4
Hourly Total	**0**	**0**	**293**	**15**	**0**	**4**	**0**	**0**	**312**	**0**	**0**	**498**	**20**	**3**	**7**	**1**	**1**	**530**	**3**	**2**	**71**	**3**	**0**	**0**	**0**	**0**	**79**	**314**	**535.8**	**75.4**

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Vehicle
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: B - A20 (East)

	Left to C									W/B to D									Right to A											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	W/B PCU	Right PCU
0700 - 0715	0	0	11	0	0	0	0	0	11	2	5	143	0	12	1	2	6	171	0	0	69	7	0	1	0	0	77	11	175.5	77.5
0715 - 0730	0	0	15	0	0	0	0	0	15	3	6	221	0	21	0	0	6	257	0	0	85	9	0	4	0	0	98	15	257	100
0730 - 0745	0	0	21	1	0	0	0	0	22	6	9	279	0	28	1	0	8	331	0	0	125	20	0	2	0	1	148	22	329.3	150
0745 - 0800	0	0	25	2	0	0	1	0	28	7	5	298	2	26	3	0	6	347	0	0	106	14	0	1	0	0	121	29.3	345.9	121.5
Hourly Total	**0**	**0**	**72**	**3**	**0**	**0**	**1**	**0**	**76**	**18**	**25**	**941**	**2**	**87**	**5**	**2**	**26**	**1106**	**0**	**0**	**385**	**50**	**0**	**8**	**0**	**1**	**444**	**77.3**	**1107.7**	**449**
0800 - 0815	0	0	39	1	0	1	0	1	42	13	7	299	3	28	1	0	12	363	0	0	132	9	0	2	0	0	143	43.5	360.9	144
0815 - 0830	0	0	44	3	0	0	0	0	47	8	6	264	1	19	0	0	14	312	0	0	106	8	1	0	0	0	115	47	316	115
0830 - 0845	0	0	42	2	0	1	1	0	46	12	8	261	2	19	1	0	7	310	0	0	109	12	0	0	0	0	121	47.8	303.1	121
0845 - 0900	0	0	29	1	1	0	0	1	32	8	4	256	0	22	1	0	11	302	0	0	140	11	1	6	3	0	161	33	304.7	167.9
Hourly Total	**0**	**0**	**154**	**7**	**1**	**2**	**1**	**2**	**167**	**41**	**25**	**1080**	**6**	**88**	**3**	**0**	**44**	**1287**	**0**	**0**	**487**	**40**	**2**	**8**	**3**	**0**	**540**	**171.3**	**1284.7**	**547.9**
0900 - 0915	0	0	21	1	0	0	0	0	22	5	6	243	0	18	0	1	11	284	0	0	126	8	1	9	1	0	145	22	288.7	150.8
0915 - 0930	0	1	24	0	0	0	0	0	25	6	4	208	2	18	2	0	13	253	0	0	98	9	0	5	2	0	114	24.4	259.8	119.1
0930 - 0945	0	0	28	0	0	0	0	0	28	4	7	224	0	24	1	0	10	270	0	0	88	14	0	2	3	0	107	28	273.1	111.9
0945 - 1000	0	0	33	1	0	0	0	0	34	3	3	189	1	18	3	0	9	226	0	1	65	7	0	4	6	0	83	34	232.3	92.2
Hourly Total	**0**	**1**	**106**	**2**	**0**	**0**	**0**	**0**	**109**	**18**	**20**	**864**	**3**	**78**	**6**	**1**	**43**	**1033**	**0**	**1**	**377**	**38**	**1**	**20**	**12**	**0**	**449**	**108.4**	**1053.9**	**474**
1000 - 1015	0	0	29	2	0	0	0	0	31	2	3	139	1	16	4	0	7	172	0	0	62	9	0	6	1	0	78	31	177.6	82.3
1015 - 1030	0	0	25	3	1	1	0	1	31	1	0	127	0	18	7	0	6	159	0	0	69	13	0	4	1	0	87	32.5	167.7	90.3
1030 - 1045	0	0	27	0	0	0	0	0	27	1	0	152	0	19	2	1	9	184	0	0	50	10	0	0	1	0	61	27	194.5	62.3
1045 - 1100	0	0	22	1	0	0	0	0	23	1	0	120	2	15	1	0	6	145	0	0	45	8	0	4	0	0	57	23	150.7	59
Hourly Total	**0**	**0**	**103**	**6**	**1**	**1**	**0**	**1**	**112**	**5**	**3**	**538**	**3**	**68**	**14**	**1**	**28**	**660**	**0**	**0**	**226**	**40**	**0**	**14**	**3**	**0**	**283**	**113.5**	**690.5**	**293.9**
1100 - 1115	0	0	25	2	0	1	0	0	28	0	1	98	0	7	5	0	6	117	0	0	53	8	1	4	0	0	66	28.5	124.9	68
1115 - 1130	0	0	22	1	0	0	0	0	23	1	1	107	6	15	2	0	10	142	0	0	44	9	0	3	2	0	58	23	151.6	62.1
1130 - 1145	0	1	29	2	0	0	0	0	32	0	1	138	3	19	4	1	8	174	0	0	60	6	0	6	2	0	74	31.4	184.7	79.6
1145 - 1200	0	0	24	0	0	1	0	0	25	0	2	132	1	15	4	0	5	159	0	0	70	7	0	5	1	0	83	25.5	164.8	86.8
Hourly Total	**0**	**1**	**100**	**5**	**0**	**2**	**0**	**0**	**108**	**1**	**5**	**475**	**10**	**56**	**15**	**1**	**29**	**592**	**0**	**0**	**227**	**30**	**1**	**18**	**5**	**0**	**281**	**108.4**	**626**	**296.5**
1200 - 1215	0	0	28	3	0	0	0	1	32	0	0	118	5	12	4	0	8	147	0	0	66	5	0	4	2	0	77	33	157	81.6
1215 - 1230	0	0	26	2	0	0	0	0	28	1	0	135	5	11	4	0	6	162	0	0	54	9	1	8	1	0	73	28	169.2	78.3
1230 - 1245	0	0	22	2	0	1	1	0	26	0	0	121	3	11	4	0	10	149	0	0	71	16	0	4	3	0	94	27.8	161	99.9
1245 - 1300	0	0	19	1	0	0	0	0	20	1	1	146	3	11	2	0	3	167	0	0	77	12	0	4	0	0	93	20	169.6	95
Hourly Total	**0**	**0**	**95**	**8**	**0**	**1**	**1**	**1**	**106**	**2**	**1**	**520**	**16**	**45**	**14**	**0**	**27**	**625**	**0**	**0**	**268**	**42**	**1**	**20**	**6**	**0**	**337**	**108.8**	**656.8**	**354.8**
1300 - 1315	0	0	18	4	0	0	0	2	24	0	0	121	1	7	1	0	11	141	0	0	78	11	0	4	2	0	95	26	152.5	99.6
1315 - 1330	0	0	15	0	0	1	0	0	16	2	2	123	1	8	3	0	4	143	0	0	72	9	0	3	2	0	86	16.5	145.7	90.1
1330 - 1345	0	0	18	1	0	0	0	0	19	0	1	174	2	14	2	0	9	202	0	0	71	10	0	5	0	0	86	19	211.4	88.5
1345 - 1400	0	0	20	3	0	0	0	0	23	0	1	139	2	18	3	1	8	172	0	0	72	12	0	6	1	0	91	23	182.2	95.3
Hourly Total	**0**	**0**	**71**	**8**	**0**	**1**	**0**	**2**	**82**	**2**	**4**	**557**	**6**	**47**	**9**	**1**	**32**	**658**	**0**	**0**	**293**	**42**	**0**	**18**	**5**	**0**	**358**	**84.5**	**691.8**	**373.5**
1400 - 1415	0	0	19	2	0	1	0	1	23	1	1	130	4	15	2	0	6	159	0	0	75	15	0	7	6	0	103	24.5	164.6	114.3
1415 - 1430	0	1	15	2	0	1	0	0	19	1	3	133	5	20	1	0	12	175	0	0	50	10	0	3	2	0	65	18.9	184.9	69.1
1430 - 1445	0	0	18	0	0	0	0	0	18	0	2	136	3	11	3	1	7	163	0	0	67	8	0	4	3	0	82	18	171.6	87.9
1445 - 1500	0	0	22	0	0	0	0	0	22	1	1	118	1	16	5	0	10	152	0	0	77	18	0	4	1	0	100	22	163.1	103.3
Hourly Total	**0**	**1**	**74**	**4**	**0**	**2**	**0**	**1**	**82**	**3**	**7**	**517**	**13**	**62**	**11**	**1**	**35**	**649**	**0**	**0**	**269**	**51**	**0**	**18**	**12**	**0**	**350**	**83.4**	**684.2**	**374.6**
1500 - 1515	0	0	25	4	0	0	0	1	30	2	1	83	5	7	2	1	10	111	0	0	58	9	1	5	1	0	74	31	121.1	77.8
1515 - 1530	0	0	27	5	0	1	0	0	33	1	2	103	6	14	1	0	9	136	0	0	47	14	0	4	1	0	66	33.5	143.5	69.3
1530 - 1545	0	0	24	3	0	0	0	1	28	0	0	104	1	23	1	0	7	136	0	0	76	11	0	4	0	0	91	29	143.5	93
1545 - 1600	0	0	23	2	0	0	0	0	25	0	1	115	1	15	1	2	12	147	0	0	79	10	0	2	1	0	92	25	161.5	94.3
Hourly Total	**0**	**0**	**99**	**14**	**0**	**1**	**0**	**2**	**116**	**3**	**4**	**405**	**13**	**59**	**5**	**3**	**38**	**530**	**0**	**0**	**260**	**44**	**1**	**15**	**3**	**0**	**323**	**118.5**	**569.6**	**334.4**
1600 - 1615	0	1	21	4	0	2	0	0	28	0	1	117	1	14	2	0	5	140	0	0	91	16	0	3	2	0	112	28.4	145.4	116.1
1615 - 1630	0	0	19	1	0	1	0	1	22	1	2	123	2	9	4	0	11	152	0	0	89	16	0	4	0	0	109	23.5	163	111
1630 - 1645	0	0	18	0	0	0	1	0	19	1	1	127	3	12	0	0	10	154	0	0	107	12	0	4	0	0	123	20.3	162.6	125
1645 - 1700	0	0	19	2	0	1	0	0	22	2	1	139	0	12	4	0	11	169	0	0	82	9	1	3	2	0	97	22.5	179.8	101.1
Hourly Total	**0**	**1**	**77**	**7**	**0**	**4**	**1**	**1**	**91**	**4**	**5**	**506**	**6**	**47**	**10**	**0**	**37**	**615**	**0**	**0**	**369**	**53**	**1**	**14**	**4**	**0**	**441**	**94.7**	**650.8**	**453.2**
1700 - 1715	0	0	22	5	0	3	0	1	31	1	2	143	2	14	1	0	11	174	0	0	104	13	0	4	1	0	122	33.5	183.5	125.3
1715 - 1730	0	0	25	4	0	0	0	2	31	1	0	167	1	4	0	0	11	184	0	0	96	8	0	0	1	0	105	33	194.2	106.3
1730 - 1745	0	0	21	7	0	4	0	1	33	1	1	156	1	3	0	0	7	169	0	0	99	5	0	1	0	0	105	36	174.6	105.5
1745 - 1800	0	0	18	3	0	2	0	0	23	2	1	140	0	7	1	0	5	156	0	0	86	1	0	1	1	0	89	24	159.3	90.8
Hourly Total	**0**	**0**	**86**	**19**	**0**	**9**	**0**	**4**	**118**	**5**	**4**	**606**	**4**	**28**	**2**	**0**	**34**	**683**	**0**	**0**	**385**	**27**	**0**	**6**	**3**	**0**	**421**	**126.5**	**711.6**	**427.9**
1800 - 1815	0	0	14	4	0	1	0	1	20	4	1	110	1	8	0	0	8	132	0	0	87	5	0	0	1	0	93	21.6	136.2	94.3
1815 - 1830	0	0	11	1	0	2	0	0	14	0	1	138	0	2	0	0	10	151	0	0	85	3	0	1	0	0	89	15	160.4	89.5
1830 - 1845	0	0	9	3	0	0	0	0	12	1	0	107	1	4	0	0	1	114	0	0	78	6	0	0	0	0	84	12	114.2	84
1845 - 1900	0	0	10	1	0	1	0	0	12	0	1	157	0	4	0	0	8	170	0	0	79	4	0	0	1	1	85	12.5	177.4	87.3
Hourly Total	**0**	**0**	**44**	**9**	**0**	**4**	**0**	**1**	**58**	**5**	**3**	**512**	**2**	**18**	**0**	**0**	**27**	**567**	**0**	**0**	**329**	**18**	**0**	**1**	**2**	**1**	**351**	**61**	**588.2**	**355.1**

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Vehicle
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: C - B506

	Left to D									N/B to A									Right to B											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	N/B PCU	Right PCU
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	117	15	0	1	4	0	137	0	0	10	2	0	0	0	0	12	0	142.7	12
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	108	14	0	4	2	0	128	0	0	10	1	0	0	0	0	11	0	132.6	11
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	160	20	0	6	1	0	187	0	0	20	1	0	0	0	0	21	0	191.3	21
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	168	11	0	2	1	0	182	0	0	9	2	0	1	0	0	12	0	184.3	12.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**553**	**60**	**0**	**13**	**8**	**0**	**634**	**0**	**0**	**49**	**6**	**0**	**1**	**0**	**0**	**56**	**0**	**650.9**	**56.5**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	128	10	0	1	4	0	143	0	0	13	0	0	0	0	0	13	0	148.7	13
0815 - 0830	0	0	0	0	0	0	0	0	0	0	1	147	9	1	3	2	0	163	0	0	24	0	0	0	0	0	24	0	166.5	24
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	115	15	0	2	2	0	134	0	0	11	1	0	2	0	0	14	0	137.6	15
0845 - 0900	0	0	0	0	0	0	0	0	0	1	2	112	9	1	3	6	0	134	0	1	15	2	0	1	0	0	19	0	141.3	18.9
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**502**	**43**	**2**	**9**	**14**	**0**	**574**	**0**	**1**	**63**	**3**	**0**	**3**	**0**	**0**	**70**	**0**	**594.1**	**70.9**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	1	119	8	1	4	3	0	136	0	0	23	4	0	0	0	0	27	0	141.3	27
0915 - 0930	0	0	0	0	0	0	0	0	0	0	1	96	11	0	5	3	1	117	0	0	14	2	0	0	0	0	16	0	123.8	16
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	110	19	0	10	5	0	144	0	0	19	0	0	0	0	1	20	0	155.5	21
0945 - 1000	0	0	0	0	0	0	0	0	0	0	1	105	20	0	3	9	0	138	0	0	23	2	0	1	0	0	26	0	150.6	26.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**430**	**58**	**1**	**22**	**20**	**1**	**535**	**0**	**0**	**79**	**8**	**0**	**1**	**0**	**1**	**89**	**0**	**571.2**	**90.5**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	71	11	0	5	7	0	94	0	0	13	5	0	2	0	0	20	0	105.6	21
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	77	14	0	6	5	0	102	0	0	22	2	0	0	0	0	24	0	111.5	24
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	72	11	0	5	3	0	91	0	0	23	5	0	1	1	0	30	0	97.4	31.8
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	71	15	0	1	3	0	90	0	0	24	4	0	1	0	0	29	0	94.4	29.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**291**	**51**	**0**	**17**	**18**	**0**	**377**	**0**	**0**	**82**	**16**	**0**	**4**	**1**	**0**	**103**	**0**	**408.9**	**106.3**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	63	13	1	3	6	0	86	0	0	20	3	0	0	0	0	23	0	95.3	23
1115 - 1130	0	0	0	0	0	0	0	0	0	0	1	73	13	0	6	9	0	102	0	0	27	4	0	3	0	0	34	0	116.1	35.5
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	71	11	0	4	1	0	87	0	0	18	4	0	1	0	0	23	0	90.3	23.5
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	53	18	0	5	6	0	82	0	0	17	0	0	1	0	0	18	0	92.3	18.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**260**	**55**	**1**	**18**	**22**	**0**	**357**	**0**	**0**	**82**	**11**	**0**	**5**	**0**	**0**	**98**	**0**	**394**	**100.5**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	79	23	0	7	6	0	115	0	0	37	2	0	1	0	0	40	0	126.3	40.5
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	67	15	1	2	6	0	91	0	2	30	3	0	1	0	1	37	0	99.8	37.3
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	76	15	0	10	4	0	105	0	0	15	1	0	0	0	0	16	0	115.2	16
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	94	21	0	6	4	0	125	0	0	24	3	0	0	0	0	27	0	133.2	27
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**316**	**74**	**1**	**25**	**20**	**0**	**436**	**0**	**2**	**106**	**9**	**0**	**2**	**0**	**1**	**120**	**0**	**474.5**	**120.8**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	81	7	0	5	0	0	93	0	0	23	1	0	1	0	1	26	0	95.5	27.5
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	87	9	0	4	4	0	104	0	0	31	2	0	0	0	1	34	0	111.2	35
1330 - 1345	0	0	0	0	0	0	0	0	0	0	1	71	14	0	9	6	0	101	0	0	12	1	0	0	0	0	13	0	112.7	13
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	91	13	0	3	6	0	113	0	0	22	5	0	0	0	0	27	0	122.3	27
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**330**	**43**	**0**	**21**	**16**	**0**	**411**	**0**	**0**	**88**	**9**	**0**	**1**	**0**	**2**	**100**	**0**	**441.7**	**102.5**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	80	14	0	7	4	0	105	0	0	18	0	0	0	0	0	18	0	113.7	18
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	112	11	0	7	2	0	132	0	0	29	9	0	3	0	1	42	0	138.1	44.5
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	63	15	0	5	4	1	88	0	0	21	2	0	0	0	0	23	0	96.7	23
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	80	18	0	1	6	2	107	0	0	14	1	0	0	0	2	17	0	117.3	19
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**335**	**58**	**0**	**20**	**16**	**3**	**432**	**0**	**0**	**82**	**12**	**0**	**3**	**0**	**3**	**100**	**0**	**465.8**	**104.5**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	80	17	1	5	3	0	106	0	0	26	3	0	1	0	0	30	0	112.4	30.5
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	100	15	0	7	4	0	126	0	0	21	2	0	0	0	2	25	0	134.7	27
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	103	21	0	3	3	0	130	0	0	26	2	0	0	1	1	30	0	135.4	32.3
1545 - 1600	0	0	0	0	0	0	0	0	0	1	0	94	14	0	5	2	2	118	0	0	18	2	0	1	0	1	22	0	124.3	23.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**377**	**67**	**1**	**20**	**12**	**2**	**480**	**0**	**0**	**91**	**9**	**0**	**2**	**1**	**4**	**107**	**0**	**506.8**	**113.3**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	91	24	0	7	7	1	130	0	0	18	0	0	0	0	0	18	0	143.6	18
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	130	21	0	5	4	0	160	0	0	17	2	0	1	0	0	20	0	167.7	20.5
1630 - 1645	0	0	0	0	0	0	0	0	0	0	2	140	28	0	1	2	0	173	0	0	19	4	0	0	0	0	23	0	174.9	23
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	148	20	1	4	3	0	176	0	0	28	4	0	0	0	0	32	0	181.9	32
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**509**	**93**	**1**	**17**	**16**	**1**	**639**	**0**	**0**	**82**	**10**	**0**	**1**	**0**	**0**	**93**	**0**	**668.1**	**93.5**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	1	132	11	0	4	0	0	148	0	0	39	0	0	0	0	0	39	0	149.4	39
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	99	18	0	0	1	0	118	0	0	24	0	0	0	0	0	24	0	119.3	24
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	124	12	0	0	0	1	137	0	0	23	0	0	0	0	1	24	0	138	25
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	113	13	0	1	0	2	129	0	0	26	0	0	0	0	0	26	0	131.5	26
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**468**	**54**	**0**	**5**	**1**	**3**	**532**	**0**	**0**	**112**	**0**	**0**	**0**	**0**	**1**	**113**	**0**	**538.2**	**114**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	1	92	9	0	2	1	1	106	0	0	25	2	0	0	0	0	27	0	108.7	27
1815 - 1830	0	0	0	0	0	0	0	0	0	0	1	100	9	0	2	0	1	113	0	0	29	1	0	0	0	1	31	0	114.4	32
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	102	9	0	1	0	1	113	0	0	21	1	0	0	0	0	22	0	114.5	22

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Vehicle
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

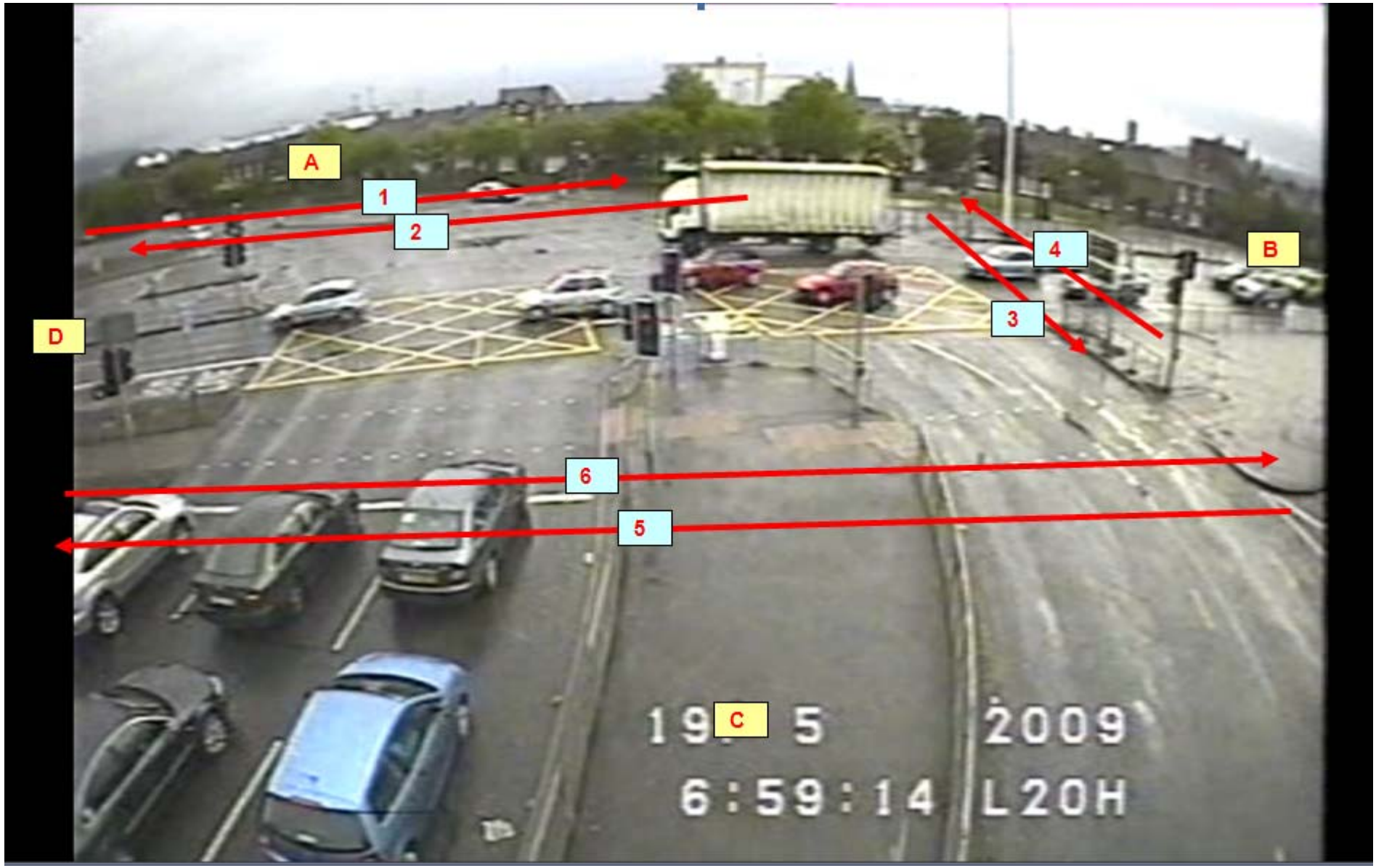
Produced by Streetwise Services Ltd.

Junction: (3) A / B / C / D

Approach: D - A20 (West)

	Left to A									E/B to B									Right to C											
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	E/B PCU	Right PCU
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	21	0	7	3	0	2	33	0	0	4	0	0	0	0	0	4	0	36.5	4
0715 - 0730	0	0	0	0	0	0	0	0	0	0	8	49	0	12	2	0	6	77	0	0	10	0	0	0	0	1	11	0	79.2	12
0730 - 0745	0	0	0	0	0	0	0	0	0	4	0	72	0	8	2	0	8	94	0	0	20	0	0	1	0	0	21	0	99.8	21.5
0745 - 0800	0	0	0	0	0	0	0	0	0	3	0	72	1	12	3	0	7	98	0	0	24	1	0	1	0	1	27	0	104.1	28.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**8**	**214**	**1**	**39**	**10**	**0**	**23**	**302**	**0**	**0**	**58**	**1**	**0**	**2**	**0**	**2**	**63**	**0**	**319.6**	**66**
0800 - 0815	0	0	0	0	0	0	0	0	0	1	0	82	2	16	4	0	8	113	1	1	20	2	0	1	0	0	25	0	122.2	24.1
0815 - 0830	0	0	0	0	0	0	0	0	0	2	0	98	1	15	0	0	6	122	0	0	22	5	0	1	0	1	29	0	126.4	30.5
0830 - 0845	0	0	0	0	0	0	0	0	0	1	1	98	1	13	2	0	10	126	0	0	16	1	0	1	0	0	18	0	135.6	18.5
0845 - 0900	0	0	0	0	0	0	0	0	0	1	0	99	2	13	3	1	8	127	0	0	19	2	0	1	0	0	22	0	137	22.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**377**	**6**	**57**	**9**	**1**	**32**	**488**	**1**	**1**	**77**	**10**	**0**	**4**	**0**	**1**	**94**	**0**	**521.2**	**95.6**
0900 - 0915	0	0	0	0	0	0	0	0	0	3	0	104	0	16	2	0	8	133	0	0	16	1	0	2	0	0	19	0	139.6	20
0915 - 0930	0	0	0	0	0	0	0	0	0	0	2	97	0	7	2	0	10	118	0	0	23	2	0	1	0	1	27	0	127.8	28.5
0930 - 0945	0	0	0	0	0	0	0	0	0	0	3	67	1	16	2	1	9	99	0	0	18	4	0	0	0	0	22	0	108.5	22
0945 - 1000	0	0	0	0	0	0	0	0	0	0	2	73	0	21	0	0	7	103	0	0	16	2	0	1	0	0	19	0	108.8	19.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**7**	**341**	**1**	**60**	**6**	**1**	**34**	**453**	**0**	**0**	**73**	**9**	**0**	**4**	**0**	**1**	**87**	**0**	**484.7**	**90**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	2	102	1	13	3	1	8	130	0	1	20	4	0	1	0	0	26	0	139.6	25.9
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	81	3	17	2	1	7	111	0	1	16	3	0	1	0	1	22	0	120.3	22.9
1030 - 1045	0	0	0	0	0	0	0	0	0	0	1	92	0	28	6	0	7	134	0	0	19	5	0	1	0	0	25	0	143.4	25.5
1045 - 1100	0	0	0	0	0	0	0	0	0	0	2	123	2	14	4	0	7	152	0	1	15	2	0	2	0	0	20	0	159.8	20.4
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**398**	**6**	**72**	**15**	**2**	**29**	**527**	**0**	**3**	**70**	**14**	**0**	**5**	**0**	**1**	**93**	**0**	**563.1**	**94.7**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	1	98	0	16	8	0	5	128	0	0	13	1	0	0	0	0	14	0	136.4	14
1115 - 1130	0	0	0	0	0	0	0	0	0	0	1	93	1	10	1	0	9	115	0	0	21	1	0	2	0	0	24	0	123.9	25
1130 - 1145	0	0	0	0	0	0	0	0	0	0	2	94	1	20	4	0	7	128	1	0	20	5	0	1	0	0	27	0	135.8	26.7
1145 - 1200	0	0	0	0	0	0	0	0	0	0	1	112	1	15	3	1	7	140	0	0	19	3	0	0	0	0	22	0	149.2	22
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**397**	**3**	**61**	**16**	**1**	**28**	**511**	**1**	**0**	**73**	**10**	**0**	**3**	**0**	**0**	**87**	**0**	**545.3**	**87.7**
1200 - 1215	0	0	0	0	0	0	0	0	0	1	1	109	0	16	6	0	6	139	0	0	32	8	0	0	0	0	40	0	146.6	40
1215 - 1230	0	0	0	0	0	0	0	0	0	0	2	137	2	9	1	0	9	160	0	1	27	4	0	1	0	0	33	0	168.3	32.9
1230 - 1245	0	0	0	0	0	0	0	0	0	1	0	120	1	18	3	0	6	149	0	0	25	6	0	0	0	0	31	0	155.7	31
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	110	3	16	2	0	8	139	0	0	22	5	0	1	0	0	28	0	148	28.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**476**	**6**	**59**	**12**	**0**	**29**	**587**	**0**	**1**	**106**	**23**	**0**	**2**	**0**	**0**	**132**	**0**	**618.6**	**132.4**
1300 - 1315	0	0	0	0	0	0	0	0	0	1	3	135	1	12	3	1	6	162	0	1	29	4	0	0	0	0	34	0	168.2	33.4
1315 - 1330	0	0	0	0	0	0	0	0	0	1	2	112	3	22	1	0	7	148	0	0	24	5	0	0	0	1	30	0	153.5	31
1330 - 1345	0	0	0	0	0	0	0	0	0	0	3	114	1	18	4	0	8	148	0	0	22	4	0	0	0	0	26	0	156.2	26
1345 - 1400	0	0	0	0	0	0	0	0	0	2	1	118	2	12	5	0	6	146	0	0	22	3	1	1	0	0	27	0	152.3	27.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**9**	**479**	**7**	**64**	**13**	**1**	**27**	**604**	**0**	**1**	**97**	**16**	**1**	**1**	**0**	**1**	**117**	**0**	**630.2**	**117.9**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	3	125	9	18	0	0	9	164	0	2	30	3	1	1	0	0	37	0	171.2	36.3
1415 - 1430	0	0	0	0	0	0	0	0	0	2	2	112	6	11	2	0	8	143	0	2	25	4	1	1	0	1	34	0	149.2	34.3
1430 - 1445	0	0	0	0	0	0	0	0	0	1	4	125	2	21	2	0	7	162	0	0	19	10	1	0	0	0	30	0	166.8	30
1445 - 1500	0	0	0	0	0	0	0	0	0	1	1	120	15	16	1	0	9	163	0	0	25	0	1	1	0	0	27	0	171.1	27.5
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**10**	**482**	**32**	**66**	**5**	**0**	**33**	**632**	**0**	**4**	**99**	**17**	**4**	**3**	**0**	**1**	**128**	**0**	**658.3**	**128.1**
1500 - 1515	0	0	0	0	0	0	0	0	0	1	4	118	6	13	4	1	9	156	0	0	24	2	0	1	0	0	27	0	165.1	27.5
1515 - 1530	0	0	0	0	0	0	0	0	0	3	3	120	2	20	1	0	10	159	0	2	27	5	0	2	0	1	37	0	165.3	37.8
1530 - 1545	0	0	0	0	0	0	0	0	0	3	1	131	6	22	1	1	10	175	0	1	30	2	1	0	0	0	34	0	183.8	33.4
1545 - 1600	0	0	0	0	0	0	0	0	0	2	5	178	5	17	2	1	6	216	1	1	31	4	1	1	0	0	39	0	219.7	38.1
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**13**	**547**	**19**	**72**	**8**	**3**	**35**	**706**	**1**	**4**	**112**	**13**	**2**	**4**	**0**	**1**	**137**	**0**	**733.9**	**136.8**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	5	186	1	13	0	1	8	214	2	1	42	2	2	0	0	0	49	0	220.3	46.8
1615 - 1630	0	0	1	0	0	0	0	0	1	0	4	211	3	12	1	0	10	241	0	1	30	0	1	0	0	1	33	1	249.1	33.4
1630 - 1645	0	0	0	0	0	0	0	0	0	5	6	198	5	22	0	0	9	245	1	0	35	2	1	0	0	0	39	0	246.4	38.2
1645 - 1700	0	0	0	0	0	0	0	0	0	1	4	201	6	9	1	0	11	233	0	0	42	2	1	0	0	0	45	0	241.3	45
Hourly Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**19**	**796**	**15**	**56**	**2**	**1**	**38**	**933**	**3**	**2**	**149**	**6**	**5**	**0**	**0**	**1**	**166**	**1**	**957.1**	**163.4**
1700 - 1715	0	0	0	0	0	0	0	0	0	8	7	214	7	12	0	0	9	257	2	0	47	2	1	0	0	1	53	0	255.4	52.4
1715 - 1730	0	0	0	0	0	0	0	0	0	5	0	213	8	8	1	0	15	250	0	1	66	2	2	1	0	0	72	0	261.5	71.9
1730 - 1745	0	0	0	0	0	0	0	0	0	6	2	256	0	13	0	0	11	288	0	2	61	3	1	0	0	1	68	0	293	67.8
1745 - 1800	0	0	0	0	0	0	0	0	0	6	3	289	6	6	0	0	10	320	2	1	54	1	2	0	0	1	61	0	323.4	59.8
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**12**	**972**	**21**	**39**	**1**	**0**	**45**	**1115**	**4**	**4**	**228**	**8**	**6**	**1**	**0**	**3**	**254**	**0**	**1133.3**	**251.9**
1800 - 1815	0	0	0	0	0	0	0	0	0	11	2	257	7	4	0	0	8	289	0	1	73	1	3	1	0	0	79	0	287	78.9
1815 - 1830	0	0	0	0	0	0	0	0	0	1	5	277	9	10	1	0	7	310	1	0	41	1	0	0	0	1	44	0	313.7	44.2
1830 - 1845	0	0	0	0	0	0	0	0	0	4	0	184	8	7	1	0	6	210	0	1	34	2	0	0	0	0	37	0	212.2	36.4

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Vehicle
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0


A
1
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19 5 2009
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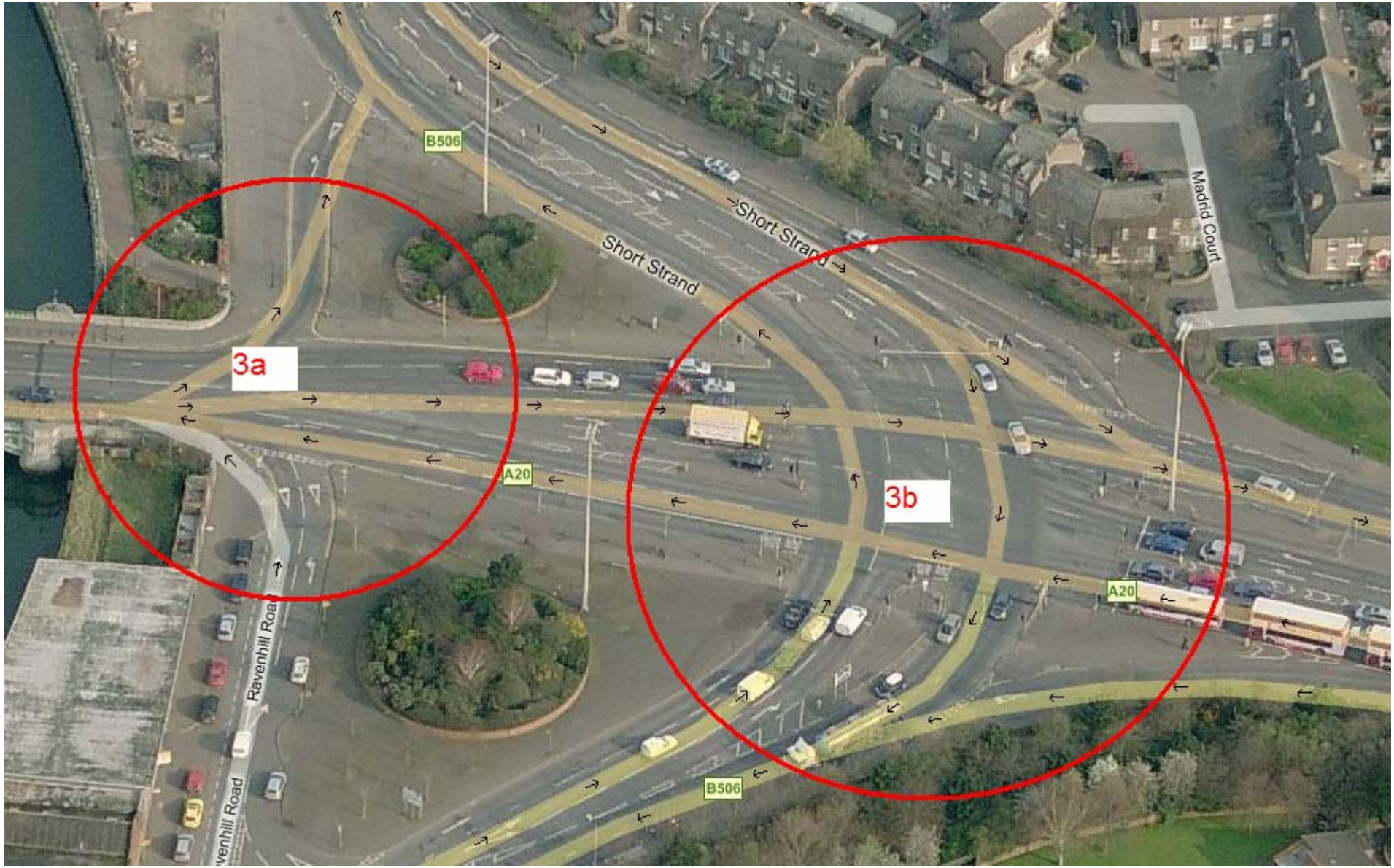
B506
Short Strand
Short Strand
Madrid Court
3a
A20
3b
A20
Ravenhill Road
venhill Road
B506

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (6) A / B / C / D / E

Approach: A - Unclassified Road

	First Left to B									Second Left to C									S/B to D									Right to E									1st Left PCU	2nd Left PCU	S/B PCU	Right PCU
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL				
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**5**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**6**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**8**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**6**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**8**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**8**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**0**	**10**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**8**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	**8**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	4
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**6**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	3
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**5**	**0**	**0**	**0**	**9**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Veh
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (6) A / B / C / D / E

Approach: B - A2 (East)

	First Left to C									Second Left to D									Right to E									Last Right to A												
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	1st Left PCU	2nd Left PCU	Right PCU	Ist Right PCU
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	0	4	0	0	2	74	0	0	0	0	0	0	0	0	0	0	0	76	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	98	0	6	0	0	0	106	0	0	0	0	0	0	0	0	0	0	0	104.8	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	142	0	6	0	0	2	153	0	0	0	0	0	0	0	0	0	0	0	153	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	172	0	4	0	0	0	178	0	0	0	0	0	0	0	0	0	0	0	176.8	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**480**	**0**	**20**	**0**	**0**	**4**	**511**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**510.6**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	190	0	6	1	0	1	201	0	0	0	0	0	0	0	0	0	0	0	200.7	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	188	0	4	0	0	1	197	0	0	0	0	0	0	0	0	0	0	0	195.6	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	187	0	5	0	0	1	194	0	0	0	0	0	0	0	0	0	0	0	194.4	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	200	0	6	1	0	0	208	0	0	0	0	0	0	0	0	0	0	0	207.9	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**765**	**0**	**21**	**2**	**0**	**3**	**800**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**798.6**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	179	0	8	0	0	1	191	0	0	0	0	0	0	0	0	0	0	0	190.2	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	181	0	7	2	1	0	192	0	0	0	0	0	0	0	0	0	0	0	193.7	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	152	0	5	1	0	2	162	0	0	0	0	0	0	0	0	0	0	0	163.3	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	125	0	10	1	1	1	140	0	0	0	0	0	0	0	0	0	0	0	141.6	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**637**	**0**	**30**	**4**	**2**	**4**	**685**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**688.8**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	101	0	10	1	0	1	114	0	0	0	0	0	0	0	0	0	0	0	114.9	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	97	0	1	2	0	1	102	0	0	0	0	0	0	0	0	0	0	0	103.4	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	0	4	4	0	0	102	0	0	0	0	0	0	0	0	0	0	0	104	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	99	0	5	2	0	1	109	0	0	0	0	0	0	0	0	0	0	0	109.8	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**391**	**0**	**20**	**9**	**0**	**3**	**427**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**432.1**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	10	0	0	3	88	0	0	0	0	0	0	0	0	0	0	0	91	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	0	9	4	0	1	75	0	0	0	0	0	0	0	0	0	0	0	78	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	0	12	2	0	0	83	0	0	0	0	0	0	0	0	0	0	0	84	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	62	0	4	0	0	1	68	0	0	0	0	0	0	0	0	0	0	0	68.4	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**267**	**0**	**35**	**6**	**0**	**5**	**314**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**321.4**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	0	8	0	0	2	84	0	0	0	0	0	0	0	0	0	0	0	86	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0	6	1	0	1	88	0	0	0	0	0	0	0	0	0	0	0	89.5	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	84	0	6	0	0	2	93	0	0	0	0	0	0	0	0	0	0	0	94.4	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	0	6	0	0	2	95	0	0	0	0	0	0	0	0	0	0	0	97	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**325**	**0**	**26**	**1**	**0**	**7**	**360**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**366.9**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85	0	3	0	0	1	89	0	0	0	0	0	0	0	0	0	0	0	90	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	0	2	1	0	1	87	0	0	0	0	0	0	0	0	0	0	0	88.5	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	82	0	5	2	0	1	91	0	0	0	0	0	0	0	0	0	0	0	92.4	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	76	2	4	1	0	0	84	0	0	0	0	0	0	0	0	0	0	0	83.9	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**326**	**2**	**14**	**4**	**0**	**3**	**351**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**354.8**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	70	0	3	1	0	3	78	0	0	0	0	0	0	0	0	0	0	0	80.9	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	87	2	3	1	0	0	95	0	0	0	0	0	0	0	0	0	0	0	94.3	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	0	7	0	0	0	69	0	0	0	0	0	0	0	0	0	0	0	69	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67	0	5	1	0	3	76	0	0	0	0	0	0	0	0	0	0	0	79.5	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**286**	**2**	**18**	**3**	**0**	**6**	**318**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**323.7**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	0	7	0	0	1	71	0	0	0	0	0	0	0	0	0	0	0	72	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	64	0	5	2	0	0	73	0	0	0	0	0	0	0	0	0	0	0	72.8	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	1	3	1	0	1	65	0	0	0	0	0	0	0	0	0	0	0	66.5	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	60	0	7	0	1	1	71	0	0	0	0	0	0	0	0	0	0	0	72.1	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**246**	**1**	**22**	**3**	**1**	**3**	**280**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**283.4**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	68	0	4	1	0	1	77	0	0	0	0	0	0	0	0	0	0	0	76.5	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	71	1	2	1	0	0	76	0	0	0	0	0	0	0	0	0	0	0	75.9	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	63	0	6	0	0	2	72	0	0	0	0	0	0	0	0	0	0	0	73.4	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	86	0	15	0	1	2	105	0	0	0	0	0	0	0	0	0	0	0	107.7	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**288**	**1**	**27**	**2**	**1**	**5**	**330**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**333.5**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	77	0	3	0	0	2	86	0	0	0	0	0	0	0	0	0	0	0	85.6	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	1	9	0	0	1	80	0	0	0	0	0	0	0	0	0	0	0	81	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73	1	4	0	0	2	80	0	0	0	0	0	0	0	0	0	0	0	82	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	0	6	0	0	1	112	0	0	0	0	0	0	0	0	0	0	0	113	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**324**	**2**	**22**	**0**	**0**	**6**	**358**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**361.6**	**0**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	71	2	2	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	75.4	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	76	0	0	1	0	1	79	0	0	0	0	0	0	0	0	0	0	0	79.9	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	0	0	1	0	0	63	0	0	0	0	0	0	0	0	0	0	0	63.5	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	3	1	0	0	62	0	0	0	0	0	0	0	0	0	0	0	62.5	0

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Veh
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (6) A / B / C / D / E

Approach: C - A20 Newtownards Road

	Left to D									W/B to E									Right to A									Last Right to B												
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	W/B PCU	Right PCU	Lst Right PCU
0700 - 0715	0	6	182	0	33	7	10	3	241	1	1	124	0	8	3	0	0	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	256.9	137.1	0	0
0715 - 0730	0	2	233	0	49	10	8	2	304	1	1	195	0	21	3	1	2	224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	320.2	227.4	0	0
0730 - 0745	0	3	268	0	45	9	9	2	336	0	2	261	0	24	2	1	1	291	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	352.4	293.1	0	0
0745 - 0800	1	1	277	0	43	9	8	0	339	0	2	266	0	22	6	0	2	298	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	352.5	301.8	0	0
Hourly Total	**1**	**12**	**960**	**0**	**170**	**35**	**35**	**7**	**1220**	**2**	**6**	**846**	**0**	**75**	**14**	**2**	**5**	**950**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1282**	**959.4**	**0**	**0**
0800 - 0815	2	1	265	0	33	8	7	4	320	0	1	294	0	22	1	0	2	320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	334.9	321.9	0	0
0815 - 0830	0	1	287	0	37	8	7	4	344	1	1	257	0	18	2	5	2	286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	360.5	294.1	0	0
0830 - 0845	1	2	311	0	32	11	9	5	371	0	1	230	0	16	9	3	0	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	391.2	266.8	0	0
0845 - 0900	0	1	262	0	37	18	6	3	327	0	1	276	1	22	3	2	3	308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	346.2	314.5	0	0
Hourly Total	**3**	**5**	**1125**	**0**	**139**	**45**	**29**	**16**	**1362**	**1**	**4**	**1057**	**1**	**78**	**15**	**10**	**7**	**1173**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1432.8**	**1197.3**	**0**	**0**
0900 - 0915	0	0	281	0	48	14	7	4	354	1	0	233	1	18	1	1	3	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	374.1	262	0	0
0915 - 0930	0	1	231	0	42	12	7	10	303	0	1	196	0	16	5	3	2	223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	327.5	230.8	0	0
0930 - 0945	0	0	175	0	36	15	8	4	238	0	1	162	1	25	6	3	2	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259.9	208.3	0	0
0945 - 1000	2	5	172	0	31	14	4	3	231	0	1	138	0	18	5	1	2	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	241.6	170.2	0	0
Hourly Total	**2**	**6**	**859**	**0**	**157**	**55**	**26**	**21**	**1126**	**1**	**3**	**729**	**2**	**77**	**17**	**8**	**9**	**846**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1203.1**	**871.3**	**0**	**0**
1000 - 1015	1	1	167	0	27	17	5	2	220	0	1	108	0	24	1	3	3	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235.6	146.8	0	0
1015 - 1030	0	2	150	0	19	15	6	5	197	0	0	148	0	8	5	3	1	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	216.1	172.4	0	0
1030 - 1045	1	1	134	0	46	12	4	4	202	0	0	97	0	2	6	1	2	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215.8	114.3	0	0
1045 - 1100	0	0	128	0	38	13	8	3	190	0	1	106	0	17	3	1	3	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	209.9	136.2	0	0
Hourly Total	**2**	**4**	**579**	**0**	**130**	**57**	**23**	**14**	**809**	**0**	**2**	**459**	**0**	**51**	**15**	**8**	**9**	**544**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**877.4**	**569.7**	**0**	**0**
1100 - 1115	0	0	143	0	38	11	4	2	198	0	1	118	0	22	7	1	3	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210.7	159.2	0	0
1115 - 1130	0	0	151	0	29	15	5	3	203	0	1	114	0	21	8	1	0	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	149.7	0	0
1130 - 1145	0	0	179	0	43	17	11	0	250	0	1	109	2	12	5	1	3	133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	272.8	139.2	0	0
1145 - 1200	1	0	138	0	40	13	7	2	201	0	2	130	0	17	3	0	2	154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217.8	156.3	0	0
Hourly Total	**1**	**0**	**611**	**0**	**150**	**56**	**27**	**7**	**852**	**0**	**5**	**471**	**2**	**72**	**23**	**3**	**8**	**584**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**921.3**	**604.4**	**0**	**0**
1200 - 1215	0	0	145	0	25	10	5	2	187	0	1	118	0	18	6	0	3	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200.5	151.4	0	0
1215 - 1230	1	0	165	0	30	18	5	2	221	0	1	126	0	13	5	2	0	147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	237.7	151.5	0	0
1230 - 1245	0	3	174	0	26	17	6	3	229	0	1	135	0	16	2	0	4	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	246.5	162.4	0	0
1245 - 1300	0	1	146	0	27	10	7	4	195	0	1	144	0	23	2	1	1	172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212.5	174.7	0	0
Hourly Total	**1**	**4**	**630**	**0**	**108**	**55**	**23**	**11**	**832**	**0**	**4**	**523**	**0**	**70**	**15**	**3**	**8**	**623**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**897.2**	**640**	**0**	**0**
1300 - 1315	0	0	158	0	33	14	9	1	215	0	0	99	0	17	1	2	1	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234.7	124.1	0	0
1315 - 1330	0	2	182	0	32	15	9	2	242	0	0	100	0	8	2	0	2	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	262	115	0	0
1330 - 1345	0	1	142	0	26	17	2	3	191	0	0	150	0	23	5	1	3	182	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	204.5	188.8	0	0
1345 - 1400	0	1	174	0	27	17	8	1	228	0	2	133	0	17	2	1	4	159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	247.3	164.1	0	0
Hourly Total	**0**	**4**	**656**	**0**	**118**	**63**	**28**	**7**	**876**	**0**	**2**	**482**	**0**	**65**	**10**	**4**	**10**	**573**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**948.5**	**592**	**0**	**0**
1400 - 1415	0	2	180	0	36	18	5	2	243	0	1	120	0	18	4	1	2	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	259.3	150.7	0	0
1415 - 1430	0	1	178	0	34	10	6	1	230	0	1	115	0	13	8	1	3	141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	243.2	148.7	0	0
1430 - 1445	0	1	183	0	35	14	7	3	243	0	1	120	0	15	7	0	4	147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	261.5	153.9	0	0
1445 - 1500	0	2	188	0	34	12	5	7	248	0	1	117	0	12	3	0	2	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	266.3	137.9	0	0
Hourly Total	**0**	**6**	**729**	**0**	**139**	**54**	**23**	**13**	**964**	**0**	**4**	**472**	**0**	**58**	**22**	**2**	**11**	**569**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1030.3**	**591.2**	**0**	**0**
1500 - 1515	0	1	217	0	43	15	7	6	289	0	1	112	0	13	4	0	1	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	311	133.4	0	0
1515 - 1530	1	0	165	0	32	14	3	3	218	0	3	107	0	18	6	0	2	136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	231.1	139.2	0	0
1530 - 1545	0	1	219	0	42	12	4	6	284	0	1	127	0	16	2	0	2	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300.6	150.4	0	0
1545 - 1600	1	2	245	0	38	18	3	4	311	0	1	114	0	21	4	1	3	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	325.9	149.7	0	0
Hourly Total	**2**	**4**	**846**	**0**	**155**	**59**	**17**	**19**	**1102**	**0**	**6**	**460**	**0**	**68**	**16**	**1**	**8**	**559**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1168.6**	**572.7**	**0**	**0**
1600 - 1615	0	1	272	0	33	15	3	2	326	0	2	123	0	20	5	3	3	156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	338.8	164.2	0	0
1615 - 1630	0	1	286	0	44	14	3	5	353	0	1	152	3	16	3	0	2	177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	368.3	179.9	0	0
1630 - 1645	0	0	275	0	68	10	2	2	357	1	3	140	1	27	4	0	1	177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	366.6	177.4	0	0
1645 - 1700	2	3	327	0	35	7	2	2	378	0	1	166	0	24	0	1	4	196	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	382.7	200.7	0	0
Hourly Total	**2**	**5**	**1160**	**0**	**180**	**46**	**10**	**11**	**1414**	**1**	**7**	**581**	**4**	**87**	**12**	**4**	**10**	**706**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1456.4**	**722.2**	**0**	**0**
1700 - 1715	0	4	366	0	29	3	0	0	402	0	1	140	0	16	5	0	2	164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	401.1	167.9	0	0
1715 - 1730	0	2	322	0	20	2	0	5	351	0	1	125	1	7	3	0	3	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	355.8	143.9	0	0
1730 - 1745	0	2	298	0	27	6	1	4	338	0	0	135	0	8	2	0	1	146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	345.1	148	0	0
1745 - 1800	0	3	273	0	10	1	0	2	289	0	0	133	1	9	0	0	1	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	289.7	145	0	0
Hourly Total	**0**	**11**	**1259**	**0**	**86**	**12**	**1**	**11**	**1380**	**0**	**2**	**533**	**2**	**40**	**10**	**0**	**7**	**594**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1391.7**	**604.8**	**0**	**0**
1800 - 1815	1	2	261	0	12	3	0	5	284	0	1	117	0	6	1	0	1	126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	288.5	126.9	0	0
1815 - 1830	2	2	293	0	15	4	0	9	325	0	2	121	0	6	0	0	2	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	333.2	131.8	0	0
1830 - 1845	1	2	226	0	20	4	1	8	272	0	0	106	0	7	1	0	0	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	281.2	114.5	0	0

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Veh
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

Produced by Streetwise Services Ltd.

Junction: (6) A / B / C / D / E

Approach: D - A23 Short Strand

	Left to E									N/B to A									Right to B									Last Right to C												
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	Left PCU	N/B PCU	Right PCU	Last Right PCU
0700 - 0715	1	4	231	0	32	6	9	5	288	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	304.5	0	0	0
0715 - 0730	1	1	273	0	36	18	14	6	349	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	380.8	0	0	0
0730 - 0745	0	3	356	0	51	15	2	6	433	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	447.3	0	0	0
0745 - 0800	0	2	416	0	58	5	6	3	490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	502.1	0	0	0
Hourly Total	**2**	**10**	**1276**	**0**	**177**	**44**	**31**	**20**	**1560**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1634.7**	**0**	**0**	**0**
0800 - 0815	0	2	386	0	42	6	4	2	442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	451	0	0	0
0815 - 0830	1	5	389	2	41	6	4	2	450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	456.4	0	0	0
0830 - 0845	1	3	380	1	39	10	3	0	437	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	443.3	0	0	0
0845 - 0900	0	2	371	0	42	16	8	3	442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	462.2	0	0	0
Hourly Total	**2**	**12**	**1526**	**3**	**164**	**38**	**19**	**7**	**1771**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1812.9**	**0**	**0**	**0**
0900 - 0915	0	2	327	0	32	21	2	3	387	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	401.9	0	0	0
0915 - 0930	1	2	247	1	36	17	10	3	317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	339.5	0	0	0
0930 - 0945	0	1	285	1	54	16	8	1	366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	384.8	0	0	0
0945 - 1000	0	2	227	1	38	13	14	2	297	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	322.5	0	0	0
Hourly Total	**1**	**7**	**1086**	**3**	**160**	**67**	**34**	**9**	**1367**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1448.7**	**0**	**0**	**0**
1000 - 1015	0	1	189	0	32	14	11	2	249	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271.7	0	0	0
1015 - 1030	0	0	185	0	35	14	6	3	243	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260.8	0	0	0
1030 - 1045	0	0	185	0	33	12	1	3	234	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	244.3	0	0	0
1045 - 1100	0	3	161	0	32	9	6	1	212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223.5	0	0	0
Hourly Total	**0**	**4**	**720**	**0**	**132**	**49**	**24**	**9**	**938**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1000.3**	**0**	**0**	**0**
1100 - 1115	0	0	164	0	52	12	9	4	241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	262.7	0	0	0
1115 - 1130	0	1	161	0	33	12	12	1	220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242	0	0	0
1130 - 1145	0	0	174	0	31	13	3	2	223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235.4	0	0	0
1145 - 1200	0	0	164	0	67	14	6	3	254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271.8	0	0	0
Hourly Total	**0**	**1**	**663**	**0**	**183**	**51**	**30**	**10**	**938**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1011.9**	**0**	**0**	**0**
1200 - 1215	0	1	187	0	35	22	5	3	253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	272.9	0	0	0
1215 - 1230	0	0	192	0	46	16	8	1	263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	282.4	0	0	0
1230 - 1245	0	1	188	0	46	16	6	1	258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	274.2	0	0	0
1245 - 1300	0	1	221	0	46	15	4	3	290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	305.1	0	0	0
Hourly Total	**0**	**3**	**788**	**0**	**173**	**69**	**23**	**8**	**1064**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1134.6**	**0**	**0**	**0**
1300 - 1315	0	0	199	0	30	14	6	4	253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271.8	0	0	0
1315 - 1330	0	0	232	0	33	11	7	2	285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	301.6	0	0	0
1330 - 1345	0	2	203	0	37	18	7	2	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	287.9	0	0	0
1345 - 1400	0	0	230	0	37	12	8	3	290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	309.4	0	0	0
Hourly Total	**0**	**2**	**864**	**0**	**137**	**55**	**28**	**11**	**1097**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1170.7**	**0**	**0**	**0**
1400 - 1415	0	1	216	0	46	12	12	1	288	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	310	0	0	0
1415 - 1430	0	0	229	0	33	13	5	1	281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	295	0	0	0
1430 - 1445	0	0	284	0	36	14	11	6	351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	378.3	0	0	0
1445 - 1500	0	0	201	0	64	14	2	5	286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300.6	0	0	0
Hourly Total	**0**	**1**	**930**	**0**	**179**	**49**	**30**	**13**	**1202**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1277.9**	**0**	**0**	**0**
1500 - 1515	0	1	209	0	45	16	3	2	276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	289.3	0	0	0
1515 - 1530	0	3	223	0	46	18	4	4	298	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	314.4	0	0	0
1530 - 1545	0	1	234	0	40	11	5	2	293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	306.4	0	0	0
1545 - 1600	0	2	255	0	48	8	7	6	326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	343.9	0	0	0
Hourly Total	**0**	**7**	**921**	**0**	**179**	**53**	**19**	**14**	**1193**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1254**	**0**	**0**	**0**
1600 - 1615	0	3	312	1	60	21	7	4	408	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	429.8	0	0	0
1615 - 1630	0	1	311	0	50	12	8	5	387	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	407.8	0	0	0
1630 - 1645	0	2	304	0	60	8	1	1	376	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	381.1	0	0	0
1645 - 1700	0	1	387	0	54	8	3	1	454	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	462.3	0	0	0
Hourly Total	**0**	**7**	**1314**	**1**	**224**	**49**	**19**	**11**	**1625**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1681**	**0**	**0**	**0**
1700 - 1715	0	5	339	0	33	9	4	3	393	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	402.7	0	0	0
1715 - 1730	0	2	313	2	32	2	3	2	356	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	361.7	0	0	0
1730 - 1745	0	1	380	1	24	2	0	2	410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	412	0	0	0
1745 - 1800	0	0	292	0	21	2	1	1	317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	320.3	0	0	0
Hourly Total	**0**	**8**	**1324**	**3**	**110**	**15**	**8**	**8**	**1476**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1497.1**	**0**	**0**	**0**
1800 - 1815	0	2	283	0	24	3	4	2	318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	325.5	0	0	0

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Veh
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OGV2 = 2.3
Bus/coach = 2.0

Belfast Eway - Manual Traffic Survey, Tuesday 19th May 2009

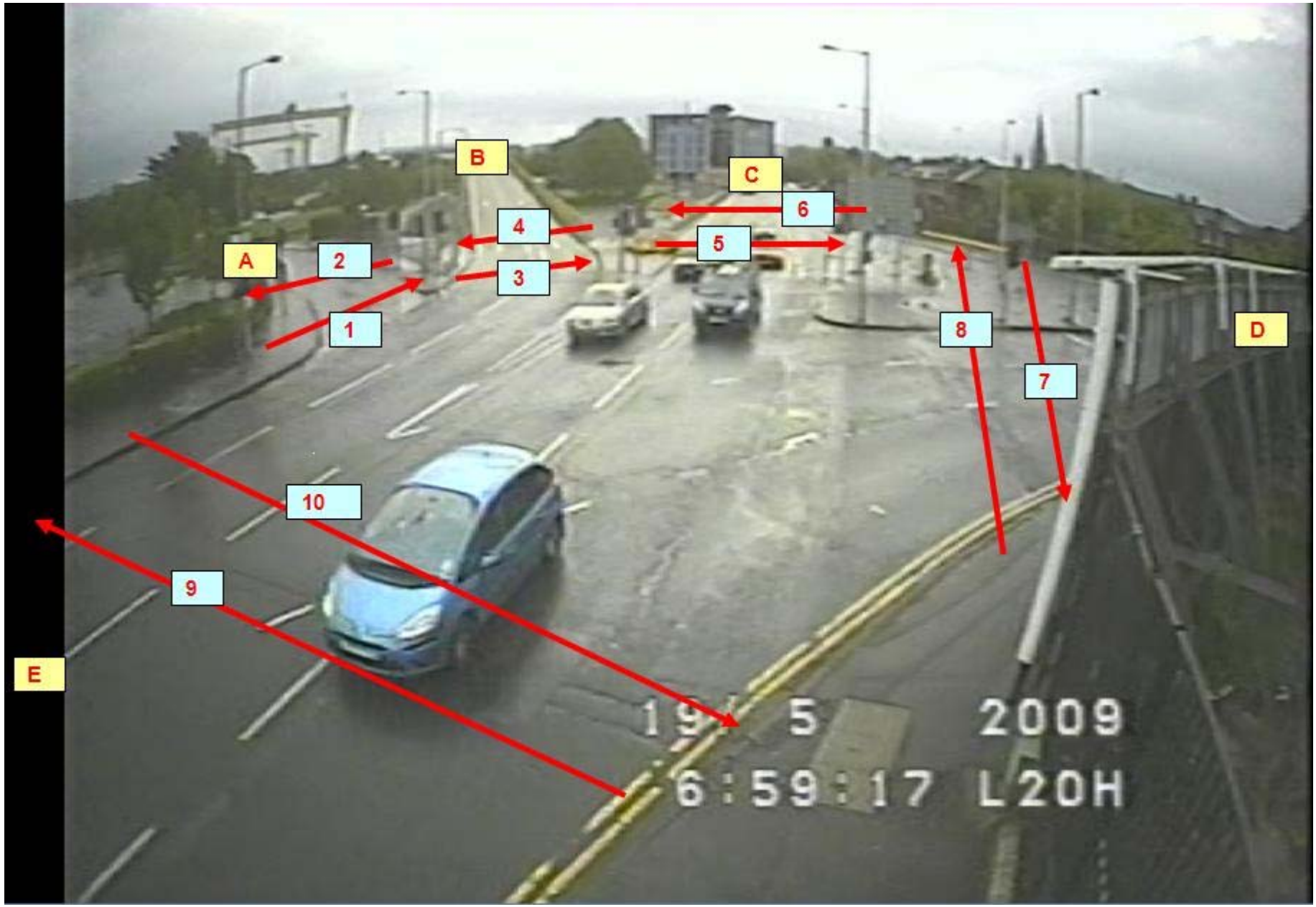
Produced by Streetwise Services Ltd.

Junction: (6) A / B / C / D / E

Approach: E - A2 (West)

	First Left to A									Second Left to B									E/B to C									Right to D									1st Left PCU	2nd Left PCU	E/B PCU	Right PCU
TIME	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	TAXI	LGV	OGV1	OGV2	BUS	TOTAL				
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1000 - 1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015 - 1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030 - 1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1100 - 1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115 - 1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130 - 1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1200 - 1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215 - 1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230 - 1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1300 - 1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315 - 1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330 - 1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1400 - 1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415 - 1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430 - 1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1500 - 1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515 - 1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530 - 1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1800 - 1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815 - 1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bicycle = 0.2
Motorcycle = 0.4
Car = 1.0
Light Goods Veh
OGV1 = 1.5
OGV2 = 2.3
Bus/coach = 2.0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19 5 2009
6:59:17 L20H

Appendix C: Adjustment Factors Applied to Model

Nitrogen Dioxide

Site	Year	2009 Annual Mean Concentration (µg/m^3)		Percentage Difference
		Monitored	Modelled	
Stockman's Lane	2009	67	66	-1.5%

Verification and adjustment of the Dispersion Modelling for nitrogen dioxide applied to Westlink 1 and Westlink 2

Automatic Monitoring Site	Year	Annual Mean NOx Concentration (in µg/m^3 as NO2)							Annual Mean NO2 Concentration (in µg/m^3)		
		Measured	Background Concentration	Measured Road Contribution	Unadjusted Modelled Road Contribution	Verification Factor	Adjusted Modelled Road Contribution	Adjusted Modelled Total	Modelled Road Contribution	Modelled Total	Measured
Stockman's Lane	2009	177	25	152	43	3.5	150.5	175.5	49.4	66	67