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Appendix 6A
Transport Assessment

now part of

Development of Bristol Airport to Accommodate 12 mppa

Transport Assessment

On behalf of Bristol Airport Limited

Project Ref: 44321/5501 | Rev: Final | Date: December 2018

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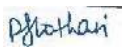
	Ritika Kothari	Graduate Engineer		
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0 Executive Summary

0.1 Introduction

0.1.1 As part of an approach to meeting passenger demand, Bristol Airport Limited (BAL) is seeking planning permission to increase the permitted passenger cap from 10 million passengers per annum (mppa) to 12 mppa. To accommodate the additional 2 mppa, existing infrastructure will be improved, new infrastructure delivered and current operations amended (the Proposed Development).

0.1.2 This executive summary provides a concise, high-level overview of the background, purpose, methodology, important findings, conclusions and recommendations of the Transport Assessment (TA) prepared by Peter Brett Associates LLP (PBA) in support of the planning application for development of Bristol Airport to Accommodate 12 mppa.

0.1.3 In 2017, Bristol Airport saw throughput of over 8.2 mppa, making it the ninth busiest UK airport and the third largest regional airport in England. Leading low cost, charter and full service airlines currently fly from Bristol Airport to over 120 destinations across 34 countries.

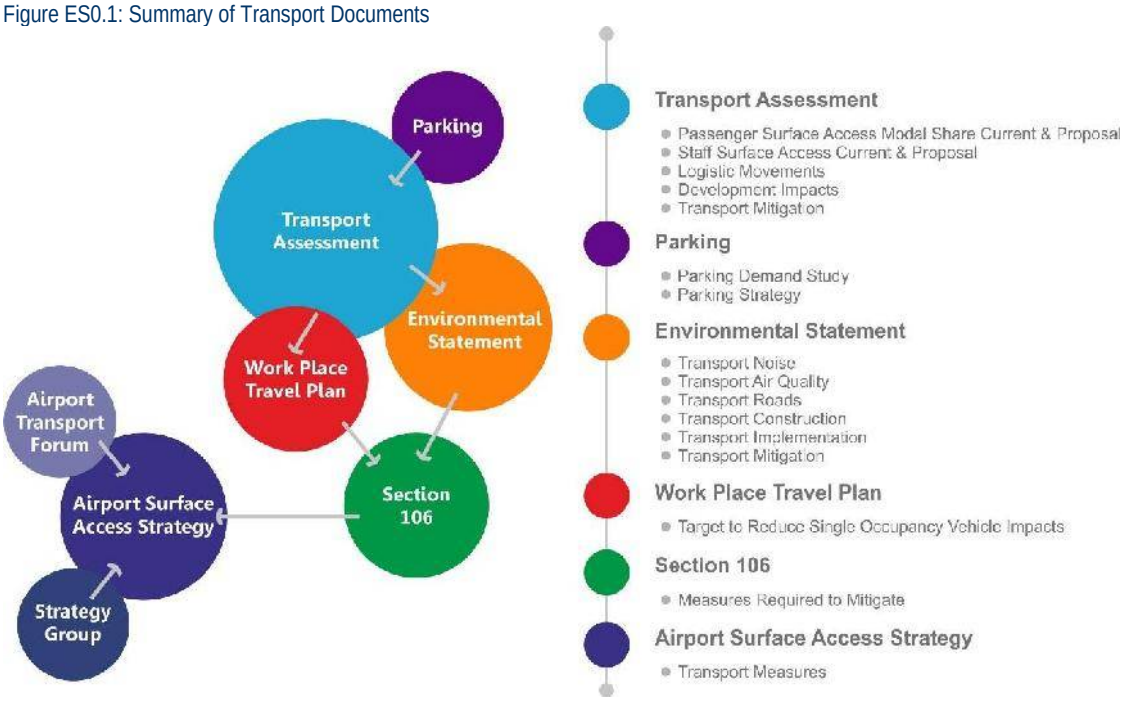
0.1.4 BAL was granted planning permission by North Somerset Council (NSC) on the 16th February 2011 for the development of Bristol Airport to accommodate 10mppa. The consent has the following planning condition:

> *'Condition 65: The passenger throughput at Bristol International Airport shall not exceed 10 million passengers in any 12-month period (to be taken from 1st January to 31st December in any calendar year – unless a different 12-month start and end date is agreed) unless separate planning permission is granted'.*

0.1.5 Between 2010 and 2017, investment totalling over £160 million has been made in a significant upgrade of facilities and infrastructure at the Bristol Airport site.

0.1.6 This TA should be read in conjunction with the suite of planning application documents submitted as part of the application, including: Workplace Travel Plan (WTP), Parking Demand Study, Parking Strategy and Environmental Impact Assessment (EIA). **Figure ES 0.1** provides a description of each transport document and how they relate to one another.

Figure ES0.1: Summary of Transport Documents



Pre-Application Discussions

0.1.7 Scoping and engagement has taken place with key stakeholders including NSC, Bristol City Council (BCC), Bath and North East Somerset Council (BaNES), Somerset County Council (SCC) and Highways England as part of the formal pre-application process.

0.1.8 A TA Scoping Report was submitted to the key stakeholders and was formally commented on by officers. In addition to the TA Scoping Report, a further Technical Note was submitted which sought to address comments raised by officers. It was agreed to base the TA on a core test related to a forecast passenger public transport mode share of 15%, which would be applied to the increase in passengers from 8.2 mppa (2017) to 10 mppa and 12 mppa. It has also been accepted that post-submission, sensitivity testing regarding the forecast passenger modal share would be undertaken and submitted for consideration as part of any officer recommendations on the application.

0.1.9 The TA seeks to support the development of an ambitious Airport Surface Access Strategy (ASAS) that meets the requirements of key stakeholders.

0.2 Bristol Airport Site

0.2.1 Bristol Airport is situated on a ridge of high ground called Broadfield Down, with the A370 Bristol to Weston-super-Mare 4km to the north and the M5 motorway 11km to the west of the site. The A38 carriageway is directly adjacent to the airport, on its eastern extent.

10 mppa Surface Access Strategy

0.2.1 An ambitious target of 15% for passengers to travel to and from Bristol Airport by public transport was agreed as part of the 10 mppa consent. Paragraph 2.1 of the Fourth Schedule to the 10 mppa S106 agreement dated 16 February 2011, amongst other obligations, relates to surface access and states:

'Details of service improvements that BAL will undertake in order to increase the modal share of air transport passengers travelling to and from the Airport by public transport to 15% when

the Airport achieves an air passenger throughput of 10 million passengers per annum through the procurement of improved public transport services to and from the Airport'.

0.2.2 **Table ES 0.1** sets out the key public transport measures to meet this target and progress towards the measures.

Table ES 0.1: Key Public Transport Measures & Progress

Description	Target	Progress To-Date
Bristol City Centre	8 buses an hour	8 buses an hour
Weston-super-Mare	2 buses an hour	1 bus an hour
Bath and Devon	Develop services	2 buses an hour to Bath 1 bus an hour to Plymouth
South Wales	Develop service	1 coach every 2 hours to Cardiff
Public Transport Fund	Support for local bus services	Funds support the A5 (Yatton and Winscombe)

0.2.3 It is evident from Table ES 01 that despite not having yet reached 10 mppa, BAL has made significant progress towards these key public transport enhancements.

0.2.4 The 'Bristol Flyer' buses have recently been upgraded to double decker models with leather seats, additional luggage space, free wi-fi and USB sockets, representing a £3 million investment to enhance the service for passengers and employees.

0.2.5 BAL currently has plans in 2021 for the construction of the second phase of the existing multi-storey car park and the construction of the second multi-storey car park (with associated public transport interchange). Once constructed, the consented public transport interchange, which will be situated on top of the new multi-storey car park, will improve the quality of the passenger waiting environment. The public transport interchange will also be connected to the terminal building by a covered walkway to further improve the experience of passengers travelling via public transport.

0.2.6 BAL have recently opened the Silver Zone Staff Transport Hub, which provides 1,000 car parking spaces, of which 24 are specific car share spaces, 16 cycle parking spaces and a motorcycle parking area.

0.3 Policy & Implementation

0.3.1 The methodology set out within the TA incorporates and follows national, regional and local policies relevant to surface and air transport.

0.3.2 BAL has a well-developed approach to support and develop surface access at the Bristol Airport site. BAL remain committed to a comprehensive ASAS which was produced in 2012 and which is regularly reviewed, updated and shaped by the Bristol Airport Transport Forum (ATF). BAL will commit to produce a new and ambitious ASAS in conjunction with the ATF to be secured through a s 106 agreement as part of this application.

0.3.3 The ATF would be supported by a Steering Group, which meets regularly and includes representatives from BAL and NSC, that will identify a series of transport investment priorities designed to improve surface access at the Bristol Airport site.

0.4 Development Proposals

0.4.1 To support the proposed increase in passenger numbers and ensure safe and efficient passenger movement to and around the Bristol airport site, the Proposed Development

includes a number of new infrastructure components, improvements to existing facilities and a number of operational changes. The components of the Proposed Development related to transport are:

Proposed A38 Travel Improvements

- BAL is proposing to undertake a significant improvement of the A38 between the main airport access roundabout and West Lane to accommodate any additional traffic generated by an extra 2 mppa. This incorporates highway widening and junction capacity increases.

- The existing footway / cycle track will remain on the eastern side of the A38, with a new footway provided north of the West Lane junction. An enhanced footway / cycle track will be provided on the western side of the road between the airport and Downside Road, with a footway provided for the section north of the Downside road tying in with the existing facility north of West Lane.

Gyratory Road with Internal Surface Car Parking

- To accommodate vehicle movements and improve flows within Bristol Airport and onto the A38, a two lane, one-way system, gyratory is proposed. This will provide additional capacity onto North Side Road and a connection between the A38 and the northern components of the airport, including the main terminal building, multi-storey car park and surface car parking areas. To the west, the gyratory road serves the airport servicing area and hotel.

- The gyratory also includes a pedestrian footway along its southern edge, linking the main terminal building with the A38. A new zebra crossing will be located across the dual carriageway to the east.

Multi Storey Car Park

- A multi-storey car park (MSCP) to provide approximately 2,150 spaces over five levels will be constructed in the northern area of the Bristol Airport site adjacent to the current MSCP. The MSCP will occupy a footprint of around 1.12ha and be a maximum of 16m above Ordnance Datum (AOD) in height.

Operational Extension to the Silver Zone Car Park (Phase 1)

- The Silver Zone car park extension (Phase 1), located to the south of the fire training ground, is an area of approximately 7.8ha and comprises of 3,650 long-stay car parking spaces surfaced by a grid structure with grassed parking bays divided by asphalt isles and access roads. The site includes associated features such as temporary (seasonal) lighting, CCTV and services. Vehicles access the site via the A38 roundabout and report to the Silver Zone reception where cars are then valet parked.

Extension to the Silver Zone Car Park (Phase 2)

- An extension to the Silver Zone car park is proposed on agricultural land to the south of the existing Silver Zone car park extension (Phase 1). This extension will provide an additional circa 2,700 spaces for year-round use. These will be located immediately south of the existing Silver Zone car park extension area and will occupy a footprint of circa 5.1ha.

- The public will not have access to the car park and instead cars will be valet parked by BAL employees from a central reception facility. This feature fundamentally informs the parking layout, which is anticipated to be block parking only.

0.5 Transport Assessment Methodology

0.5.1 The assessment establishes a comprehensive baseline understanding of the transport conditions and utilises this methodology to forecast the 10 mppa and 12 mppa scenarios.

0.5.2 This assessment uses 2017 as the baseline year for passenger throughput at the Bristol Airport site, drawing on the most recent up to date and validated full calendar years' worth of data. Baseline conditions around the Bristol Airport site have been established by desktop research, site visits, comprehensive traffic surveys, Bristol Airport commercial data and Civil Aviation Authority (CAA) data.

0.5.3 The following data sources have been used in the assessment:

24-hour classified turning counts carried out in July 2018 by Intelligent Data Collection Limited (ID);

Collision data has been obtained and analysed for areas within NSC and BCC for the latest 5-year period;

Employee Travel Survey (2017);

CAA survey data (2015);

CAA published data (2017);

Bristol Airport ticket scanning data (2017);

Bristol Airport published data;

Bristol Airport commercial data (2017); and

Bristol Airport existing flight schedule (Aug 2018).

0.5.4 Travel demand has been determined in the following categories:

Air passengers;

Employees; and

Operational and Logistical movements.

0.5.5 The passenger numbers have been segmented based on origin /destination data from the CAA survey (2015). The areas closest to Bristol Airport have been segmented into the smallest zones to distinguish travel direction.

0.5.6 The 2015 CAA data has been used to understand how modal share varies by journey origin, based on an overall public transport modal share of 12.5% (as reported by BAL using bus ticket information).

0.5.7 In addition, to determine associated traffic volumes with passenger numbers, average group sizes recorded in the 2015 CAA survey have been used for each vehicular mode to understand vehicle occupancy rates.

0.5.8 For employee trips, the Employee Travel Survey (2017) has been used to understand employee catchments and modal share. It is important to note that the trends found within the analysis of the Employee Travel Survey has been applied to the total number of FTEs.

Operational and Logistical Movements

0.5.9 To quantify the effects of the Development Proposals on logistics movements at the Bristol Airport site, BAL have stated that these can be classified in to the following categories:

Fuel Tankers;

Car Rental Deliveries; and

Operational Deliveries.

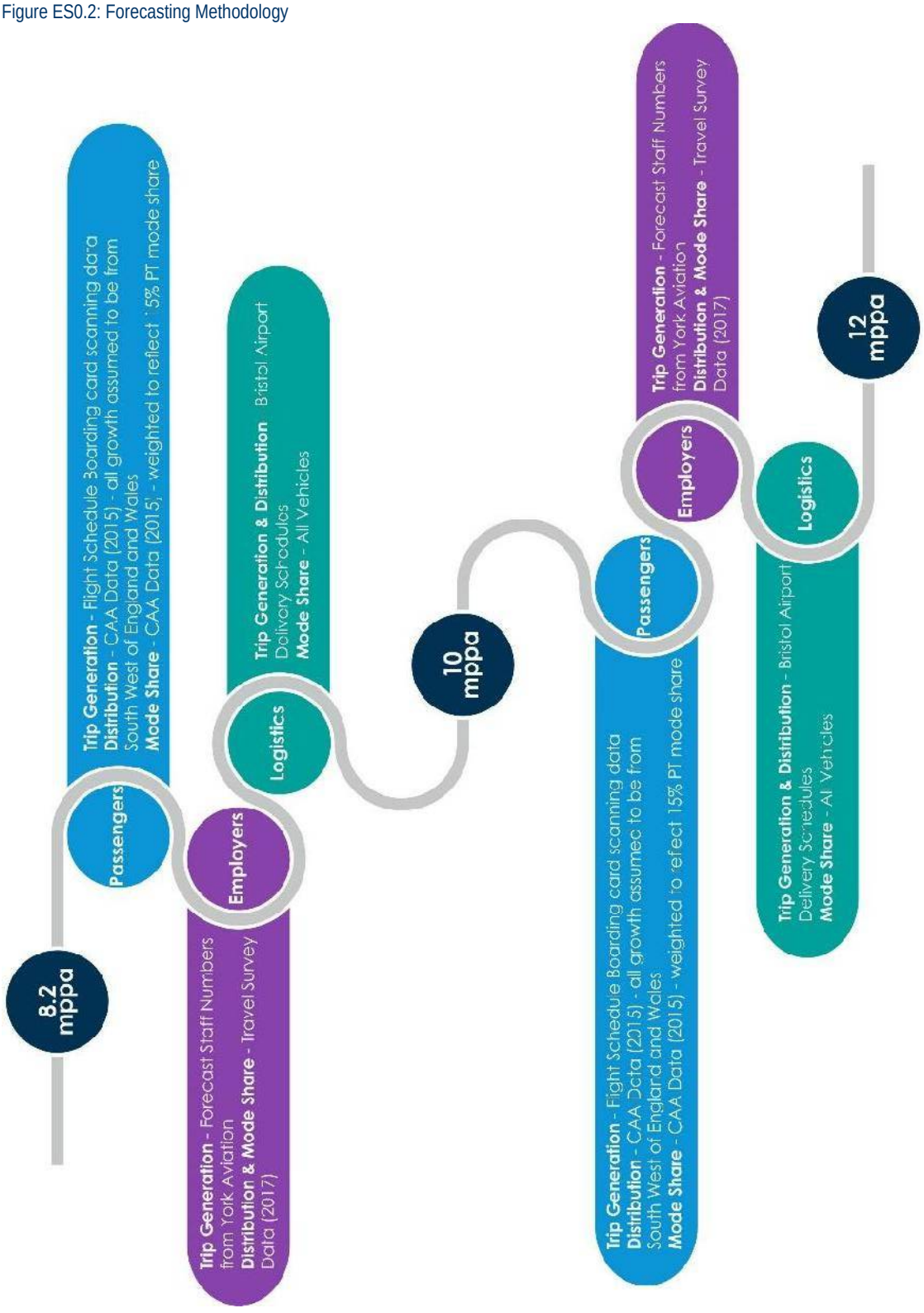
0.5.10 Hourly traffic movements have been derived from delivery and operations information provided by BAL and business partners.

Forecast Travel Demand Methodology

0.5.11 Based on the approach to establish a baseline understanding of the current travel demand associated with Bristol Airport in 2017 (at 8.2 mppa), the future travel demand associated with the 10 mppa and 12 mppa scenarios has been forecast.

0.5.12 **Figure ES.02** demonstrates the forecasting methodology and the relevant data sources used at each stage.

Figure ES0.2: Forecasting Methodology



0.5.13 As BAL have consent for growth up to 10 mppa, the assessment focuses on the transport implications of the growth of Bristol Airport between the 10 mppa and 12 mppa. BAL forecast to reach 12 mppa by the year 2026.

0.5.14 Passenger trips have been calculated using flight schedules and distributed using the most recent CAA data. The assessment in the TA is based on a forecast passenger PT mode share of 15% for the 10 mppa and 12 mppa scenarios. The distribution is based on an assumption that all the passengers associated with the 2 mppa have an origin / destination within the South West of England and Wales, at the same proportions recorded within the 2015 CAA survey.

0.5.15 Employee trips have been calculated using a peak estimation of Full Time Equivalents for August and the mode share and distribution calculated using the most recent Staff Travel Survey results from 2017.

0.5.16 For logistics, information on fuel, car rental and operations deliveries have been quantified by BAL and business partners, which have used to generate vehicle trip profiles for an average day.

0.5.17 The above has been carried out for the existing Bristol Airport operation, and for the consented 10 mppa and 12 mppa Development Proposals.

Assessment Year & Scenarios

0.5.18 The following scenarios have been assessed in the TA:

2026 reference case (10 mppa); and

2026 test case (12 mppa).

0.5.19 Growth rates have been applied to the recorded traffic volumes using the industry standard tool, TEMPro. To provide a robust assessment, the recorded airport-related traffic and background traffic has been scaled up to represent estimated traffic volumes in 2026. The trip generation associated with 12 mppa has been considered in addition to the forecast background traffic, which ensures that forecasting methodology is robust and accounts for potential variations over the peak week and month.

0.6 Existing Surface Access Options

0.6.1 The current surface access to the Bristol Airport site, including public transport services, walking and cycling, private car (parking and drop off), taxi and hire car have been reported in this TA.

0.6.2 Current bus and coach services that provide access to Bristol Airport are set out in **Table ES 0.2**.

Table ES 0.2: Bristol Airport Bus & Coach Services

Service	Route	Frequency	
		Mon-Sat (daytime)	Evening & Sunday
A1	Bristol Airport – Bristol	10 mins	15-20 mins, 60 mins night
A2	Bristol Airport – Bedminster – Bristol	30 mins	30 mins

Service	Route	Frequency	
		Mon-Sat (daytime)	Evening & Sunday
A3	Weston-super-Mare – Worle – Congresbury – Bristol Airport	60 mins	60 mins
A4	Bath – Saltford – Keynsham – Brislington – Hengrove – Bristol Airport	30 mins	30 mins
A5	Winford – Felton – Bristol Airport – Wrington then either Congresbury – Yatton or Churchill – Winscombe	10 journeys Mon-Fri	No service
U2	Clifton – Lulsgate – Upper Langford	60 mins Mon-Fri (term time only)	No service
216	Cardiff – Newport – Bristol Airport	120 mins	120 mins
404	London – Heathrow Airport – Chippenham – Bath – Bristol Airport – Exeter – Newton Abbot – Torbay – Totnes – Plymouth – Truro – Falmouth – Penzance	No service	1 journey night
Falcon	Bristol – Bristol Airport – Bridgwater – Taunton – Cullompton – Exeter – Plymouth	60 mins	120 mins eve, 60 mins Sun
135	Chew Stoke – Chew Magna – Winford – Lulsgate – Wrington – Congresbury – Weston-super-Mare	1 journey Fri	No service
672	Blagdon – Wrington – Lulsgate – Bedminster – Bristol	1-2 journeys	No service

0.6.3 Further consented enhancements related to surface access, such as the increased bus frequency to Weston-super-Mare and the passenger interchange hub connected to the terminal building via covered walkway will enhance passenger and employee accessibility and public transport experience.

0.6.4 There are no direct rail services to Bristol Airport, however there are several stations that are near, and accessible by bus services. The National Rail stations that provide access to Bristol Airport via bus services are set out in **Table ES 0.3**.

Table ES 0.3: National Rail Stations

Station	Distance (km)	Bus Route	Journey Time (off peak)	Bus Frequency (off peak)
Nailsea & Backwell	4.5	None	n/a	n/a
Yatton	8.0	A5	43 mins	Hourly
Parson Street	8.9	A2	14 mins	Half hourly
Bedminster	10.0	A2	21 mins	Half hourly
Bristol Temple Meads	11.4	A1	29 mins	Every 10 minutes
Worle	14.2	A3	28 mins	Hourly
Weston Milton	16.6	A3	35 mins	Hourly
Weston-super-Mare	18.8	A3	44 mins	Hourly
Bath Spa	24.6	A4	70 mins	Half Hourly

0.6.5 As is commonplace with airports across the UK, walking and cycling trips to/from the Bristol Airport site by passengers – many of which are carrying heavy luggage – are minimal. Employees are more likely to commute to the airport by walking and cycling trips, primarily those living in nearby villages. There are 13 villages/other settlements within a 5km radius of Bristol Airport.

0.6.6 Under a 5-year concession arrangement Arrow Cars has the sole right to private hire services at taking bookings at the Bristol Airport site. This does not exclude other operators who can set down or pick up pre-booked passengers from elsewhere; this is directed towards the drop-off and short stay car parks on site.

0.6.7 A total of 16,366 passenger car parking spaces are currently provided on the Bristol Airport site. Silver Zone Seasonal Car park provides 3,650 of these spaces for use between May and October. BAL have recently obtained consent (Ref: 18/P/4007/FULL) for year-round use of the seasonal car park for a temporary period of one year.

0.6.8 BAL have recently opened Silver Zone Employee Transport Hub. Employees use the frequent bus to travel between the transport hub and the existing administration building and terminal building on the northern side of the airport.

0.6.9 BAL does not provide any off-site parking provision. However, there are a number of off-site parking locations (many of which do not have planning permission), some of which are unauthorised and operate within the green belt.

0.6.10 Although it is not possible to quantify the number of unofficial parking areas, as they are not monitored by BAL, a data collection process has been established to monitor the parking areas going forwards.

0.6.11 Bristol Airport has a 113-space express drop off area located immediately in front of the terminal building. The area is designed to enable passenger drop off, with parking available for up to 10 minutes, which currently costs £1. The short stay car park is located opposite the terminal building and is designed as a vehicle waiting area for passenger arrivals / pick up.

0.7 Highway Network

0.7.1 Bristol Airport benefits from three vehicle access points from the highway network. The two primary access points are roundabouts with the A38. The third access to the Bristol Airport site is via Downside identified for operational and emergency use only.

0.7.2 The extent of the traffic survey area was agreed during the pre-application discussions.24-hour classified turning counts and associated queue lengths were recorded at 10 junctions and week-long Automatic Traffic Counts (ATCs) were undertaken on 16 links in July 2018. These surveys were undertaken in July 2018 prior to the school summer holidays.

0.7.3 The assessment year of 2026 has been agreed with key stakeholders. To present a robust assessment, the 2018 recorded traffic volumes flows, which captured both airport and non-airport traffic, scaled up to estimate 2026 traffic volumes using the industry standard tool TEMPro This approach has added an additional 4,021 daily vehicles directly associated with the Bristol Airport site to the 2018 recorded flows.

0.7.4 A personal injury collision (PIC) review has been conducted across agreed study areas in NSC and BCC. This assesses the most recent five-year study period and determines whether there are any integral highway safety issues where there are anticipated to be increase in vehicular, pedestrian and cycle movements associated with the Development Proposals. Analysis has concluded that there is not an existing highway safety concern which could be exacerbated by the development of Bristol Airport to accommodate 12 mppa.

0.8 Bristol Airport Forecast Travel Demand

0.8.1 Following the forecasting methodology detailed in **Section 5.3**, the additional trips between the 10 mppa and 12 mppa scenarios associated with passengers, employees and operations / logistics have been determined for an average weekday in the peak month of August.

0.8.2 The additional 2 mppa in passenger throughput and additional 700 FTEs employed at the Bristol Airport site relates to an increase in travel demand, which the TA has determined for an average week day in the peak month of August:

The total two-way increase in person trips associated with the Development Proposals is 7,533.

The total two-way increase in PT trips associated with the Development Proposals is 1,560.

The total two-way increase in vehicles associated with the Development Proposals is 5,575.

0.9 Surface Access Improvement Opportunities

0.9.1 To ensure sustainable transport modes are encouraged, a new and ambitious ASAS will be developed as a result of ongoing Section 106 discussions and input from the Airport Transport Forum (ATF).

0.9.2 As highlighted in **Table ES 0.1**, BAL has made significant progress towards achieving the consented 10 mppa public transport strategy. The 12 mppa public transport strategy seeks to build on that progress to enhance accessibility and connectivity further.

0.9.3 The ASAS will set out:

Proposed improvements to public transport services;

Travel plan measures designed to encourage access to the Airport by sustainable modes; and

Improvements to local highway infrastructure and on-site car parking provision.

0.9.4 **Table ES 0.4** summarises the key improvement opportunities that have been identified in TA.

Table ES 0.4: Key Surface Access Improvement Opportunities

Area	Opportunity
Public transport	Improvement to bus services and infrastructure on the A370 corridor
	Enhancement of Weston-super-Mare express bus link
	Extension of the public transport fund to support new routes and infrastructure enhancements
	Promotion and development of longer distance bus and coach services
Taxi and private hire	Consideration of Authorised Waiting Zone

Area	Opportunity
Walking and cycling	An enhanced footway / cycle track will be provided on the western side of the A38 between the airport and Downside Road, with a footway provided for the section north of the Downside road tying in with the existing facility north of West Lane.
Road access	Carriageway widening on A38 between north and south access junctions
	Improved capacity at A38/Downside Road junction
Drop offs	Dedicated drop-off zone with public transport interchange

0.10 Forecast Traffic Assignment

To assess the impact of the increase in patronage to 10 and 12 mppa at Bristol Airport, a basic buffer network has been developed within SATURN, the Bristol Airport Strategic Highway Tool (BASHT). It uses an all or nothing assignment method on an unconstrained network, based on link distances between specific nodes and recorded HERE speed data. HERE data is extracted from the databases collected and used by in car satellite navigation systems, so is a good indication of actual journey times at specific times of day.

0.10.1 The tool has been developed for three time periods including;

AM Peak – 08:00 to 09:00;

Airport Peak – 13:00 to 14:00; and

PM Peak – 17:00 to 18:00.

0.10.2 The agreed assessment year is 2026 in line with the completion of the development. To test the impact of the development on the highway, the following scenarios have been assessed:

2026 Baseline + Committed Development (2026 Reference Case including 10 mppa consent); and

2026 Baseline + Committed Development + Proposed 12 mppa Development (2026 Test Case).

0.10.3 **Table ES 0.5** summarises the vehicular increases per junction during the AM (08:00-09:00), PM (17:00-18:00) and Airport Peak (13:00-14:00) periods. For ease of comparison the flows provided are for total vehicles through the junction for each scenario.

Table ES 0.5: Vehicular Increases per Junction

Junction Ref No	Junction Name	Time Period	2026 Reference Case	Forecast Development Traffic	2026 Test Case	% Increase
1	A38 / Bristol Airport Northern Roundabout	AM	2,480	188	2,668	7.6%
		Airport Peak	2,984	531	3,515	17.8%
		PM	3,299	306	3,605	9.3%
2	A38 / Bristol Airport Southern Roundabout	AM	1,935	63	1,997	3.2%
		Airport Peak	1,774	181	1,955	10.2%
		PM	2,081	98	2,179	4.7%
3	Downside Road / Bristol Airport Service Access	AM	788	13	801	1.6%
		Airport Peak	527	27	555	5.1%
		PM	671	30	701	4.5%
4a	A38 / Downside Road	AM	2,908	154	3,062	5.3%
		Airport Peak	2,910	429	3,339	14.7%
		PM	3,496	254	3,750	7.3%
4b	A38 / West Lane	AM	2,587	141	2,728	5.4%
		Airport Peak	2,637	402	3,038	15.2%
		PM	3,078	224	3,302	7.3%
5	A38 / Barrow Lane	AM	2,572	115	2,687	4.5%
		Airport Peak	2,371	329	2,700	13.9%
		PM	2,893	182	3,075	6.3%
6	A38 / Barrow Street	AM	2,777	115	2,892	4.1%
		Airport Peak	2,459	329	2,788	13.4%
		PM	3,014	182	3,196	6.0%
7	A38 / A4174 SBL	AM	3,816	115	3,931	3.0%
		Airport Peak	3,137	329	3,466	10.5%
		PM	3,952	182	4,134	4.6%
8	A370 / A4174 SBL	AM	3,472	64	3,536	1.8%
		Airport Peak	2,962	185	3,147	6.2%
		PM	3,811	99	3,910	2.6%
9	A370 / Brockley Combe Road / Brockley Lane	AM	1,770	10	1,779	0.6%
		Airport Peak	1,402	27	1,429	1.9%
		PM	1,951	29	1,979	1.5%

Junction Ref No	Junction Name	Time Period	2026 Reference Case	Forecast Development Traffic	2026 Test Case	% Increase
10	A370 / Dark Lane / Station Road	AM	1,797	-	1,797	0.0%
		Airport Peak	1,602	-	1,602	0.0%
		PM	2,081	-	2,081	0.0%
11	A370 / Smallway	AM	2,251	13	2,264	0.6%
		Airport Peak	1,937	27	1,965	1.4%
		PM	2,509	30	2,539	1.2%
12	A370 / High Street	AM	2,433	-	2,433	0.0%
		Airport Peak	2,024	-	2,024	0.0%
		PM	2,633	-	2,633	0.0%
13	A38 / A368	AM	2,333	43	2,376	1.8%
		Airport Peak	1,892	124	2,016	6.5%
		PM	2,415	66	2,481	2.7%

0.10.4 The basis for determining which junctions within the study area require more detailed consideration has been described in **Section 10.3**.

0.10.5 In addition, M5 junctions 18 to 22 requested for consideration and numerical assessment by Highways England show minimal increases in vehicle movements, with a maximum increase of 119 two-way movements, which is in the Airport Peak (13:00-14:00) on Junction 22.

0.10.6 The vehicle increases shown at both junctions are unlikely to be considered 'severe' in the context of the NPPF (2018).

0.11 Residual Impacts

0.11.1 BAL are committed to developing an ambitious ASAS through Section 106 and ATF discussions. These proposals will include measures to improve legibility and safety to reduce congestion on the road network surrounding Bristol Airport.

0.11.2 Not without standing this, and based on the analysis presented in **Chapter 10** of the TA the following junctions would require more detailed consideration:

Junction 1 A38 / Bristol Airport Northern Roundabout (existing and proposed layout);

Junction 2 A38 / Bristol Airport Southern Roundabout;

Junction 3 Downside Road / Bristol Airport Service Access;

Junction 4a A38 / Downside Road (existing and proposed layout);

Junction 4b A38 / West Lane (existing and proposed layout);

Junction 5 A38 / Barrow Lane;

Junction 6 A38 / Barrow Street; and

Junction 7 A38 / A4174 SBL.

0.11.3 The agreed assessment year is 2026 in line with the completion of the development. To test the impact of the development on the highway, the following scenarios have been assessed:

2026 Baseline + Committed Development (2026 Reference Case including 10 mppa consent); and

2026 Baseline + Committed Development + Proposed 12 mppa Development (2026 Test Case).

0.11.4 As detailed in Chapter 11 of the TA the following junction are predicted to operate within capacity in each 2026 scenario assessed:

Junction 2 A38 / Bristol Airport Southern Roundabout;

Junction 3 Downside Road / Bristol Airport Service Access;

Junction 5 A38 / Barrow Lane;

Junction 6 A38 / Barrow Street; and

Junction 7 A38 / A4174 SBL.

0.11.5 As part of the Development Proposal significant highway improvements at the following junctions have been identified:

Junction 1 A38 / Bristol Airport Northern Roundabout;

Junction 4a A38 / Downside Road; and

Junction 4b A38 / West Lane.

0.11.6 As detailed in Chapter 11 of the TA the improved junction layouts are predicted to operate within capacity in each 2026 scenario assessed.

0.12 Construction

0.12.1 Vehicle generation estimates for each phase of construction has been provided by QuantumCLS Ltd.

0.12.2 The predicted peak construction phase is predicted to result in substantially lower traffic generation than the operational vehicle generation associated with 12mppa. Given the expected lesser effect on driver delay detailed modelling of the construction phase has not been undertaken.

0.12.3 Construction of the highway improvements associated with the Proposed Development at the A38 junctions with Downside Road and West Lane is predicted to result in short term localised delay during the completion of the works. Confirmation of the traffic management associated with these works will be confirmed during the detailed construction planning and the temporary nature of the works mean it is unlikely to have a significant effect.

0.12.4 It is considered that there are unlikely to be any significant effects on severance, fear and intimidation, pedestrian delay and amenity, driver delay and collision or safety during the construction phases.

0.13 Summary & Conclusions

0.13.1 This section provides the main summary and conclusions within the TA (**Chapter 13**) as a useful synopsis of the more extensive TA document.

0.13.2 Analysis of the policy context concludes that the proposed development is consistent with and supports policy aims and objectives at a national, regional and local level. The principle of the expansion of the operation at Bristol Airport is supported at both a national regional level.

0.13.3 An ambitious and updated ASAS will be developed in partnership with the ATF. BAL is committed to continuing to promote more sustainable means of surface access. An updated ASAS will achieve this based on the success of similar recent investments. For example, the recent public transport investment by BAL has increased the frequency of the Airport Flyer to Bristol City Centre to 8 buses an hour, in upgraded double decker buses.

0.13.4 An assessment year of 2026 has been evaluated, since this is the point at which passenger numbers are forecast to reach 12 mppa, subject to the Development Proposals gaining planning consent. The July 2018 traffic surveys, which informs the established baseline traffic conditions, includes airport and non-airport traffic and relates to estimated passenger numbers of 8.6 mppa. The traffic volumes within the survey have been factored up to estimate the future background traffic conditions in the year 2026. A separate trip generation exercise has been carried out which estimates the transport effects of the increase in passengers from the 8.2 mppa scenario to the 10 and 12 mppa. Therefore, the assessment is robust as the background traffic volumes scaled up to the year 2026 include airport-related traffic equivalent to ~1.4 mppa.

0.13.5 There will be a continued growth in demand for bus and coach services to and from the Bristol Airport site for both passengers and employees. BAL has a successful track record in facilitating and promoting additional or new bus and coach services to meet demand as it arises through the new and ambitious ASAS.

0.13.6 The TA has identified a number of mitigation measures which will be implemented or continued in order to offset or reduce the impacts of growth to 12 mppa. Such measures include highway improvements, on-site parking improvements as well as commitments to public transport and sustainable transport improvements.

0.13.7 Overall, this TA demonstrates that the Development Proposals will not have a significant adverse impact on the operation of the wider local or strategic highway network even allowing for the robust traffic flow forecast approach, and that the junction improvements proposed will provide a significant improvement in the local area compared with the currently permitted scheme.

0.13.8 In addition, significant improvements are being made for public transport provision and a comprehensive package of further improvements is being explored through the ATF and ASAS.

0.13.9 The application is therefore considered to be policy compliant and the measures proposed will more than mitigate any potentially adverse impacts compared with the permitted development.

1 Introduction

1.1 Overview

1.1.1 This Transport Assessment (TA) supports a planning application for the development by Bristol Airport Limited (BAL) to North Somerset Council (NSC). The planning application seeks permission to expand Bristol Airport beyond the permitted passenger cap of 10 million passengers per annum (mppa) to 12 mppa.

1.1.2 Bristol Airport is located on the A38, approximately 11km south-west of Bristol city centre and within the local authority administrative area of NSC. Operated by BAL, it is the principal airport and main international gateway for the South West of England and South Wales.

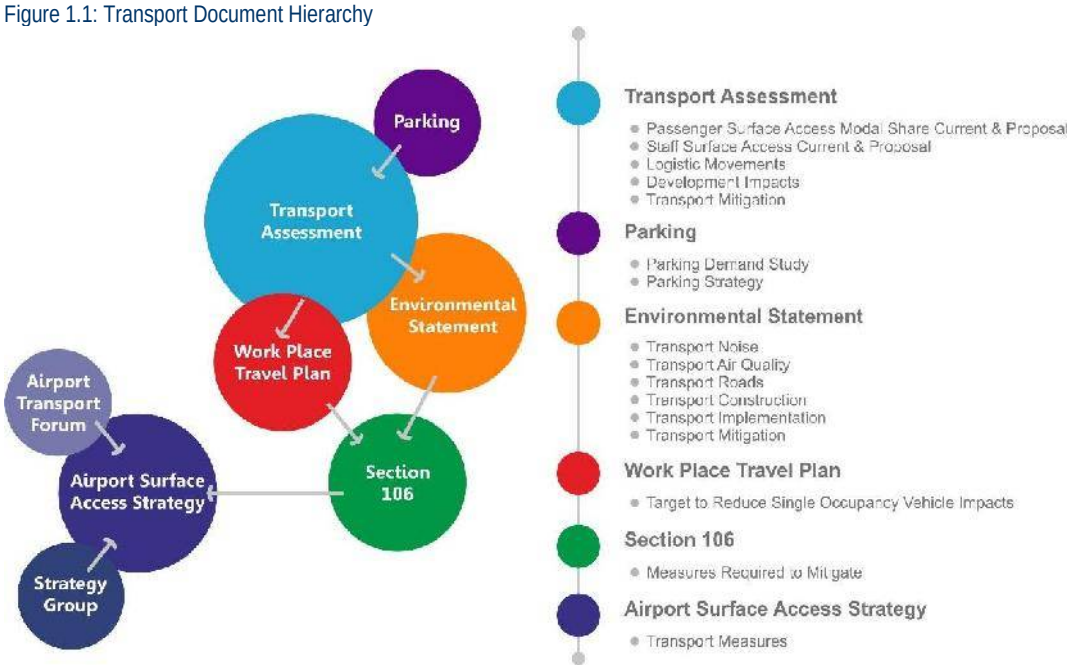
1.1.3 In 2017, Bristol Airport handled over 8.2 million passengers making it the ninth busiest UK airport and the third largest regional airport in England. Leading low cost, charter and full service airlines currently fly from Bristol Airport to over 120 destinations across 34 countries.

1.1.4 BAL was granted outline planning permission by NSC on 16 February 2011 for the expansion of Bristol Airport to handle 10 mppa. Between 2010 and 2017, investment totalling over £160 million has been made in a significant upgrade of facilities and infrastructure at Bristol Airport and passenger numbers have grown by over 40%, from 5.8 mppa to 8.2 mppa. BAL currently forecasts that passenger demand will reach 10 mppa by 2021, beyond which passenger traffic is projected to rise further to 15 mppa by the mid-2030s and to 20 mppa by the mid-2040s.

1.1.5 BAL currently forecast that passenger demand will reach 10 mppa by 2021, beyond which passenger throughput is projected to rise to 12 mppa by 2026.

1.1.6 This TA should be read in conjunction with the suite of planning application documents submitted as part of the application, including: Workplace Travel Plan (WTP), Parking Demand Study, Parking Strategy Planning Statement and Environmental Impact Assessment (EIA). BAL also commits to produce a new and ambitious ASAS secured through a S 106 agreement. **Figure 1.1** illustrates how the transport documents link together.

Figure 1.1: Transport Document Hierarchy



1.2 Background

1.2.1 BAL was granted outline planning permission (Ref 09/P/1020/OT2) by NSC on the 16th February 2011 for the expansion of Bristol Airport to accommodate 10 mppa. Between 2010 and 2017, investment totalling over £160 million has been made to upgrade of facilities and infrastructure at Bristol Airport. During this time, passenger numbers have grown by over 40% from 5.8 mppa to 8.2 mppa. BAL forecast that passenger demand will reach 10 mppa by 2021.

1.2.2 The 10 mppa permission includes the following conditions with regards to passenger throughput at the Bristol Airport site:

> *'Condition 65: The passenger throughput at Bristol International Airport shall not exceed 10 million passengers in any 12-month period (to be taken from 1st January to 31st December in any calendar year – unless a different 12-month start and end date is agreed) unless separate planning permission is granted'.*

1.2.3 Section 2.5 provides further information on the consented 10 mppa scheme.

1.2.4 To ensure that Bristol Airport can continue to meet passenger demand both now and into the future, BAL is currently preparing a new Master Plan. The Master Plan will set out a strategy for phased growth to meet the forecast level of passenger demand by the mid-2040s and in doing so, it will ensure that Bristol Airport contributes fully to enhancing national airport capacity, delivers increased connectivity and supports economic prosperity in the South West and South Wales regions.

1.2.5 The challenges and opportunities Bristol Airport have identified through the consultation process have been set out in an initial discussion document, 'Master Plan – Planning for the Future', which was subject to public consultation between November 2017 and January 2018. A further public consultation on the emerging proposals relating to the first phase of growth, including the proposal to grow to 12 mppa as the first phase of the Master Plan, took place between May and July 2018 with publication of Draft Master Plan expected in the winter 2018/19.

1.2.6 As part of an approach to meeting future passenger demand to ensure that projected passenger growth beyond 2021 can be accommodated, BAL is seeking planning consent for an initial phase of growth beyond the current cap of 10 mppa to 12 mppa.

1.3 Pre-Application Discussions & Consultation

1.3.1 The scope, methodology and assessment contained and presented within this TA and Appendices have been determined through scoping and engagement with key stakeholders including NSC, Bristol City Council (BCC), Bath and North East Somerset (BaNES), Highways England (HE) and Somerset County Council (SCC) as part of a formal pre-application process.

1.3.2 The approach and methodology has been followed to ensure that it accords as far as possible with relevant national, regional and local guidance and policy.

1.3.3 A TA Scoping Report was submitted to the key stakeholders and was formally commented on by officers. In addition to the TA Scoping Report, a further Technical Note was submitted which sought to address comments raised by officers. It was agreed to base the TA on a core test related to a forecast passenger public transport mode share of 15%, which would be applied to the increase in passengers from 8.2 mppa (2017) to 10 mppa and 12 mppa. It has also been accepted that post-submission, sensitivity testing regarding the forecast passenger modal share would be undertaken and submitted for consideration as part of any officer recommendations on the application. The report, comments and responses are contained within **Appendix B**.

2 The Bristol Airport Site

2.1 Introduction

2.1.1 This chapter provides an overview of the Bristol Airport site, including the surrounding area, both in its existing state and the future consented 10 mppa layouts.

2.2 Site Location

2.2.1 Bristol Airport is situated on a ridge of high ground called Broadfield Down, with the A370 Bristol to Weston-super-Mare 4km to the north and the M5 motorway 11km to the west of the site. The A38 carriageway is directly adjacent to the airport, on its eastern extent. **Figure 2.1** illustrates the Bristol Airport site in relation to the wider highway network.

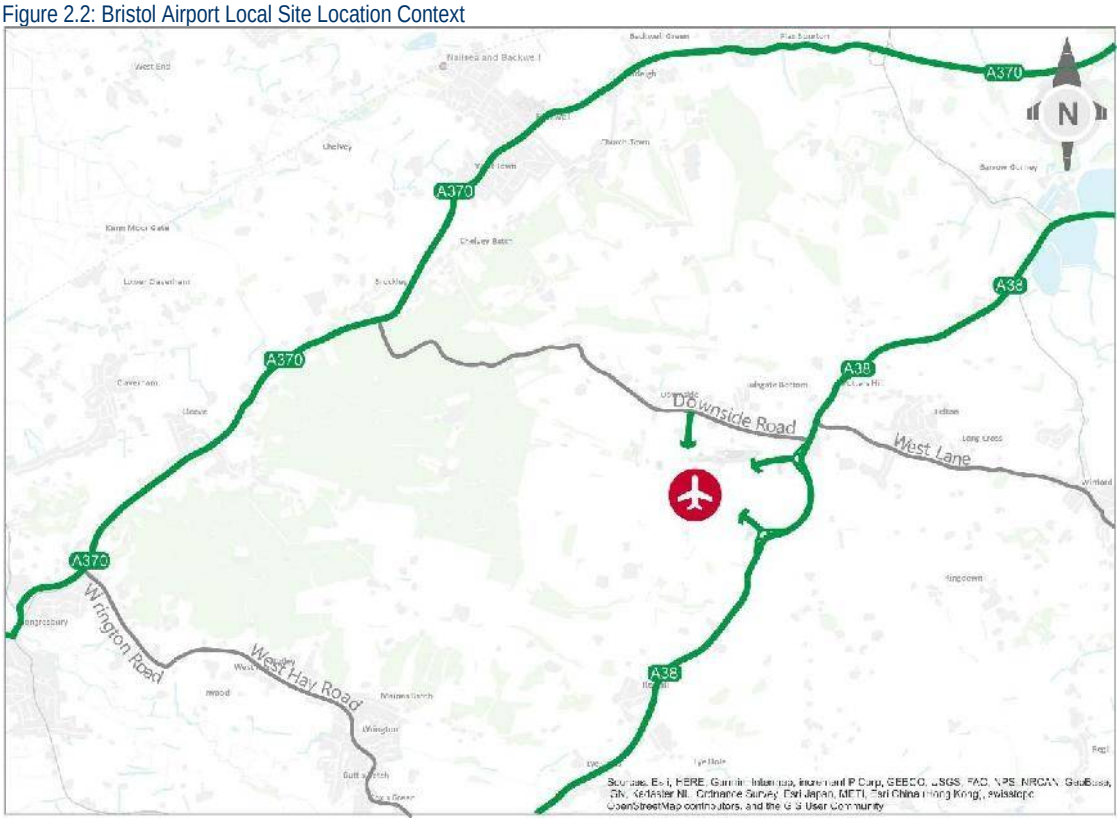
Figure 2.1: Bristol Airport Wider Site Location Context

2.2.2 The area surrounding Bristol Airport is predominately open, undulating countryside. Located within National Character Area (NCA) 118: The Bristol, Avon Valleys and Ridges, the area is characterised by alternating ridges and broad valleys, with steep wooded slopes and open farmland. Extensive wooded areas are located to the west of the site and form a key feature of the wider landscape. These wooded areas are partially designated as ancient and semi natural woodland or ancient re-planted woodland. Goblin Combe, north of Cleeve Hill road, is designated as a Site of Special Scientific Interest (SSSI) and nature reserve. King's Wood, directly south of Cleeve Hill road, is also designated as a SSSI. Beyond the woodland lie the villages of Claverham, Yatton and Congresbury, approximately 5km west of Bristol Airport.

2.3 The Existing Bristol Airport Site

2.3.1 Bristol Airport is situated immediately adjacent to the A38, Bristol to Bridgwater Road, with two roundabout junctions providing access to the airport site. The site location including existing facilities and infrastructure is shown in **Figure 2.2**.

Figure 2.2: Bristol Airport Local Site Location Context



2.4 Consented 10 mppa Public Transport Strategy

2.4.1 As part of the 10 mppa consent, an ambitious passenger public transport mode share target of 15% was agreed. To meet this target, the following key public transport enhancements were agreed at the time of consent:

8 buses an hour to Bristol City Centre;

2 buses an hour to Weston-super-Mare;

Develop proposals for services to Bath and Devon;

Develop proposals for services to South Wales; and

Set up a public transport fund to support local services.

2.4.2 Despite not having yet reached 10 mppa, BAL has made significant progress towards these key public transport enhancements. To-date, the following measures have been delivered:

8 buses an hour to Bristol City Centre;

1 bus an hour to Weston-super-Mare;

2 buses an hour to Bath;

1 bus an hour to Plymouth;

1 coach every 2 hours to Cardiff; and

Public transport fund set up and financially supports the A5 (Yatton and Winscombe) local bus service.

2.4.3 Furthermore, the 'Bristol Flyer' buses have recently been upgraded to double decker models with leather seats, additional luggage space, free wi-fi and USB sockets.

2.4.4 The 10 mppa consent also includes a dedicated public transport interchange, which will be situated on top of the new multi-storey car park. This interchange will be connected to the terminal building by a covered walkway.

2.5 Consented 10 mppa Parking

2.5.1 As part of the 10 mppa consent BAL have permission to provide to c.18,400 parking spaces at the Bristol Airport site.

2.5.2 BAL are currently constructing the second phase of the first multi storey consented car park, which on completion will provide 1.878 parking spaces in total

2.5.3 BAL will complete construction of a new Administration building on the southern side of the Bristol Airport site in Summer 2019. Prior to the new administration building opening, employees and visitors park in the recently opened Silver Zone employee transport hub. Employees use the frequent shuttle bus to travel between the employee transport hub and the existing administration building and terminal building on the northern side of the airport.

3 Policy Context

3.1 Introduction

3.1.1 This TA incorporates the principles and best practices of key national, regional and local policy documents relevant to transport and air travel for the Bristol Airport site. The methodology uses a best practice approach based on these documents and a commitment to encourage sustainable travel.

3.1.2 The policy documents reviewed are as follows:

National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, July 2018);

The Future of Air Transport White Paper (2003);

The emerging Joint Spatial Plan (West of England, November 2017);

Joint Transport Study (West of England, October 2017);

Joint Local Transport Plan 3: 2011 - 2026 (West of England Partnership, March 2011);

North Somerset Core Strategy (North Somerset Council, January 2017); and

North Somerset Replacement Local Plan Written Statement (2007).

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3.1.3 The full summary of relevant national, regional and local policy considerations for this assessment is contained in **Appendix C**.

4 Development Proposals

4.1 Introduction

4.1.1 This chapter details the transport related Development Proposals at Bristol Airport and focuses on the parameters considered most relevant to transport appraisal. Chapter 2 of the Environmental Statement contains the full Proposed Development description.

4.2 Development Proposals Overview

4.2.1 To support the proposed increase in passenger numbers and ensure safe and efficient passenger movement to and around the airport site, the Development Proposals include a number of new infrastructure components, improvements to existing facilities and a number of operational changes. The components of the Proposed Development related to transport are described in the following sections.

4.3 Proposed A38 Highway Improvements

4.3.1 BAL is proposing to undertake a significant improvement of the A38 between the main airport access roundabout and West Lane to accommodate any additional traffic generated by an extra 2 mppa. The main carriageway over this length will be increased in width to allow two through lanes to be provided on each carriageway. The widening will be mainly undertaken on the western side of the road providing an overall width of 16m. The improvements taper back to join the existing carriageway width some 130m beyond West Lane. A dedicated lane will be provided for northbound traffic turning left into Downside Road, along with a right turn lane into West Lane. The centre of the carriageway will be hatched or have traffic islands in order to separate traffic flows. Downside Road will be widened to two lanes for 80m prior to the junction with the A38 and new access provided into the Airport Tavern car park.

4.3.2 The junction with Downside Road will remain controlled by traffic signals but will be linked to new signals controlling the West Lane junction. The junctions will monitor traffic approaching the junctions and using MOVA will adjust the timings to enhance traffic flow and reduce queuing. Traffic will only be able to turn left out of West Lane, while traffic travelling southbound will remain unable to turn right into Downside Road and will continue to U turn at the main airport junction with the A38.

4.3.3 The existing footway / cycle track will remain on the eastern side of the A38, with a new footway provided north of the West Lane junction. An enhanced footway / cycle track will be provided on the western side of the road between the airport and Downside Road, with a footway provided for the section north of the Downside road tying in with the existing facility north of West Lane. Pedestrian and cycle facilities will be provided within the Downside Road junction and the design will incorporate drop kerbs. Bus stops will be maintained albeit adjusted for the new alignment. Access will also be maintained to the footpath which runs along the western boundary of the Airport Tavern land towards Lulsgate Bottom.

4.3.4 The proposed improvements are in keeping with the current character of the area. The road will be constructed with an asphalt wearing course and antiskid surfacing will be applied on the approaches to the signal stop signs. All traffic signs, signals and markings will be provided in accordance with highway design standards applicable to the location and type of road. The area will continue to have street lighting in line with NSC standards and local operations including diming at night. Surface water drainage will be enhanced to accommodate the effects of the widened carriageway.

4.3.5 The A38 currently has a verge north of West Lane and the Common has spread onto part of the footway to the east before Lilac Cottages. The proposed improvement seeks to maintain a

verge to the north of west. The nature of the proposed improvement means that there is limited scope for additional landscaping.

4.3.6 The junction designs, associated drawings, Stage 1 Road Safety Audit (RSA), RSA Designer's Response and Walking, Cycling and Horse Riding Assessment and Review (WCHAR) relating to the proposed A38 highway improvements are contained under **Appendix D**.

4.4 Gyratory Road with Internal Surface Car Parking

4.4.1 To accommodate vehicle movements and improve flows within Bristol Airport and onto the A38, a two lane, one-way system, gyratory is proposed. This will provide additional capacity onto North Side Road and a connection between the A38 and the northern components of the airport, including the main terminal building, multi-storey car park and surface car parking areas. To the west, the gyratory road serves the airport servicing area and hotel.

4.4.2 The new road is approximately 0.7km long, with a 35m inscribed circle diameter at either end. The circulating carriageway is approximately 7.5m wide on straight sections, widening to 8m on the circulating sections. In total, it comprises of six arms on the outer edge, with a separate entrance and exit arm within the gyratory itself to serve the central parking area.

4.4.3 The gyratory also includes a pedestrian footway along its southern edge, linking the main terminal building with the A38. A new zebra crossing will be located across the dual carriageway to the east.

4.4.4 Within the gyratory, replacement car parking is proposed for approximately 360 vehicles, with a lay-by for buses to collect users and transport them to the terminal building. This will comprise of impermeable tarmac/asphalt access roads and predominantly permeable crushed stone parking bays, similar to existing. There will additionally be changes to the layout of existing car parking areas to the north of the gyratory. The horizontal and vertical illuminance in this area will be retained.

4.4.5 The new circular route will be constructed in a series of phases to ensure vehicle circulation throughout the works are managed to minimise disturbance. All improvements are in keeping with the current character of the area. The road will be constructed with an asphalt wearing course and antiskid surfacing will be applied on the approaches to the zebra crossing. All traffic signs and markings will be provided in accordance with highway design standards applicable to the location and type of road.

4.4.6 At present, North Side Road has a hedgerow that runs along the majority of the both sides of the carriageway. The proposed improvement seeks to maintain a verge to the south as much as possible. Due to the nature of the proposed improvement, the northern hedges and trees will need to be removed and replaced within the new gyratory road. Within the design of the new gyratory road, there are areas where it is possible to re-provide tree and hedges to improve the aesthetics of the proposals.

Multi Storey Car Park

4.4.7 A multi-storey car park (MSCP) to provide approximately 2,150 spaces over five levels will be constructed in the northern area of the Bristol Airport site adjacent to the current MSCP. The MSCP will occupy a footprint of around 1.12ha and be a maximum of 16m above Ordnance Datum (AOD) in height.

4.4.8 Vehicular access to the MSCP will be directly from the internal Bristol Airport spine road via a roofed entrance/exit plaza at ground level, with access to the other upper car park decks via separate 'up' and 'down' ramps. The car park will have a simple circulatory layout for vehicles and a protected pedestrian walkway leading to a central vertical circulation core. On the top deck level, this central circulation core accesses a retail unit and onward travel centre leading to a glazed bridge linking with the terminal pedestrian forecourt. This bridge link terminates at

a feature canopy, which will house payment machines on the forecourt and covered walkways to the east and west.

4.4.9 The building structure will be based upon a modular steel frame system, with 16.1m spans to match through with MSCP Phase 1. The top deck of the MSCP will align with the top deck of MSCP Phase 1. Wind turbines will also be installed on the top deck, the mast height reaching approximately 12m, extending to 15m when accounting for the rotors.

4.4.10 In contrast to the white metal and green glass aesthetic of the main terminal building, the MSCP will incorporate perforated PPC panels finished with muted and tonal colours. Lapped timber effect planks will encase the stair cores and will also be placed intermittently along the ramps.

Operational Extension to the Silver Zone Car Park (Phase 1)

4.4.11 The Silver Zone car park extension (Phase 1), located to the south of the fire training ground, is an area of approximately 7.8ha and comprises of 3,650 long-stay car parking spaces surfaced by a grid structure with grassed parking bays divided by asphalt isles and access roads. The site includes associated features such as temporary (seasonal) lighting, CCTV and services. Vehicles access the site via the A38 roundabout and report to the Silver Zone reception where cars are then valet parked.

4.4.12 Currently, use of the Silver Zone car park extension (Phase 1) is prohibited outside of the period 1 May to 31 October. To ensure that there is sufficient provision in meeting increased demand for long term car parking, BAL is seeking to remove this restriction. This would allow for year-round use of the car park and provide additional car parking capacity.

4.4.13 It should be noted that no additional or new development is required to facilitate the year-round use of the car park. However, changes to the operation of the car park will require the provision of permanent (fixed) lighting and CCTV.

Extension to the Silver Zone Car Park (Phase 2)

4.4.14 An extension to the Silver Zone car park is proposed on agricultural land to the south of the existing Silver Zone car park extension (Phase 1). This extension will provide an additional circa 2,700 spaces for year-round use. These will be located immediately south of the existing Silver Zone car park extension area and will occupy a footprint of circa 5.1ha.

4.4.15 The public will not have access to the car park and instead cars will be valet parked by BAL employees from a central reception facility. This feature fundamentally informs the parking layout, which is anticipated to be block parking only.

4.4.16 The layout of the car park will be similar to that of Phase 1. No additional road structure is required since access will be via the existing Silver Zone car park entrance / exit facility and through Phase 1 of the Silver Zone car park extension.

4.4.17 Surfacing of the car park will comprise of two finishes, an asphalt access road and aisles and grass parking bays forming from a grid paving system infilled with topsoil and grass seed. Lighting will be designed to minimise light spill, glare and sky glow.

4.5 Workplace Travel Plan

4.5.1 An updated Workplace Travel Plan has also been produced and submitted as part of the suite of planning application documents and should be read in conjunction with this report.

4.5.2 As set out within the NPPF, Travel Plans provide a key tool to facilitate and exploit opportunities for the use of sustainable modes for movement of goods and people.

4.5.3 BAL first launched its Workplace Travel Plan in 2006. Since then the number of employees working at the Bristol Airport site has increased and significant progress has been made towards targets to reduce reliance on the car for journeys to work, in particular for people travelling alone by car. Considering the significant increase in employee numbers since the launch of the first Workplace Travel Plan and the wide variety of employers now based at the Airport, improving the levels of sustainable travel among employees has become increasingly important.

5 Transport Assessment Methodology

5.1 Introduction

5.1.1 This chapter sets out the methodology and data sources used for the TA, and summarises the baseline and future assessment years.

5.2 Baseline Transport Conditions

5.2.1 In order to forecast the transport implications associated with the development proposals, a comprehensive baseline understanding of the transport conditions has been established.

5.2.2 This assessment uses 2017 as the baseline year for passenger throughput at the Bristol Airport site, drawing on the most recent up to date and validated full calendar years' worth of data. Baseline conditions around the Bristol Airport site have been established by desktop research, site visits, comprehensive traffic surveys, Bristol Airport commercial data and Civil Aviation Authority (CAA) data.

5.2.3 The following data sources have been used in the assessment:

24-hour classified turning counts carried out in July 2018 by Intelligent Data Collection Limited (ID);

Collision data has been obtained and analysed for areas within NSC and BCC for the latest 5-year period;

Employee Travel Survey (2017)

CAA survey data (2015)

CAA published data (2017)

Bristol Airport ticket scanning data (2017)

Bristol Airport published data

Bristol Airport commercial data (2017)

5.2.4 This section provides a summary of the approach used to determine the baseline travel demand in the following categories:

Air passengers;

Employees; and

Operational and Logistical movements

5.2.5 **Table 5.1** sets out the recorded number of passengers per month at Bristol Airport in 2017. These numbers have been extracted from the CAA monthly data reports for 2017.

Table 5.1: 2017 Bristol Airport Passenger Profile

Month	Passengers per Month	Passenger % per Month	Average Day in Month
January	494,821	6%	15,962
February	512,018	6%	18,286

Month	Passengers per Month	Passenger % per Month	Average Day in Month
March	594,481	7%	19,177
April	680,200	8%	22,673
May	766,081	9%	24,712
June	825,952	10%	27,532
July	854,999	10%	27,581
August	**887,485**	**11%**	**28,629**
September	817,823	10%	27,261
October	754,998	9%	24,355
November	513,064	6%	17,102
December	530,708	6%	17,120
Year	**8,232,628**	**100%**	**22,555**

5.2.6 August 2017 was the busiest month at Bristol Airport, with an average of 28,629 passengers per day. Therefore, the travel demand associated with an average weekday during this month has been assessed.

Passenger Catchments

5.2.7 **Table 5.2** provides the number of passengers per origin / destination passing through Bristol Airport on an average weekday in August 2017. Based on the CAA passenger survey data 96% of passengers at Bristol Airport have an origin or destination in the South West of England or Wales.

Table 5.2: 2017 Passenger Origin / Destination (8.2 mppa)

Region	Passenger Percentage	Passengers per Day in August
East Midlands	0.1%	38
East of England	0.1%	41
North East	0.0%	6
North West	0.2%	48
Scotland	0.2%	61
South East	1.3%	366
South West	77.2%	22,101
Wales	18.8%	5,368
West Midlands	2.0%	564
Yorkshire	0.1%	19
Total	**100%**	**28,613**

Note: 16 responses indicating Origin / Destination was Ireland or Northern Ireland have been removed to focus on surface access only.

5.2.8 **Table 5.3** presents the regional catchments for the South West of England based on the information contained in the 2015 CAA passenger survey. It is worth noting that the CAA survey reports the following Local Authorities as Somerset:

North Somerset;

Bath and North East Somerset;

Mendip District;

Sedgemoor District;

South Somerset;

Taunton Deane and

West Somerset.

Table 5.3: South West Daily Passenger Origin / Destination for the Peak Month of August (8. 2mppa)

South West Region	Passenger Percentage	Passenger per Day in August
City of Bristol	31.4%	6,942
Cornwall	5.6%	1,236
Devon	17.0%	3,756
Dorset	2.7%	605
Gloucestershire	8.9%	1,975
Somerset	26.3%	5,817
Wiltshire	8.0%	1,768
Total	**100%**	**22,101**

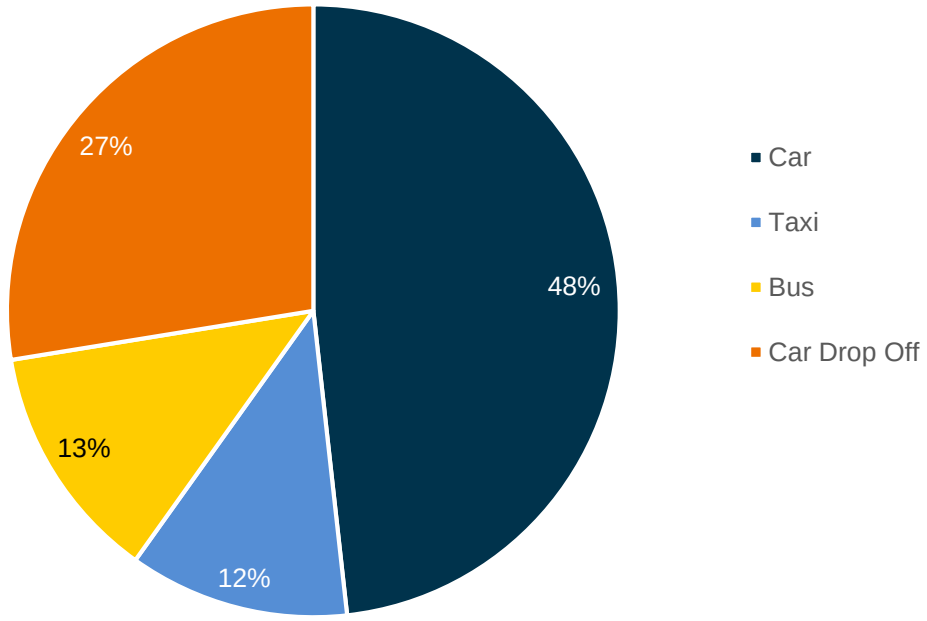
Mode Share

5.2.9 The 2015 CAA passenger survey provides data on passenger's mode of travel to and from Bristol Airport.

5.2.10 Bristol Airport has historically monitored public transport modal share using ticket information for the Bristol Flyer bus service and some third-party bus and coach operators. The 2017 ticket information indicates that the current public transport patronage is 12.5%. Therefore, the CAA data has been used to understand how modal share varies by journey origin, but then factored to an overall public transport modal share of 12.5%.

5.2.11 The overall existing passenger modal share is provided in **Figure 5.1**.

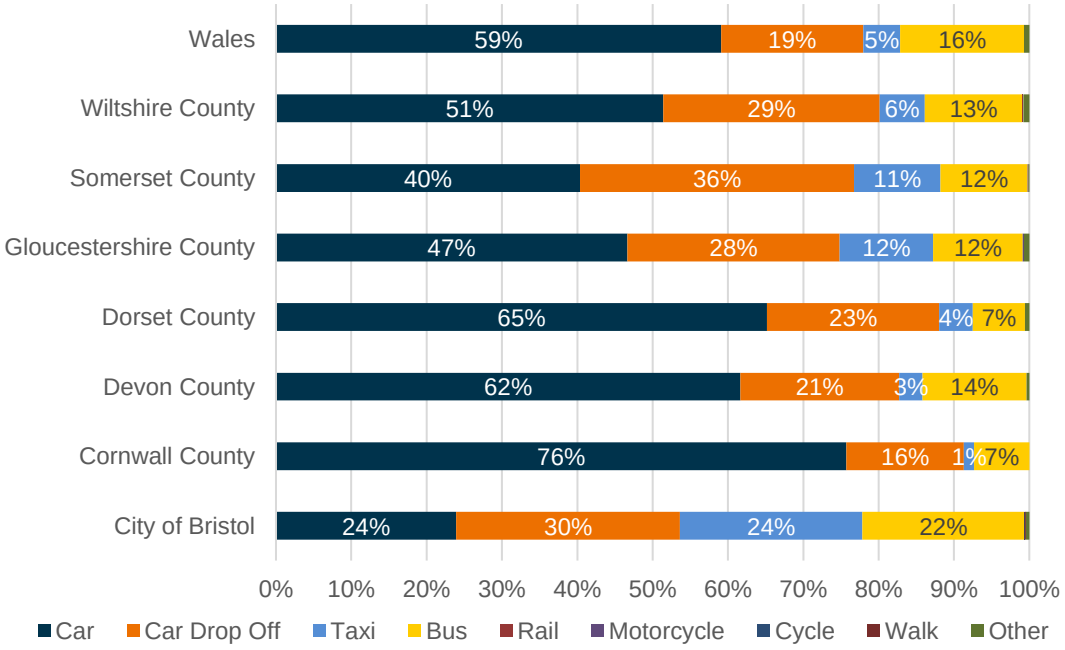
Figure 5.1: Existing Passenger Modal Share



Note: percentages have been rounded to nearest whole number

5.2.12 The assessment methodology has considered the modal share by origin / destination by segmenting the surrounding area into zones. The modal share for each catchment has been applied to the trip generation. **Figure 5.2** details the passenger modal share by origin destination for areas in the South West of England and Wales. It is evident that investment into PT services greatly affects modal share, as the PT modal share of passengers travelling from the City of Bristol is almost equal to that of single occupancy car.

Figure 5.2: Existing Passenger Modal Share by Catchment



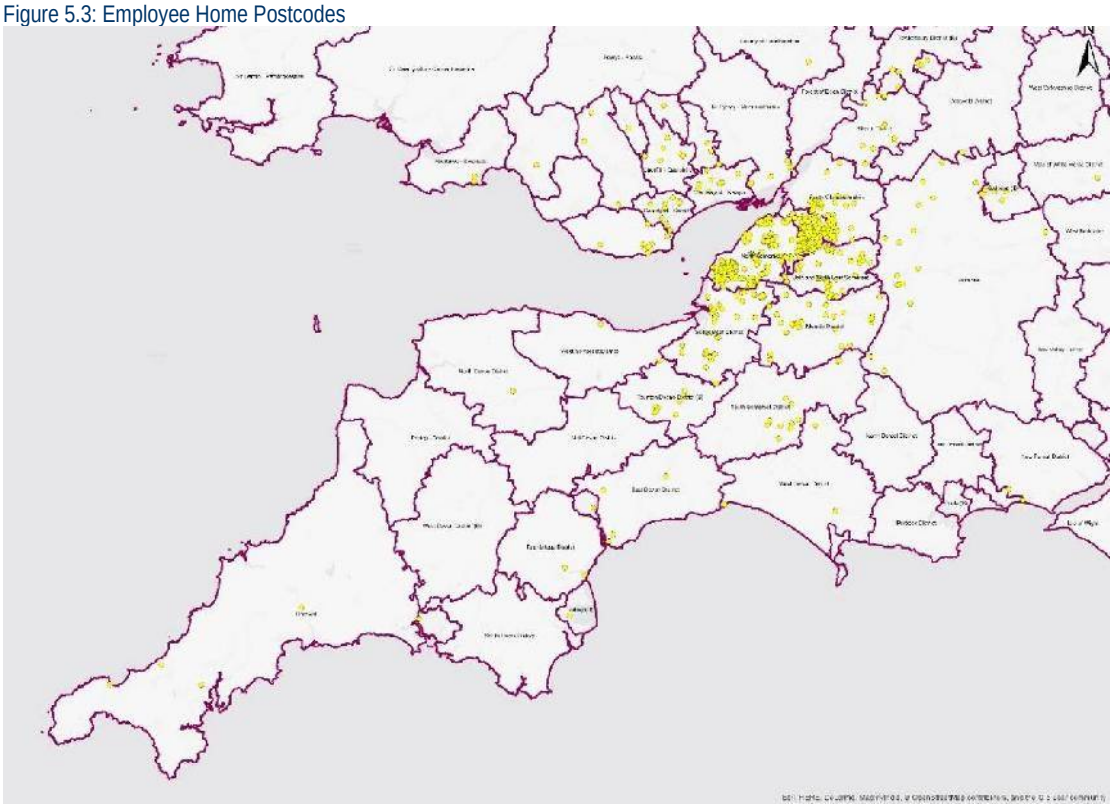
5.2.13 In addition, to determine associated traffic volumes with passenger numbers, average group sizes recorded in the 2015 CAA survey have been used for each vehicular mode to understand vehicle occupancy rates.

5.2.14 The average occupancy rates over the year have been used to ensure the assessment is robust and accounts for variation in trends, as the CAA data indicates that car occupancy rates are much higher during August, which would relate to less estimated vehicle trips.

Employee Catchments

5.2.15 Currently 3,459 Full Time Equivalent (FTE) employees are employed at the Bristol Airport site, the majority working shift patterns. BAL carried out an Employee Travel Survey to update the Workplace Travel Plan (WTP) for the Bristol Airport site in 2017, which had a response rate of 828 employees - representing 24% of the FTE figure. **Figure 5.3** shows the home postcodes of employees at the Bristol Airport site. It is important to note that the trends found within the analysis of the Employee Travel Survey has been applied to the total number of FTEs.

Figure 5.3: Employee Home Postcodes



5.2.16 **Table 5.4** presents the percentage of FTEs home postcodes by area.

Table 5.4: Existing Employee Catchments

Local Authority	%
North Somerset	33%
City of Bristol	26%
South Gloucestershire	11%
Bath & North East Somerset	7%
Sedgemoor District	7%
Mendip District	4%
Wiltshire	2%
South Somerset District	1%
Caerdydd - Cardiff	1%

Local Authority	%
Casnewydd - Newport	1%
Stroud District	1%
Taunton Deane District	1%
Sir Fynwy - Monmouthshire	1%
Bro Morgannwg - the Vale of Glamorgan	1%
Caerffili - Caerphilly	1%
Swindon	1%
Total	**100%**

5.2.17 A total of 55% of employees have a home postcode in North Somerset or the City of Bristol.

5.2.18 **Table 5.5** details the distribution of employees within North Somerset.

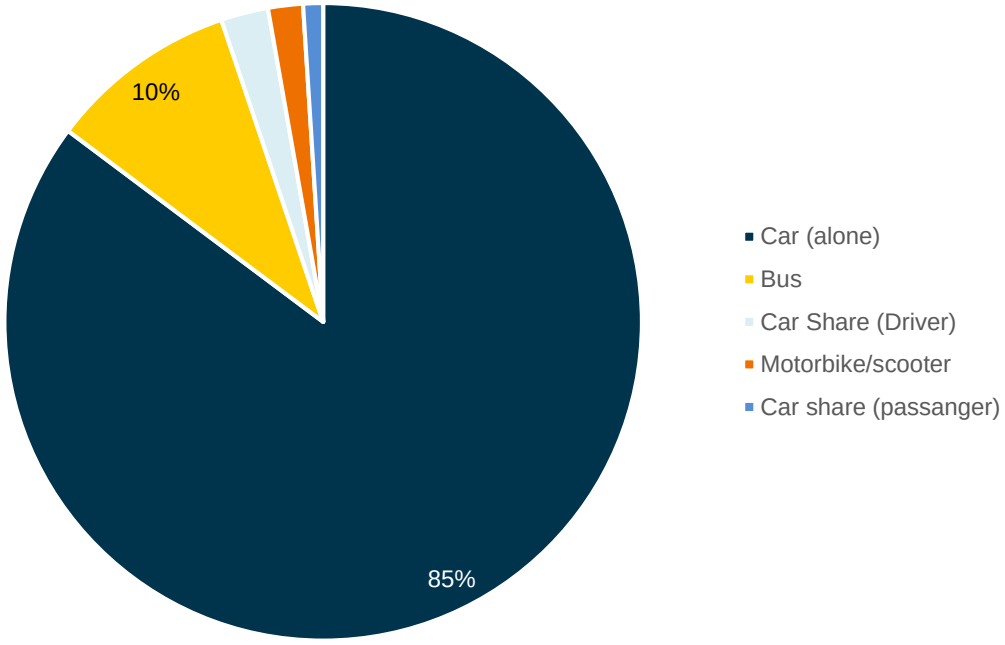
Table 5.5: Employee Distribution within North Somerset

North Somerset	Percentage
Weston-super-Mare	54%
Portishead	16%
Clevedon	4%
Nailsea	14%
Winscombe	5%
Yatton	7%
Total	**100%**

Employee Mode Share

5.2.19 The 2017 Employee Travel survey has also recorded employee mode share on an average workday, which is provided in **Figure 5.4**.

Figure 5.4: Overall Employee Mode Share



5.2.20 As has been carried out for the passenger trip generation, a mode share has been considered by each catchment. **Table 5.6** details the employee mode share by origin / destination.

Table 5.6: Employee Modal Share by Origin / Destination

	Bus	Car (alone)	Car share (driver)	Car share (passenger)	Cycle	Motorbike/scooter	Employees minibus	Walk
North Somerset	9%	83%	4%	0%	1%	2%	0%	0%
City of Bristol	13%	80%	2%	2%	0%	1%	0%	1%
South Gloucestershire	9%	86%	1%	0%	0%	1%	3%	0%
Bath and North East Somerset	13%	83%	0%	2%	0%	0%	0%	2%
Sedgemoor District	2%	89%	4%	2%	0%	4%	0%	0%
Mendip District	3%	88%	3%	3%	0%	3%	0%	0%
Wiltshire	12%	76%	6%	0%	0%	6%	0%	0%
South Somerset district	0%	100%	0%	0%	0%	0%	0%	0%
Wales	5%	83%	3%	0%	0%	3%	5%	0%
Taunton Dean District	0%	100%	0%	0%	0%	0%	0%	0%

5.2.21 This mode share has been applied to the trip generation to determine the baseline travel demand associated with the existing Bristol Airport site.

Operational and Logistical Movements

5.2.22 To quantify the effects of the Development Proposals on logistics movements at the Bristol Airport site, BAL have stated that these can be classified in to the following categories:

Fuel Tankers;

Car Rental Deliveries; and

Operational Deliveries.

5.2.23 As with passenger trends, the number of logistics movements at the Bristol Airport site varies throughout the year and peaks in the summer months.

5.2.24 BAL have provided the latest 12 months of aviation fuel delivery records. These records show the Bristol Airport site had 4,631 deliveries of aviation fuel for the recorded 12-month period. In the peak month of August, approximately 11% of the 4,631 aviation fuel deliveries were undertaken. This represents 16 aviation fuel deliveries per day in the peak passenger month of August.

5.2.25 Bristol Airport is open 24 hours a day and seven days a week. The terminal stores and flight catering is available between the hours of the first and last departing flight each day. BAL have provided a delivery schedule for retailers who operate at the Bristol Airport site, which amounts to 23 deliveries per day for the peak passenger month of August for these facilities.

5.2.26 Bristol Airport is a base for eight national car hire companies. BAL have confirmed that each hire company receives daily car deliveries via a car transporter, equating to approximately 60 deliveries per week, of which 77% occur between Monday to Friday. This relates to an average of 10 deliveries per day.

5.2.27 **Table 5.7** sets out a typical week day delivery schedule for each classification of vehicle.

Table 5.7: Existing Delivery Schedule

Time	Car Rental Deliveries	Fuel Deliveries	Operational Deliveries	Total
00:00 - 01:00	0	0	0	0
01:00 – 02:00	0	0	0	0
02:00 – 03:00	0	0	0	0
03:00 – 04:00	0	0	0	0
04:00 – 05:00	0	0	2	2
05:00 – 06:00	0	1	2	3
06:00 – 07:00	0	1	1	2
07:00 – 08:00	0	1	2	3
08:00 – 09:00	1	1	4	6
09:00 – 10:00	0	1	4	5
10:00 – 11:00	2	1	2	4
11:00 – 12:00	0	2	1	3
12:00 – 13:00	3	0	0	3
13:00 – 14:00	0	0	1	1
14:00 – 15:00	2	0	2	4

Time	Car Rental Deliveries	Fuel Deliveries	Operational Deliveries	Total
15:00 – 16:00	0	1	2	3
16:00 – 17:00	1	1	0	2
17:00 – 18:00	0	1	0	1
18:00 – 19:00	0	0	0	0
19:00 – 20:00	2	1	0	3
20:00 – 21:00	0	1	0	1
21:00 – 22:00	0	1	0	1
22:00 – 23:00	0	1	0	1
23:00 – 24:00	0	1	0	1
Daily	**10**	**16**	**23**	**49**

5.2.28 Bristol Airport receives six deliveries during the AM peak and one delivery during the PM peak on a typical week day during the month of August.

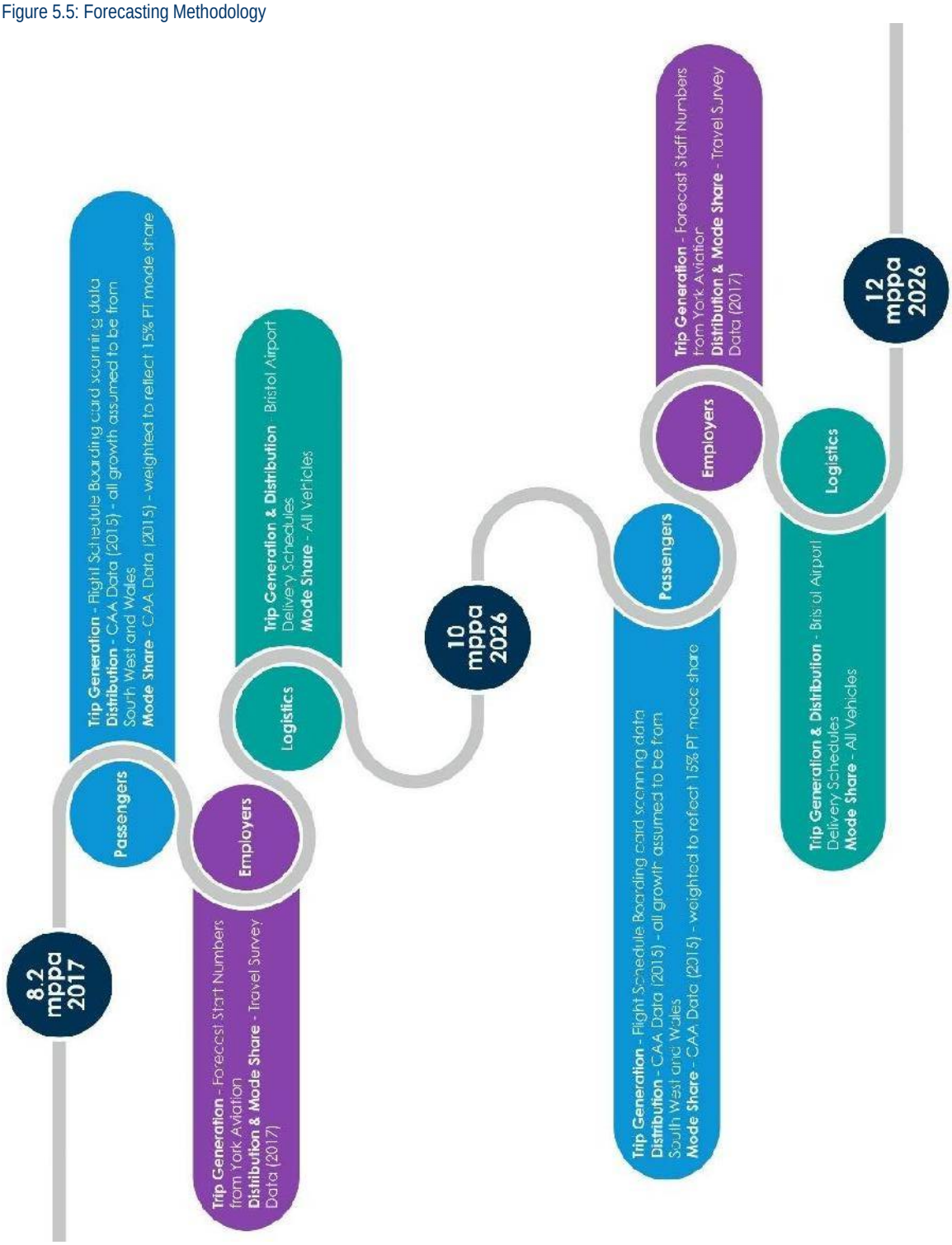
5.2.29 Bristol Airport receives a total of 49 deliveries per day on a typical week day.

5.3 Forecast Travel Demand Methodology

5.3.1 Based on the approach to establish a baseline understanding of the current travel demand associated with Bristol Airport in 2017 (at 8.2 mppa) set out in **Section 5.2**, the future travel demand associated with the 10 mppa and 12 mppa scenarios has been forecast.

5.3.2 **Figure 5.5** demonstrates the forecasting methodology and the relevant data sources used at each stage

Figure 5.5: Forecasting Methodology



5.3.3 As BAL have consent for growth up to 10 mppa, the assessment focuses on the transport implications of the growth of Bristol Airport between the 10 mppa and 12 mppa. BAL forecast to reach 12 mppa by the year 2026.

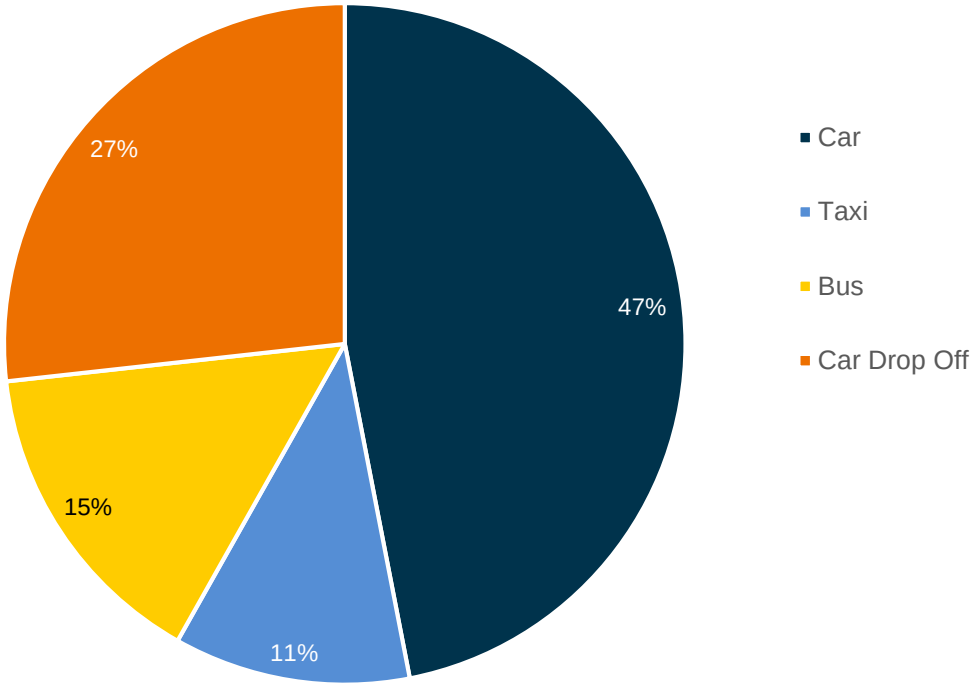
5.3.4 Passenger trips have been calculated using a peak-week flight schedule in August, which provides the number of Arline seats available by hour. This has been used as a trip attractor, and the daily profile has been adjusted using terminal 'dwell time' information – i.e. the amount of time passengers spends inside the Bristol Airport terminal before or after a flight.

5.3.5 The daily profile of passengers has been distributed using the most recent CAA survey data from 2015, which provides surface origin and destination information. The forecast has assumed that the 2 mppa growth will originate solely from the South West and Wales, to present a robust assessment.

5.3.6 Mode share information by origin and destination has been applied to the passenger numbers to determine the number of journeys across the study area by each mode, by hour. The mode share by origin and destination has been adjusted to match the overall passenger PT target of 15%. The assessment has assumed that no improvement

5.3.7 The TA assessment is based on a core test of 15% passenger Public Transport (PT) modal share to reflect the S106 target set as part of the 10 mppa planning consent. The modal shares by origin destination have therefore been adjusted to equal this overall percentage, provided in **Figure 5.6**.

Figure 5.6: Forecast Passenger Modal Share



5.3.8 Employee trips have been calculated similarly, using a peak estimation of Full Time Equivalents (FTEs) for August. Shift pattern information from Bristol Airport business partners has been used to quantify the proportion of FTEs that travel to Bristol Airport on any given day. The start and finish times have been used to create a daily profile of employee trips.

5.3.9 The 2017 Employee Travel Survey provides information on employee origin and destination, and method of travel to work, which has been applied to the FTE daily profile.

5.3.10 For logistics, information on fuel, car rental and operations deliveries have been quantified by BAL and business partners, which have been used to generate vehicle trip profiles for an average day.

5.3.11 The above has been carried out for the existing Bristol Airport operation, and for the consented 10 mppa and 12 mppa Development Proposals. The sections that follow detail the methodology and findings associated with the existing Bristol Airport operations. **Chapter 9** details the forecast trip generation for the 10 mppa and 12 mppa scenarios, to determine the net trip generation resulting from the Development Proposals.

5.4 Assessment Year and Scenarios

5.4.1 The following scenarios have been assessed in the TA:

2026 Reference Case (10 mppa); and

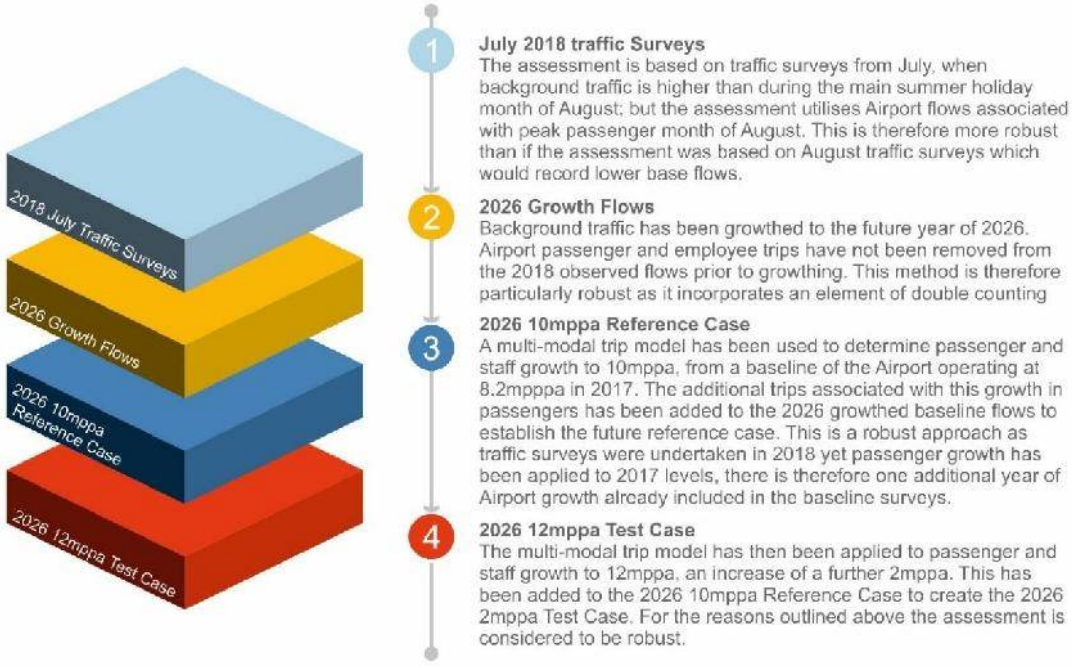
2026 Test Case (12 mppa).

5.4.2 During pre-application discussions, the year 2026 was agreed with key stakeholders as an acceptable assessment year, as it is the forecast year at which Bristol Airport passenger throughput will reach 12 million. As Bristol Airport, will not grow beyond the permitted level, if granted consent, the traffic impact associated with the development, proportionate to the background traffic, will reduce with time as background traffic flows increase.

5.4.3 Growth rates have been applied to the recorded traffic volumes using the industry standard tool, TEMPro. To provide a robust assessment, the recorded airport-related traffic and background traffic has been scaled up to represent estimated traffic volumes in 2026. The trip generation associated with 12 mppa has been considered in addition to the forecast background traffic, which ensures that forecasting methodology is robust and accounts for potential variations over the peak weeks and months. As detailed in **Section 7.6**, the TEMPro factor relates to circa 4,000 (1.4mppa) additional two-way vehicle movements directly associated with the Bristol Airport site. This methodology therefore ensures the assessment is robust.

5.4.4 **Figure 5.7** demonstrates the highway network assessment methodology

Figure 5.7: Highway Network Assessment Methodology



6 Existing Surface Access Options

6.1 Introduction

6.1.1 This chapter considers the existing site accessibility across modes for Bristol Airport. The section covers:

public transport services including rail, bus and coach;

access for pedestrians and cyclists;

private car and car parking / drop off arrangements;

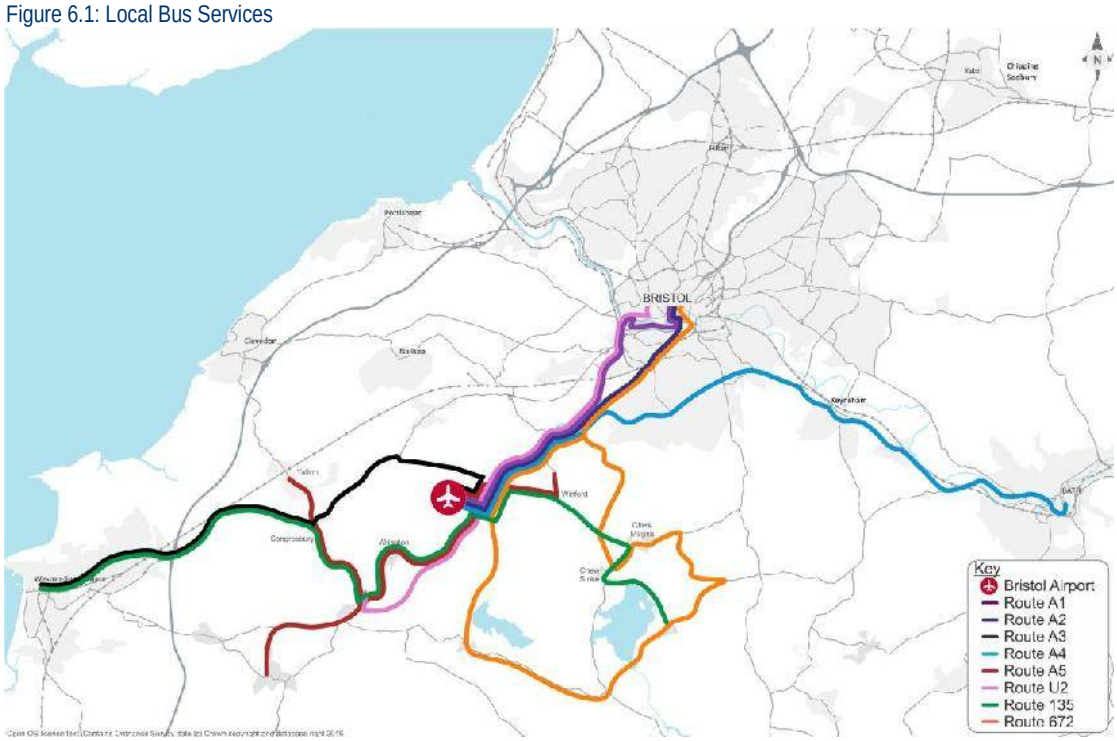
taxi; and

hire car.

6.2 Bus Services

6.2.1 Bristol Airport is well served by an extensive range of frequent and direct bus routes to Bristol, Bath and Weston-Super-Mare as well as other local towns and villages, as seen in **Figure 6.1**.

Figure 6.1: Local Bus Services



6.2.2 The Airport also acts as an important hub for several local bus routes in North Somerset, where local buses from surrounding villages connect with frequent services to Bristol and Weston-super-Mare. These are set out within **Table 6.1**.

Table 6.1: Bristol Airport Bus Services

Service	Route	Frequency	
		Mon-Sat (daytime)	Evening & Sunday
A1	Bristol Airport – Bristol	10 mins	15-20 mins, 60 mins night
A2	Bristol Airport – Bedminster – Bristol	30 mins	30 mins
A3	Weston-super-Mare – Worle – Congresbury – Bristol Airport	60 mins	60 mins
A4	Bath – Saltford – Keynsham – Brislington – Hengrove – Bristol Airport	30 mins	30 mins
A5	Winford – Felton – Bristol Airport – Wrington then either Congresbury – Yatton or Churchill – Winscombe	10 journeys Mon-Fri	No service
U2	Clifton – Lulsgate – Upper Langford	60 mins Mon-Fri (term time only)	No service
135	Chew Stoke – Chew Magna – Winford – Lulsgate – Wrington – Congresbury – Weston-super-Mare	1 journey Fri	No service
672	Blagdon – Wrington – Lulsgate – Bedminster – Bristol	1-2 journeys	No service

6.2.3 The main bus stops are located directly outside of the terminal building, accessed by a bus lane from North Side Road. The bus lane is controlled by rising bollards and is clearly marked with signage and red surfacing. Less frequent rural routes do not enter the airport itself but instead serve stops at Lulsgate Bottom on the A38, which is a short walk from the Airport.

6.2.4 Service A1, is branded as the 'Airport Flyer', and it is the principal bus route to Bristol Airport. The Airport Flyer operates 24 hours a day, seven days per week, with frequencies up to every 10 minutes (6 buses per hour) from Bristol City Centre.

6.2.5 The A1 service provides the main link with the National Rail network at Bristol Temple Meads railway station, for onward connections to London, the South West, South Wales, the South Coast and the Midlands.

6.2.6 The route is a limited-stop service operated with brand-new vehicles equipped with leather seats, tables, additional luggage space, USB sockets and free wi-fi.

6.2.7 The service has been a considerable success, with the recent enhancement to the frequency and vehicle specification helping to boost passenger numbers significantly. The new double deck buses utilised on the route have increased capacity on the service to up to 828 seats per hour.

6.2.8 The City of Bristol is by far the largest catchment area for Airport users (31.4%) and particularly by those travelling by public transport. With this in mind, the frequency of the main bus services to/from the city centre has been increased to 8 buses per hour by introduction of service A2 in October 2018. This has further increased capacity by 144 seats per hour. Furthermore, and as detailed in **Section 5.2**, the 2015 CAA passenger survey results indicate 22% of passengers travelling from the City of Bristol use PT. With the recent public transport

improvements, PT patronage is likely to improve and therefore indicate that BAL can influence passenger travel modes.

6.2.9 In conjunction with the introduction of service A2, the A1 utilises the MetroBus infrastructure between Bristol city centre and Ashton Vale. This consists of sections of guided busway and on-street priority measures to improve journey times and reliability on the key route into central Bristol.

6.2.10 Service A2 operates as a local bus service calling at all stops, retaining the link between Bedminster and the Airport and therefore ensuring continued connectivity for staff and passengers living in south Bristol. To maximise opportunity for all staff, services operate between 03:00 and 00:00, seven days per week.

6.2.11 Service A3 provides the key link between the Airport and Weston-super-Mare, operating every 60 minutes from early morning (03:00 hours) until late at night (23:00 hours) seven days per week. The route is also branded as 'Airport Flyer' although using single deck buses.

6.2.12 Service A4, branded as 'Air Decker' connects Bath and Keynsham to Bristol Airport. The Air Decker service operates every 30 minutes (2 buses per hour) during the daytime with hourly services in the early mornings and late evenings, seven days per week.

6.2.13 Service A5 is a new route which operates in part replacement of former routes A2 and 97. The service provides 10 journeys per day on Mondays to Fridays between Winford, Felton, Bristol Airport, Wrington and Langford, with alternate journeys either serving Congresbury and Yatton or Sandford and Winscombe.

6.2.14 Service U2 is a new service which commenced in September 2018 which provides an hourly term time link between the University of Bristol's main campus in Clifton and the veterinary campus at Upper Langford. This service stops on the A38 at Lulsgate.

6.2.15 To help to further encourage the Airport's role as a public transport hub where residents of local villages can access the Airport Flyer services, a concessionary scheme for residents of

selected areas of the local community is available for subsidised travel (up to a 60% reduction on fares) on services A1, A2 and A3 between Bristol Airport, Bristol and Weston-super-Mare:

BS25 - Sandford and Winscombe;

BS29 - Banwell;

BS40 - Chew Valley and Blagdon;

BS41 - Dundry;

BS48 - Nailsea and Backwell; and

BS49 - Yatton and Congresbury.

6.2.16 Eligible residents in these areas who are Diamond Card (English National Concessionary Travel Scheme or ENCTS) holders, including the elderly and disabled, can travel free of charge on services A1, A2 and A3 at any time on production of a valid Diamond Card and Bristol Airport's concessionary travel scheme card.

6.3 Coach Services

6.3.1 In common with the bus services, Bristol Airport has a good level of sub-regional coach services which complement the local bus network to provide longer distance travel. **Table 6.2** sets out the coach services currently operating to Bristol Airport.

Table 6.2: Bristol Airport Coach Services

Service	Route	Frequency	
		Mon-Sat (daytime)	Evening & Sunday
216	Cardiff – Newport – Bristol Airport	120 mins	120 mins
404	London – Heathrow Airport – Chippenham – Bath – Bristol Airport – Exeter – Newton Abbot – Torbay – Totnes – Plymouth – Truro – Falmouth – Penzance	No service	1 journey night
Falcon	Bristol – Bristol Airport – Bridgwater – Taunton – Cullompton – Exeter – Plymouth	60 mins	120 mins eve, 60 mins Sun

6.3.2 Stagecoach South West launched their 'Falcon' coach service in February 2016. It provides a 24 hour, seven days a week service from Plymouth, Exeter and Taunton to Bristol Airport and Bristol City Centre. The Falcon operates up to every hour in the daytime and every two hours overnight. Coaches are high specification, branded vehicles with free Wi-fi, USB charging points, power sockets and air conditioning.

6.3.3 The 'Falcon' service also operates as a local bus service, serving all stops, between Brent Knoll and the outskirts of Bristol. ENCTS passes are available for use between Taunton and Bristol city centre, subject to local time restrictions. It does not serve the centre of any towns or cities except Bristol and Plymouth, instead calling at Park & Ride sites or stops on the urban fringe.

6.3.4 National Express commenced operation of coach services to Newport and Cardiff in March 2015. These operate broadly every two hours, seven days per week with services also operating overnight.

6.3.5 National Express also operate one overnight journey on service 404 between London and Penzance which serves Bristol Airport in the early hours of the morning

6.4 National Rail Services

6.4.1 Although there are no direct rail services to Bristol Airport, there are several stations that are near, and accessible by bus services. The National Rail stations that provide access to Bristol Airport via bus services are set out in **Table 6.3.**

Table 6.3: National Rail Stations

Station	Distance (km)	Bus Route	Journey Time (off peak)	Bus Frequency (off peak)
Nailsea & Backwell	4.5	None	n/a	n/a
Yatton	8.0	A5	43 mins	Hourly
Parson Street	8.9	A2	14 mins	Half hourly
Bedminster	10.0	A2	21 mins	Half hourly
Bristol Temple Meads	11.4	A1	29 mins	Every 10 minutes
Worle	14.2	A3	28 mins	Hourly
Weston Milton	16.6	A3	35 mins	Hourly
Weston-super-Mare	18.8	A3	44 mins	Hourly
Bath Spa	24.6	A4	70 mins	Half Hourly

6.4.2 Nailsea & Backwell is the closest National Rail station to Bristol Airport, but there is currently no direct public transport link available. Yatton is served by relatively infrequent service A5, and Worle lies on the route of service A3. All three of these stations have two trains per hour on the Bristol to Weston-super-Mare route, with one train per hour to Taunton and Cardiff; at peak times, some trains operate to/from London Paddington.

6.4.3 Bedminster and Parson Street are both served by service A2 but are local railway stations with a limited hourly rail service between Bristol and Weston-super-Mare. This also applies to Weston Milton on the service A3 route. As such it is not considered that these stations offer significant potential for rail/bus interchange, albeit the re-opening of the Portishead rail link could enhance the importance of Parson Street.

6.4.4 Bristol Temple Meads is the principal rail interchange to/from Bristol Airport, located on the Airport Flyer bus service A1. Services operate from Bristol directly to a variety of national destinations as shown in **Table 6.4**.

Table 6.4: National Rail Destinations from Bristol Temple Meads

Operator	Route	Frequency	
		Mon-Sat (daytime)	Evening & Sunday
Great Western Railway	Swindon, Reading, London Paddington	2 per hour	1-2 per hour
	Newport, Cardiff Central	2 per hour	1 per hour
	Salisbury, Southampton Central, Portsmouth & Southsea	1 per hour	1 per hour
	Weston-super-Mare	2 per hour	1 per hour

Operator	Route	Frequency	
		Mon-Sat (daytime)	Evening & Sunday
	Clifton Down, Avonmouth (some services continue to Severn Beach)	2 per hour	1 per hour
	Frome, Dorchester West, Weymouth	1 per 2 hours	4 journeys
	Worcester Shrub Hill, Great Malvern	1 per 2 hours	5-6 journeys
	Havant, Chichester, Brighton	1-2 journeys	3 journeys
Cross Country	Cheltenham Spa, Birmingham New Street	2 per hour	2 per hour
	Stoke-on-Trent, Manchester Piccadilly	1 per hour	1 per hour
	Derby, Sheffield, Leeds, York, Newcastle, Edinburgh (some services continue to Glasgow)	1 per hour	1 per hour
Great Western Railway	Exeter St Davids, Plymouth (some services continue to Cornwall)	1-2 per hour	1-2 per hour
South Western	Andover, Basingstoke, London Waterloo	3 journeys	1 journey

6.4.5 Weston-Super-Mare railway station is served directly by bus route A3, and offers some connections to the south with direct trains to Taunton and Exeter St Davids. For most destinations in the South West, rail journeys would be more straightforward via Bristol Temple Meads.

6.4.6 Bath Spa bus station is located adjacent to the railway station in central Bath and is connected to the Airport by frequent service A4, although the journey time is considerable (50-70 minutes) compared with access to other stations.

6.5 Walking & Cycling

6.5.1 Bristol Airport is located approximately 11km from Bristol City Centre and 18km from Weston super-Mare, which are the two closest urban areas to the airport. Walking and cycling trips are unlikely to be made to/from the airport by passengers who usually carry luggage. Employees are more likely to commute to the airport by walking and cycling trips, primarily those living in nearby villages. There are 13 villages/other settlements within a 5km radius from Bristol Airport.

Walking

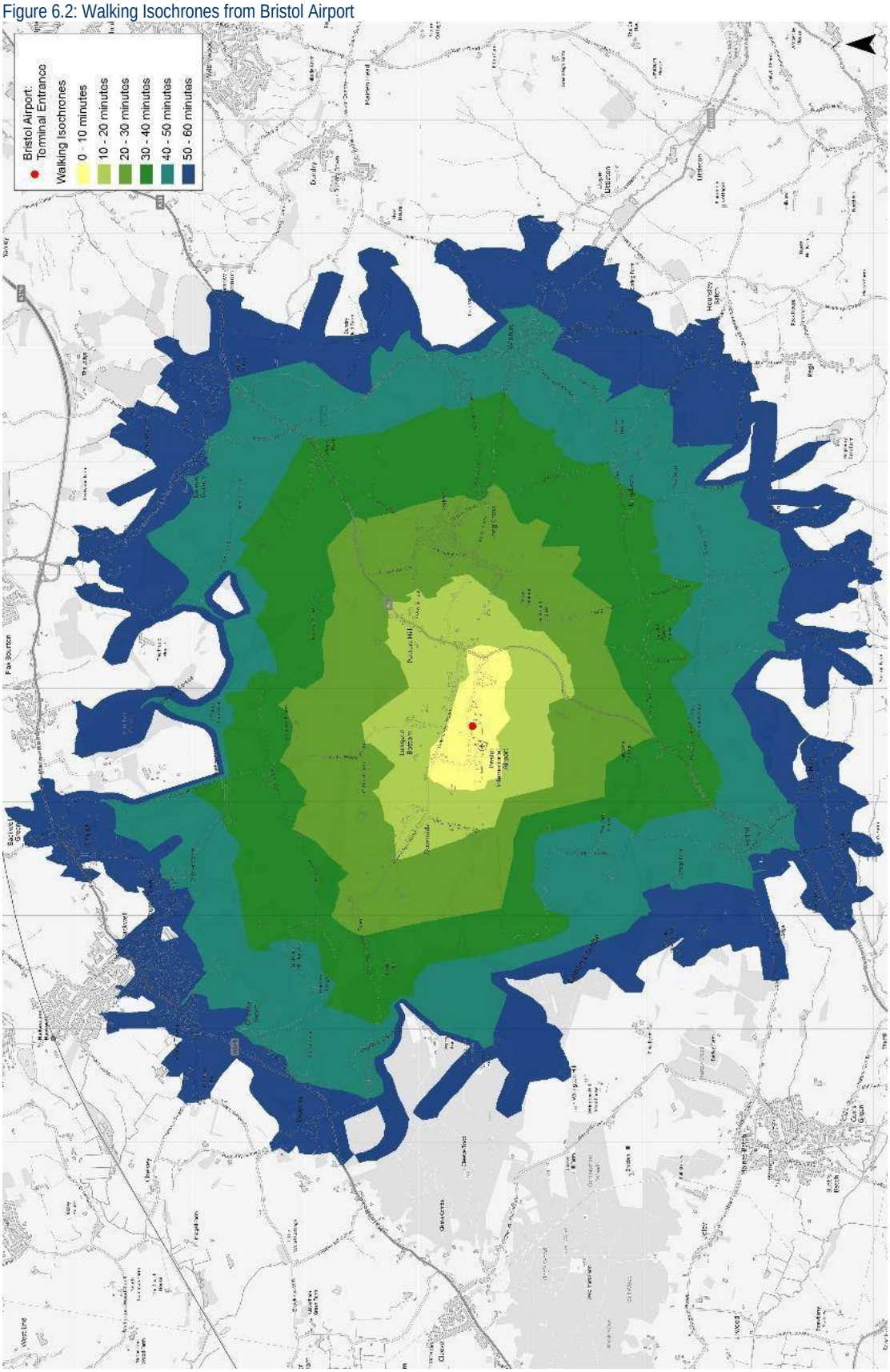
6.5.2 As set out within the submitted Workplace Travel Plan 2018 there are health benefits from increasing walking (even if that is only for bus stops located outside the Bristol Airport site). In addition to economic benefits to both employers and employees and social benefits for everyone.

6.5.3 The topographical nature and relatively rural location of the site mean that walking trips to and from the airport are predominantly likely to occur from the nearby hamlets of Downside, Lulsgate Bottom, Potters Hill and the village of Felton.

6.5.4 A footway is provided on one or both sides of the A38 from Bristol City Centre to the Bristol Airport site although the distance of the journey makes walking trips unlikely. The footpath along the A38 does not extend south of the airport for any significant distance, making walking from Wrington and other villages to the south of the site significantly less attractive.

6.5.5 **Figure 6.2** shows walking isochrones from the Bristol Airport site, for up to 1 hour in 10 minute intervals. These have been created based on a walking speed of 4.5km per hour.

Figure 6.2: Walking Isochrones from Bristol Airport



Cycling

6.5.6 Opportunities for cycling to and from the airport are limited due to the local topography, the busy nature of the A38, and the distance of the airport from major conurbations.

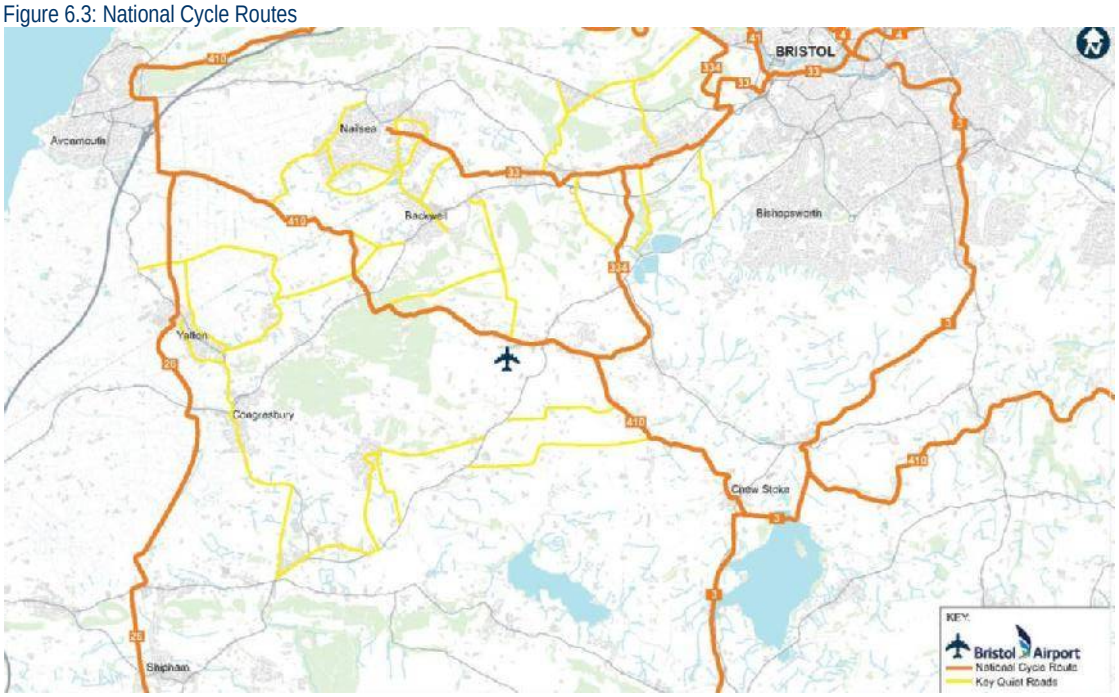
6.5.7 The most likely source of bicycle trips to and from the airport is trips from the hamlets of Downside, Lulsgate Bottom and Potters Hill and nearby villages such as Felton, Winford, Wrington and Backwell although the long hill through Brockley Coombe makes this unattractive for the occasional cyclist. Airport staff from further afield, including Nailsea, Portishead, Blagdon and Bristol, are also known to cycle to work on an occasional or regular basis.

6.5.8 The airport currently provides cycle parking racks and a secure cycle store at the Administration building. Shower facilities are also provided for employees upon request.

6.5.9 The recently opened the Silver Zone Staff Transport Hub also provides 16 space cycle parking area.

6.5.10 Cycling trips are likely to be made by employees and not passengers who usually carry luggage. **Figure 6.3** illustrates the National Cycle routes around Bristol Airport.

Figure 6.3: National Cycle Routes

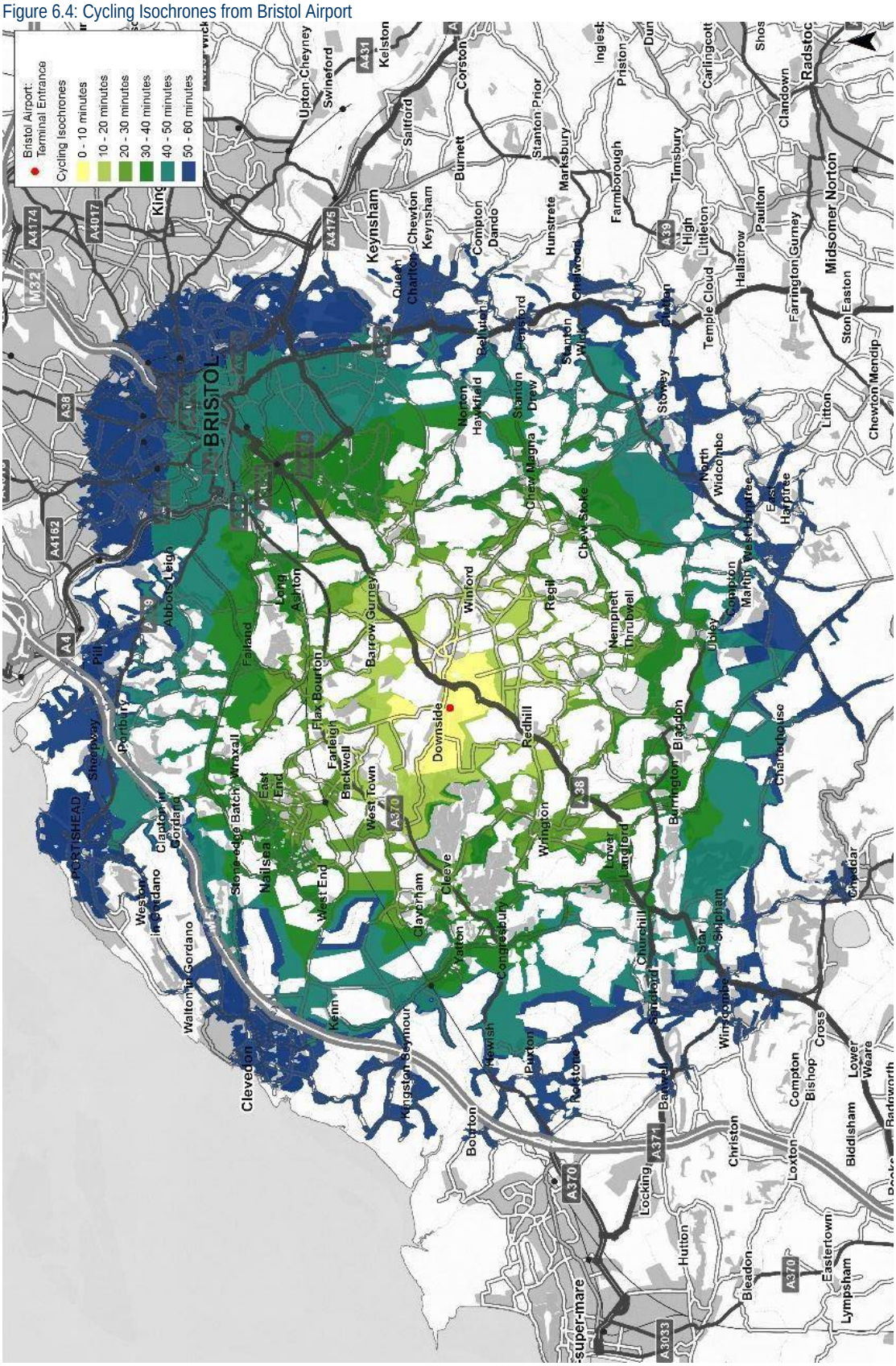


6.5.11 The National Cycle Network Route 410 (NCN410), also known as the 'Avon Cycleway' is a circuit route around Bristol City Centre and connecting to several villages, namely Clevedon, Portishead and Chew Magna. The NCN410 runs north of the site, along Downside Road and connects to other cycle routes including Route 4 (Bristol & Bath Cycle Path) and other routes into the city centre.

6.5.12 National Cycle Route (NCN334) runs north-south, to the west of Bristol, and connects to Sheepway (Portbury). The route links with the southern part of National Route 410. The National Cycle Network Route 3 (NCN 3) runs from Glastonbury to Bristol, through Chew Magna and Chew Stoke. The NCN 3 connects to the NCN 410 which is the primary route providing direct access to the airport.

6.5.13 Cycle journey time isochrones from the site covering journeys which can be made in 10 minute intervals up to 1 hour are shown on **Figure 6.4**. These have been created based on a cycling speed of 15km per hour.

Figure 6.4: Cycling Isochrones from Bristol Airport



6.5.14 As can be seen from Figure 5.5 the following towns / villages are accessible within a 20-minute cycle ride from the Bristol Airport site:

Barrow Gurney;

Backwell;

West Town;

Redhill;

Regil; and

Winford

6.6 Taxi Services

6.6.1 The Airport taxi service is operated under a concession arrangement with Arrow Cars, who were awarded an exclusive five-year contract in April 2015. This allows Arrow Cars sole rights to provision of private hire services taking bookings at the Airport, but does not exclude other operators who can set down or pick up pre-booked passengers from elsewhere; this is directed towards the drop-off and short stay car parks on site.

6.6.2 The concession is operated per a strict set of service standards laid down by the Airport, the objective of which is to ensure that private hire vehicles are readily available to passengers 24 hours a day. The agreement covers a range of issues including availability of taxis, quality of vehicles, maximum waiting time, driver standards and, where possible, avoidance of the B3130 through Barrow Gurney.

6.6.3 The Bristol Airport Surface Access Strategy does not promote an increase in modal share by taxi passengers. It does, however, seek to promote increased efficiency in the airport licensed vehicle operation by combining outward and inward journeys and use of licensed vehicle sharing. In the future, development of schemes such as Mobility as a Service (MaaS) could change the way people access the Airport by small vehicles, including taxis and taxi-bus style services.

6.7 On-airport Car Parking Provision

6.7.1 A total of 16,336 passenger car parking spaces are currently provided on the Bristol Airport site. Of this total, the Silver Zone Seasonal Car Park provides a total of 3,650 spaces for use between May and October; outside of this period, car parking capacity decreases commensurately to 12,686 spaces. BAL has received planning permission (Ref: 18/P/4007/FUL) to allow year-round use of car park for a temporary period of one year.

6.7.2 As discussed in Section 2.4 employees and visitors park in the recently opened Silver Zone Employee Transport Hub. Employees use the frequent shuttle bus to travel between the employee transport hub and the existing administration building and terminal building on the northern side of the airport.

6.8 Off-Site Car Parking

6.8.1 Bristol Airport does not provide any off-site parking provision. However, there are several unofficial off-site parking locations (many of which are not authorised i.e. have planning permission), which provide alternative parking options to that provided by Bristol Airport (see Parking Demand report for further details). It is understood that the majority of these unauthorised car parks operate in greenfield sites in the local area to the airport.

6.8.2 Following the two Master Plan consultations in 2017 and 2018, it was also indicated by local residents that vehicles, primarily taxis and passenger pick-up vehicles are parking on-street in the villages either throughout the period of their trip from Bristol Airport or prior to picking up passengers. It is worth noting this situation is not unique to Bristol Airport as this has been highlighted and reported at other UK airports.

6.9 Drop Off and Pick Up Facilities

6.9.1 Bristol Airport have the following drop off and pick up facilities available:

Express Drop Off

Short Stay and Pick Up

6.9.2 The Express Passenger drop off and pick up facility is located immediately in front of the terminal building. It is a barrier controlled area and provides 113 parking spaces. The area is designed to enable a passenger drop off, with parking available for up to 10 minutes, which currently costs £1. Special Assistance passenger drop off is also available in this area, and allows drivers up to 30 minutes of free parking.

6.9.3 The Short Stay and Pick Up facility is located opposite the terminal building. The area is designed to provide a waiting area for flight arrivals and is priced based on duration of stay, starting from £1 for 20 minutes. Special Assistance passenger drop off is also available in this area and allows drivers up to 30 minutes of free parking. A free shuttle bus is available to take passengers from the facility to the terminal door.

7 Highway Network

7.1 Introduction

7.1.1 To determine the potential implications of development on the surrounding highway networks, and therefore what mitigation might be required to address any impacts, it is first necessary to fully understand the existing transport context. This section therefore describes the existing vehicular access arrangements at the Bristol Airport site, existing highway network environment, recorded traffic flows, traffic growth factors and provides a review of personal injury collision (PIC) data.

7.2 Existing Vehicle Access

7.2.1 Primary access to the Bristol Airport site is provided by two roundabouts with the A38. The northern roundabout provides access to the northern parts of the airport including the main terminal building, passenger pick up and drop off areas, current administration building, hotel and operational facilities, and both short and long stay parking areas. This is also the main access for public transport services.

7.2.2 The southern roundabout primarily provides access to Silver Zone long-stay car parking, employee and visitor car parking, aircraft maintenance areas, the Bristol and Wessex Aeroplane Club, Bristol Flying Centre and Western Power Distribution Helicopter Unit. In addition, BAL are currently constructing a new Fire station and new administration building which are predicted to open in early 2019 and will also access from the southern roundabout.

7.2.3 An operational and emergency access is located to the north of Bristol Airport from Downside Road.

7.3 Highway Network

7.3.1 **Figure 7.1** shows the main highway network connecting Bristol Airport.

Figure 7.1: Local Highway Network

7.3.2 The primary road access to the Airport is via the A38 which is proposed to be included within the Major Road Network (MRN). The MRN seeks to improve the middle tier of the busiest and most economically important local authority 'A' roads.

7.3.3 The A38 is a strategic route between Bristol City Centre and Taunton, connecting to the M5 at Junction 22 and enabling connections to Somerset, Devon and Cornwall, to Weston-super-Mare via the A368 and A37 and provides connections to many of North Somerset villages. The A38 is single carriageway with a variable speed limit.

7.3.4 Downside Road, located to the north of the site boundary, connects to the A370 near Brockley. The A370 connects to Weston-super-Mare from M5 Junction 21 as well as local villages and towns.

7.4 Local Highway Network Flows

7.4.1 The extent of the traffic survey area was agreed during the pre-application discussions. The independent traffic survey specialists Intelligent Data (ID) were commissioned to undertake the following agreed traffic surveys:

24 hour Classified Turning Counts (CTC) & Queue Lengths

- A38 priority roundabout with Bristol Airport (Northern) Ref J1
- A38 priority roundabout with Bristol Airport (Silver Zone) Ref J2
- Downside Road priority junction with Bristol Airport (Service Access) Ref J3
- A38 signal junction with Downside Road Ref J4
- A38 priority junction with West Lane Ref J4
- A38 priority junctions with Hobbs Land & Barrow Lane Ref J5
- A38 signal junction with B3130 Barrow Street Ref J6
- A4174 Colliters Way (South Bristol Link (SBL)) roundabout with A38 Ref J7
- A370 roundabout with A4174 (SBL) Ref J8
- A370 signal junction with Brockley Combe Road and Brockley Lane Ref J9
- A370 signal junction with Station Road & Dark Lane Ref J10
- A370 signal junction with B3133 Smallway Ref J11
- A370 signal junction with B3133 High Street Ref J12
- A38 signal junction with A368 Ref J13

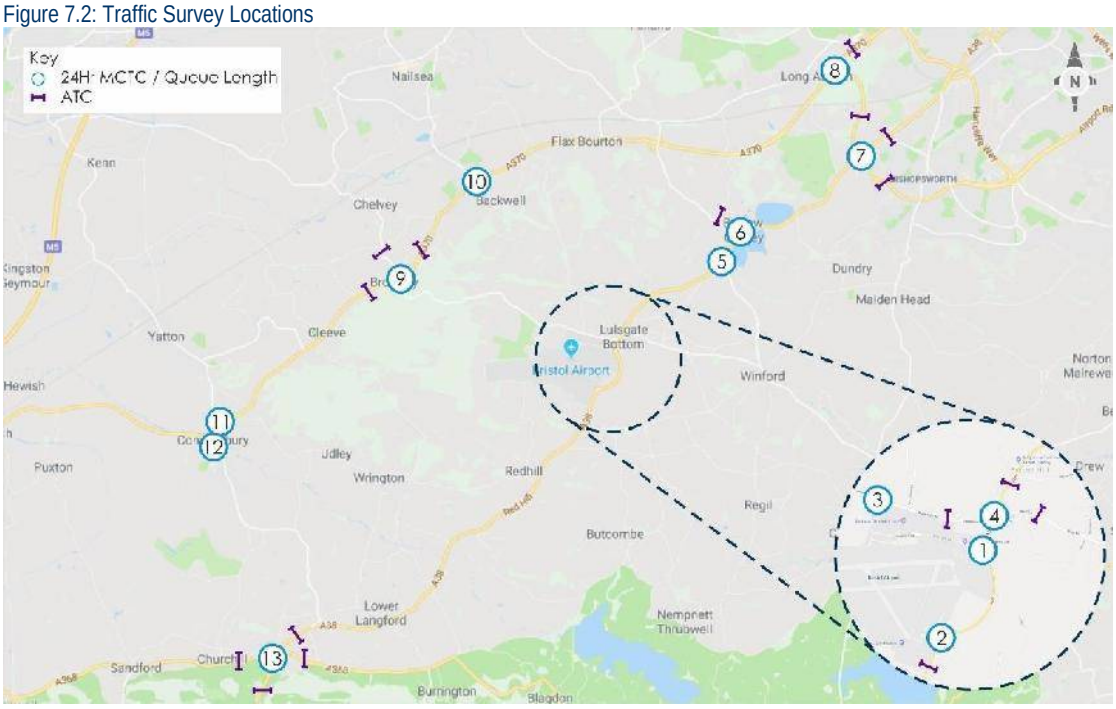
Weeklong Automatic Traffic Counts (ATC)

- A368 Dinghurst Road;
- A38 (North of Dinghurst Road);
- A368 Bath Road;
- A38 New Road;

- Brockley Lane;
- A370 Main Road (N);
- A370 Main Road (S);
- A370 (North of Colliters Way);
- A4174 Colliters Way;
- A38 Bridgewater Road (N);
- A4174 Colliters Way;
- A38 (North of West Lane);
- Barrow Street;
- West Lane;
- Downside Road; and
- A38 (South of Silver Zone).

7.4.2 **Figure 7.2** shows the location of the agreed traffic surveys and the full raw traffic survey data is contained within **Appendix E**.

Figure 7.2: Traffic Survey Locations



Bristol Airport Daily Vehicle Profile

7.4.3 The recorded hourly vehicle profile and classification at Bristol Airport's two primary access points (north and south roundabouts with the A38) and the emergency access on Downside Road are shown in **Figure 7.3, 7.4** and **7.5** respectively.

7.4.4 The results of the traffic surveys establish the baseline conditions and relate to the existing overall passenger PT modal share of 12.5% and employee PT modal share of 10%.

Figure 7.3: Bristol Airport Northern Access with A38 Daily Profile (J1)

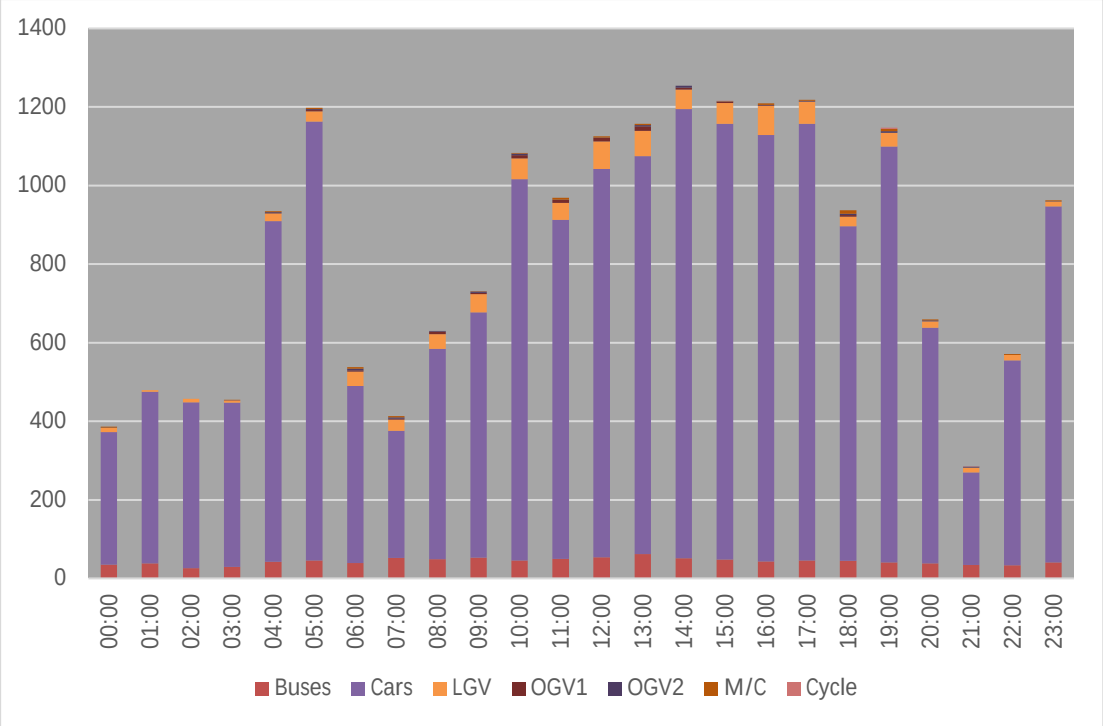


Figure 7.4: Bristol Airport Southern Access with A38 Daily Profile (J2)

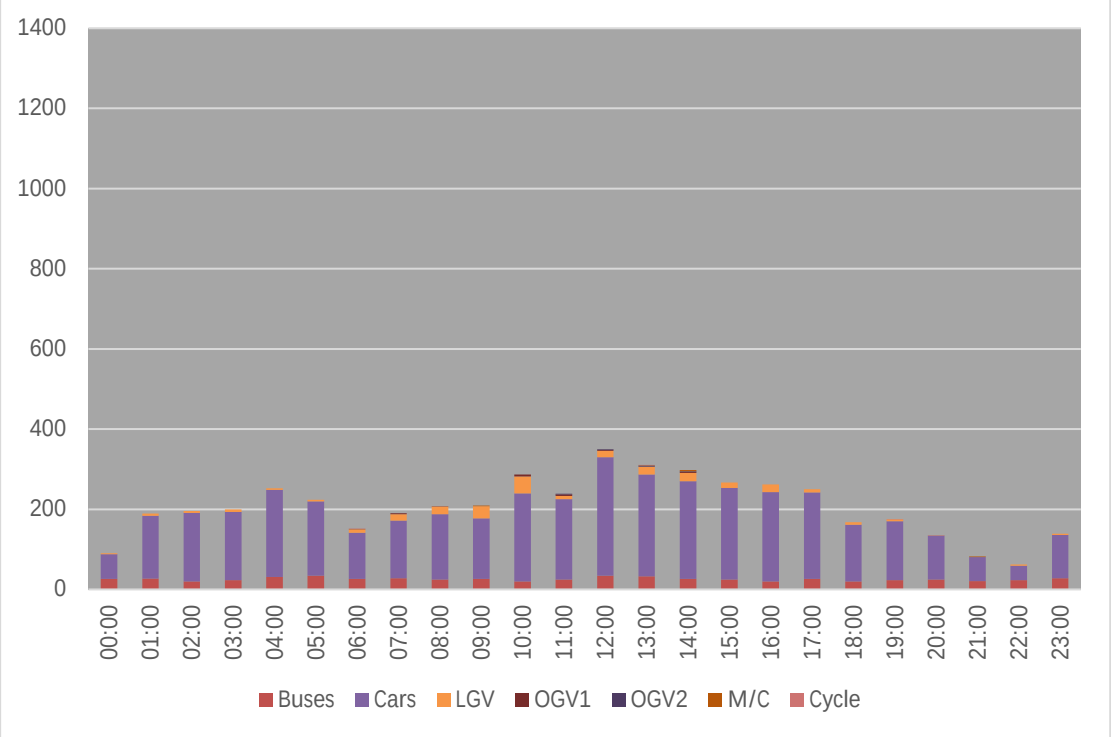
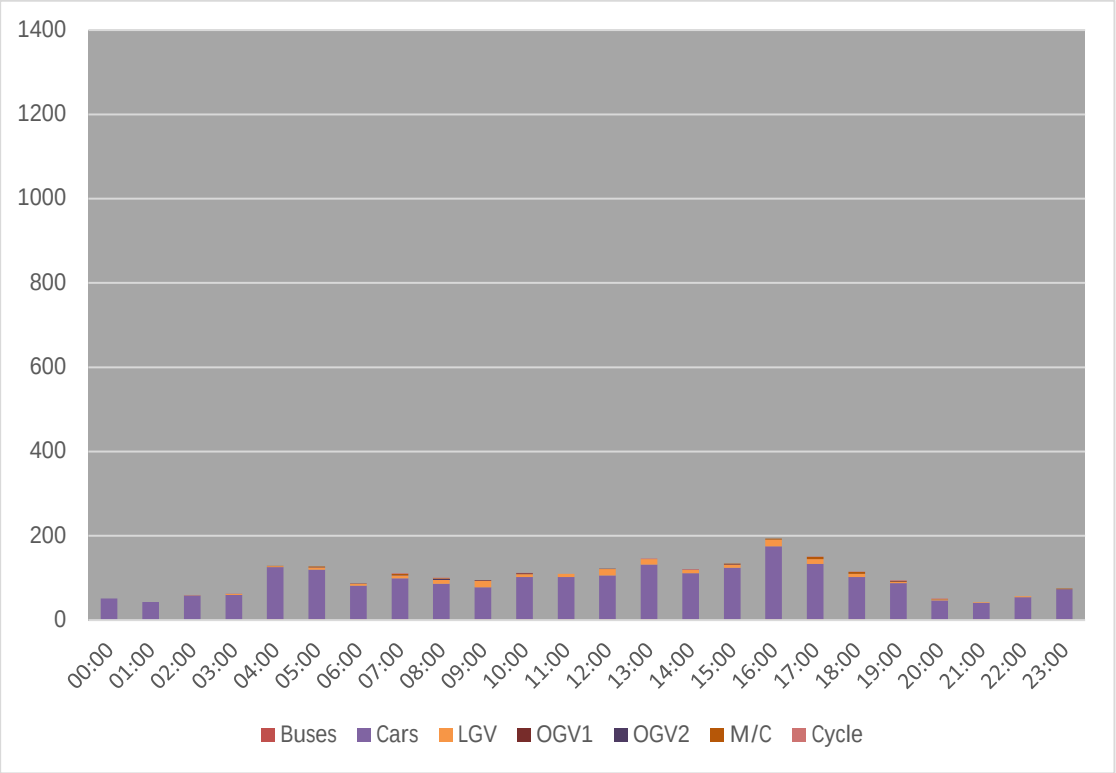


Figure 7.5: Bristol Airport Emergency Access with Downside Road (J3)



Agreed Study Area Daily Vehicle Profile

7.4.5 In order to determine the existing network peak periods, the traffic surveys have been interrogated to determine the total amount of traffic (Passenger Car Units (PCUs)) recorded through each surveyed junction throughout an average weekday. **Table 7.1** sets out the recorded hourly traffic flow profile for each junction (excluding the Bristol Airport site access (Junctions 1 to 3) which are detailed above) within the agreed study area for a 24-hour period.

Table 7.1: Recorded 2018 Junctions Daily Vehicle Profile (PCUs)

Time	J4: A38 / West Lane / Downside Road	J5: A38 / Hobbs Lane / Barrow Lane	J6: A38 / B3130 Barrow Street	J7: A4174 SBL / A38	J8: A370 / A4174 SBL	J9: A370 / Brockley Combe Road / Brockley Lane	J10: A370 / Station Road	J11: A370 / B3133 Smallway	J12: A370 / B3133 High Street	J13: A38 / A368
00:00	504	416	421	453	311	111	92	99	119	200
01:00	431	339	333	329	224	58	53	70	87	161
02:00	567	434	447	422	272	71	42	70	81	184
03:00	586	501	496	470	305	96	57	89	94	216
04:00	1,055	840	826	802	502	158	104	148	169	300
05:00	1,282	1,083	1,093	1,213	842	308	237	380	426	585

Time	J4: A38 / West Lane / Downside Road	J5: A38 / Hobbs Lane / Barrow Lane	J6: A38 / B3130 Barrow Street	J7: A4174 SBL / A38	J8: A370 / A4174 SBL	J9: A370 / Brockley Combe Road / Brockley Lane	J10: A370 / Station Road	J11: A370 / B3133 Smallway	J12: A370 / B3133 High Street	J13: A38 / A368
06:00	1,447	1,332	1,375	1,962	1,954	847	838	1,032	1,085	1,068
07:00	2,400	2,078	2,231	3,292	3,325	1,498	1,476	1,839	1,947	1,924
08:00	2,606	2,166	2,344	3,257	2,996	1,543	1,580	1,976	2,133	2,010
09:00	1,922	1,654	1,739	2,639	2,694	1,201	1,366	1,750	1,804	1,592
10:00	2,149	1,830	1,906	2,444	2,340	1,186	1,349	1,592	1,635	1,516
11:00	2,069	1,716	1,790	2,371	2,380	1,174	1,337	1,654	1,708	1,437
12:00	2,097	1,629	1,682	2,330	2,319	1,234	1,471	1,734	1,762	1,405
13:00	2,074	1,788	1,860	2,448	2,416	1,187	1,379	1,674	1,743	1,533
14:00	2,258	1,893	1,965	2,751	2,665	1,301	1,500	1,713	1,756	1,477
15:00	2,517	2,123	2,196	3,003	2,870	1,481	1,598	1,949	2,080	1,745
16:00	2,694	2,388	2,508	3,559	3,379	1,735	1,729	2,061	2,244	1,855
17:00	2,920	2,398	2,498	3,321	3,267	1,686	1,828	2,211	2,309	2,064
18:00	2,635	2,127	2,182	2,893	2,894	1,366	1,684	1,762	1,873	1,767
19:00	1,605	1,277	1,404	1,802	1,683	787	991	1,148	1,197	1,018
20:00	1,056	929	945	1,254	1,106	491	603	691	715	658
21:00	933	768	792	1,044	938	426	555	637	661	517
22:00	943	776	806	954	852	399	479	466	474	446
23:00	986	758	762	804	622	219	244	218	246	354

7.4.6 The traffic surveys indicated that the junctions within the study area have a defined morning (07:00-10:00) and evening (16:00-19:00) peak period. The network peak hours are between 08:00-09:00 in the morning and 17:00-18:00 in the evening. Therefore, the assessment of vehicular impact on the surrounding highway network, which is set out later in this report, focusses primarily on these peak periods, although checks are made to ensure these represent the highest overall flows.

7.4.7 A summary of the recorded inter-peak periods is provided below:

00:00-06:00 network flows are on average 84% lower than the peak hours;

10:00-16:00 network flows are on average 21% lower than the peak hours; and

19:00-24:00 network flows are on average 65% lower than the peak hour.

7.4.8 The hourly traffic volumes during the afternoon are similar across the study area. Therefore, outside of the traditional network peaks, an Airport Peak will be identified based on the trip generation associated with the Development Proposals.

7.4.9 As the trip generation methodology is based on flight schedules, the assessment will consider the traffic associated with the uplift in passengers, employees and logistics between the 10 mppa and 12 mppa scenarios. The hour with the largest increase in traffic will be considered as the Airport Peak.

7.5 Strategic Highway Network

7.5.1 During the pre-application process, Highways England agreed that the predicted level and timing of traffic on the strategic highway network associated with the Bristol Airport development proposals should be identified at Junctions 18 to 22 on the M5 motorway.

7.5.2 Highways England during the pre-application discussions acknowledged that the peak traffic demand at the Bristol Airport site differs from the traditional network peak periods as highlighted in **Section 7.4**.

7.5.3 As agreed with Highways England a quantitative numerical assessment has been undertaken as set out in **Section 10.5** at the agreed M5 Motorway junctions.

7.6 Traffic Growth

7.6.1 The government's most up to date Trip End Model Presentation Program (TEMPro) V7 is used to estimate the growth of traffic on a national through to sub town scale, for scaling traffic over any number of years between 2001 and 2041. This is an industry standard recognised software. TEMPro has been used with the National Traffic Model (NTM) database for the North Somerset area to identify growth between the identified years.

7.6.2 During pre-application discussions, the year 2026 was agreed with key stakeholders as an acceptable assessment year, as it is the forecast year at which Bristol Airport passenger throughput will reach 12 mppa. Traffic flows to/from the airport will not grow beyond the permitted level, if granted consent, and therefore proportionate impacts will reduce with time as background traffic flows increase. The resulting 2018 to 2026 growth factors are set out in **Table 7.2**.

Table 7.2: TEMPro NTM Adjusted Traffic Growth (2018 to 2026)

Level	00:00-07:00	07:00-10:00	10:00-16:00	16:00-19:00	19:00-00:00
South West	1.1205	1.1295	1.1416	1.127	1.1205
Somerset	1.1248	1.1319	1.1483	1.1307	1.1248
North Somerset	**1.1368**	**1.142**	**1.1628**	**1.1422**	**1.1368**

7.6.3 The July 2018 traffic surveys recorded both airport and non-airport related traffic across the entire study area. To present a robust assessment, the recorded traffic has been factored up to 2026, which includes the traffic associated with approximately 8.6 mppa (the estimated 2018 passenger numbers).

7.6.4 **Table 7.3** provides the number of additional airport-related traffic movements at each access to Bristol Airport that have been inherently included in the background traffic growth calculation.

7.6.5 Within the scaled-up background traffic is an additional 4,021 daily two-way vehicle movements associated with Bristol Airport, which relates to approximate increase of 1.4 mppa at the Bristol Airport site. The traffic and highway assessment methodology is therefore testing

the effects of 13.4 mppa on the highway network in the study area, ensuring a robust assessment and accounting for daily or monthly variations.

Table 7.3: Daily Airport Related Traffic Volume Increase within 2026 Background Traffic

Access	In	Out	Two-Way
J1: A38 / Northern Bristol Airport Roundabout	1,469	1,473	2,942
J2: A38 / Southern Bristol Airport Roundabout	354	374	728
J3: Downside Road / Bristol Airport	163	188	351
Total	**19,86**	**2,034**	**4,021**

7.6.6 **Table 7.4** sets out the 2026 forecast daily flow profile for the junctions within the study area. This has been calculated using the recorded traffic flows presented in **Table 7.1** and the growth factors in **Table 7.2**.

Table 7.4: Forecast 2026 Junctions Daily Vehicle Profile (PCUs)

Time	J4: A38 / West Lane / Downside Road	J5: A38 / Hobbs Lane / Barrow Lane	J6: A38 / B3130 Barrow Street	J7: A4174 SBL / A38	J8: A370 / A4174 SBL	J9: A370 / Brockley Combe Road / Brockley Lane	J10: A370 / Station Road	J11: A370 / B3133 Smallway	J12: A370 / B3133 High Street	J13: A38 / A368
00:00	573	473	479	515	354	126	105	113	135	227
01:00	490	385	379	374	255	66	60	80	99	183
02:00	645	493	508	480	309	81	48	80	92	209
03:00	666	570	564	534	347	109	65	101	107	246
04:00	1,199	955	939	912	571	180	118	168	192	341
05:00	1,457	1,231	1,243	1,379	957	350	269	432	484	665
06:00	1,645	1,514	1,563	2,230	2,221	963	953	1,173	1,233	1,214
07:00	2,741	2,373	2,548	3,759	3,797	1,711	1,686	2,100	2,223	2,197
08:00	2,976	2,474	2,677	3,719	3,421	1,762	1,804	2,257	2,436	2,295
09:00	2,195	1,889	1,986	3,014	3,077	1,372	1,560	1,999	2,060	1,818
10:00	2,499	2,128	2,216	2,842	2,721	1,379	1,569	1,851	1,901	1,763
11:00	2,406	1,995	2,081	2,757	2,767	1,365	1,555	1,923	1,986	1,671
12:00	2,438	1,894	1,956	2,709	2,697	1,435	1,710	2,016	2,049	1,634
13:00	2,412	2,079	2,163	2,847	2,809	1,380	1,604	1,947	2,027	1,783
14:00	2,626	2,201	2,285	3,199	3,099	1,513	1,744	1,992	2,042	1,717
15:00	2,927	2,469	2,554	3,492	3,337	1,722	1,858	2,266	2,419	2,029
16:00	3,077	2,728	2,865	4,065	3,859	1,982	1,975	2,354	2,563	2,119

Time	J4: A38 / West Lane / Downside Road	J5: A38 / Hobbs Lane / Barrow Lane	J6: A38 / B3130 Barrow Street	J7: A4174 SBL / A38	J8: A370 / A4174 SBL	J9: A370 / Brockley Combe Road / Brockley Lane	J10: A370 / Station Road	J11: A370 / B3133 Smallway	J12: A370 / B3133 High Street	J13: A38 / A368
17:00	3,335	2,739	2,853	3,793	3,732	1,926	2,088	2,525	2,637	2,358
18:00	3,010	2,429	2,492	3,304	3,306	1,560	1,923	2,013	2,139	2,018
19:00	1,825	1,452	1,596	2,049	1,913	895	1,127	1,305	1,361	1,157
20:00	1,200	1,056	1,074	1,426	1,257	558	685	786	813	748
21:00	1,061	873	900	1,187	1,066	484	631	724	751	588
22:00	1,072	882	916	1,085	969	454	545	530	539	507
23:00	1,121	862	866	914	707	249	277	248	280	402

7.7 Personal Injury Collision Review

7.7.1 As part of the TA, a personal injury collision (PIC) review has been conducted across agreed study areas in NSC and BCC. This assesses the most recent five-year study period and determines whether there are any integral highway safety issues where there are anticipated to be increase in vehicular, pedestrian and cycle movements associated with the Development Proposals.

7.7.2 The collisions are classed into three categories: slight, serious and fatal, a definition of which is provided below:

Slight Injury: Injuries of a minor nature, such as sprains, bruises, or cuts not judged to be severe, or slight shock requiring only roadside attention (medical treatment is not a prerequisite for an injury to be defined as slight).

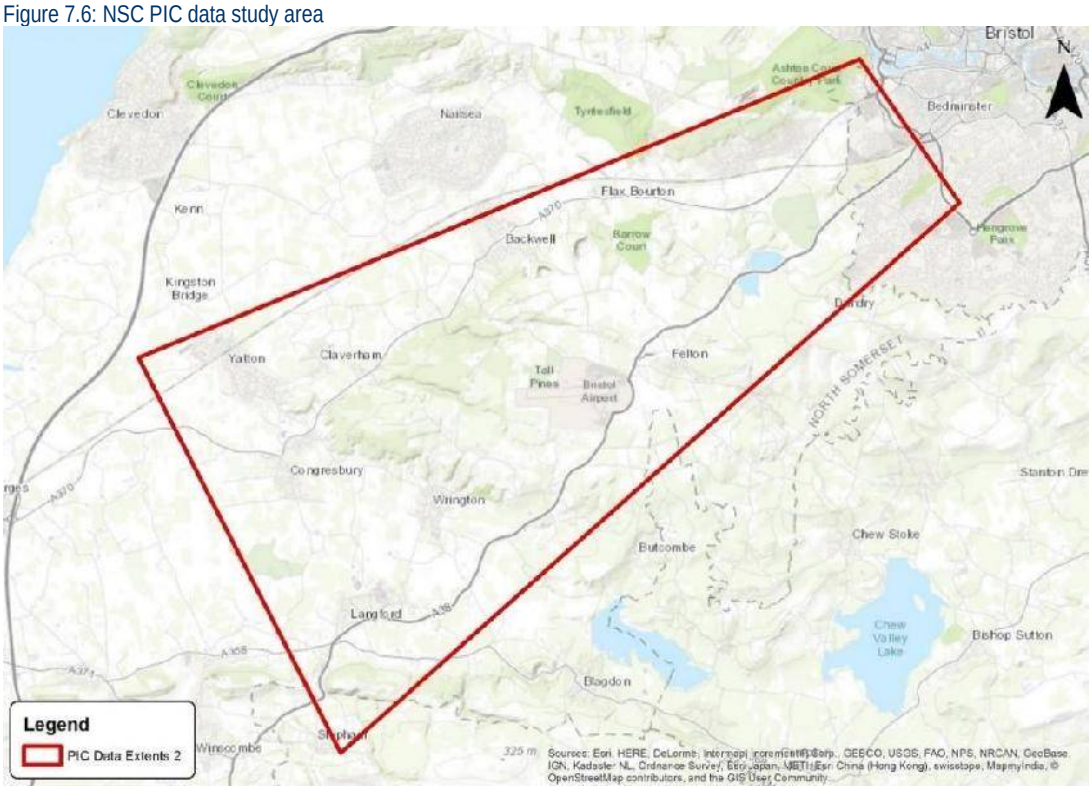
Serious Injury: Injuries for which a person is detained in hospital, as an in-patient, or any of the following injuries (whether a person is detained in hospital); fractures, concussion, internal injuries, severe cuts and lacerations, severe general shock requiring medical treatment and injuries which result in death 30 days after the accident. The serious category, therefore, covers a very broad range of injuries.

Fatal Injury: Injuries which cause death either immediately or any time up to 30 days after the collision

North Somerset Council – Study Area

7.7.3 The latest available five years of PIC data has been obtained for the agreed study area within NSC as shown in **Figure 7.6**. PBA obtained the PIC Data from NSC, who hold and manage the data for this area. The PIC records cover a 54-month period from 01/01/2014 to the 30/06/2018.

Figure 7.6: NSC PIC data study area



Collision Summary

7.7.4 A summary of the annual rolling 54-month collision data (01/01/2014 to 30/06/2018) within the study area is provided within **Table 7.5**. The table is disaggregated to show the total collisions and the vulnerable road users (pedal cyclists and pedestrians) involved in the collisions. The five rolling years are as follows;

Year 1 - 01/01/2014 – 31/12/2014

Year 2 – 01/01/2015 – 31/12/2015

Year 3 - 01/01/2016 – 31/12/2016

Year 4 – 01/01/2017 – 31/12/2017

Year 5 – 01/01/2018 – 30/06/2018

Table 7.5: Summary of Collisions (01/01/2014 – 30/06/2018)

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	1	0	3	0	5
	Serious	10	10	8	19	3	50
	Slight	74	59	53	67	13	266
	Sub Total	85	70	61	89	16	321
Pedestrian	Fatal	0	0	0	2	0	2
	Serious	2	2	3	1	1	9
	Slight	6	2	8	4	0	20

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
	Sub Total	8	4	11	7	1	31
Cyclist	Fatal	0	0	0	0	0	0
	Serious	1	1	1	3	0	6
	Slight	10	7	6	10	1	34
	Sub Total	11	8	7	13	1	40

7.7.5 During the 54-month period between the 1st January 2014 to 30th June 2018, there were 321 collisions resulting in 5 (2%) fatal accident types, 50 (15%) serious accident types and 266 (83%) slight accident types.

7.7.6 Over the entire 5-year period, 22% (71) of the recorded collisions involved a vulnerable road user (pedestrian or cyclists) resulting in 2 fatal accident types, 15 serious accident types and 54 slight accident types. For the individual years, the proportion of collisions involving either cyclists or pedestrians are as follows; 2014: 22% (19),

2014: 22% (19),

2015: 17% (12),

2016: 30% (18),

2017: 22% (20); and

2018: 13% (2).

Casualties Summary

7.7.7 A summary of the casualties across the 54-month period are provided in **Table 7.6**. The table is disaggregated to show casualties including vulnerable road users (pedestrians and cyclists).

Table 7.6: Summary of Casualties (01/01/2014 – 30/06/2018)

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	1	0	3	0	5
	Serious	10	10	8	22	3	53
	Slight	105	85	76	105	19	390
	Sub Total	116	96	84	130	22	448
Pedestrian	Fatal	0	0	0	2	0	2
	Serious	2	2	3	1	1	9
	Slight	6	2	8	5	0	21
	Sub Total	8	4	11	7	1	32
Cyclist	Fatal	0	0	0	0	0	0
	Serious	1	1	1	2	0	5
	Slight	10	7	6	12	1	36
	Sub Total	11	8	7	14	1	41

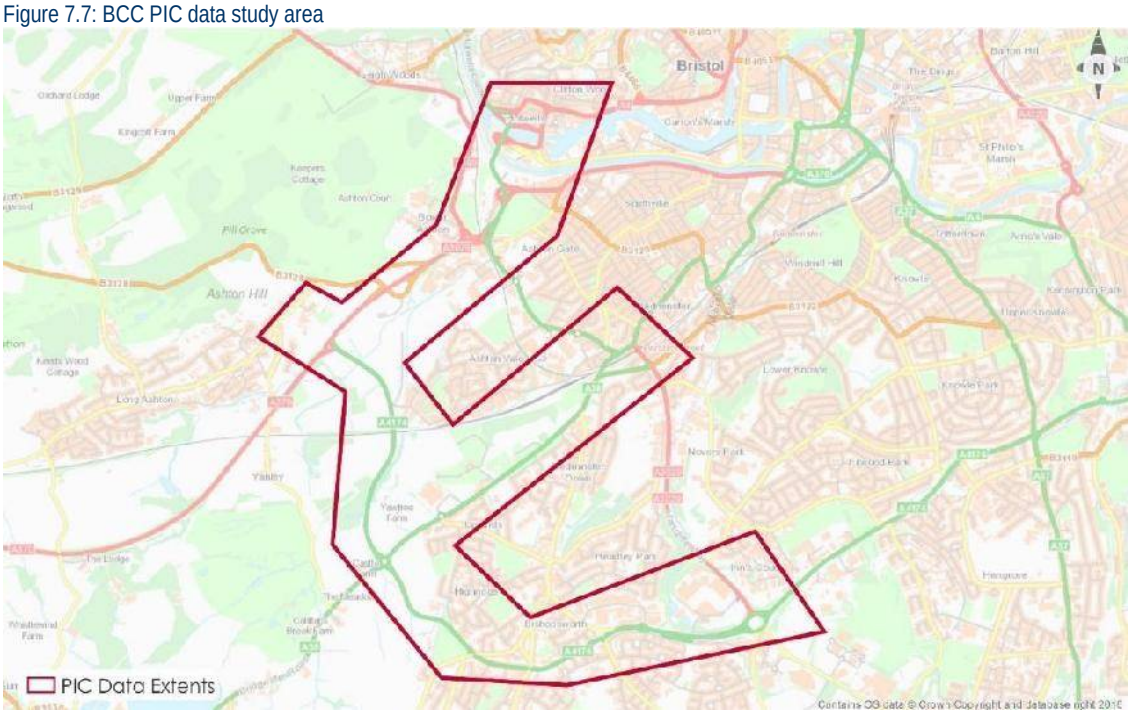
7.7.8 During the 54-month period between the 1st January 2014 to 30th June 2018, there were 448 casualties resulting in 5 (1%) fatal injuries, 53 (12%) serious injuries and 390 (87%) slight injuries.

7.7.9 Over the entire 5-year period, 16% (73) of casualties involved a pedestrian or cyclists, 7% (32) were pedestrians and 9% (41) cyclists. There were 2 fatalities involving a vulnerable road user and 14 serious casualties. The full PIC assessment for the agreed study area in North Somerset Council is provided within **Appendix F**.

Bristol City Council – Study Area

7.7.10 The latest available five years of PIC data has been obtained for the agreed study area within Bristol City Council (BCC) as shown in **Figure 7.7**. PBA obtained the PIC Data from BCC, who hold and manage the data for this area. The PIC records cover a 60-month period from 01/10/2013 to the 30/09/2018.

Figure 7.7: BCC PIC data study area



Collision Summary

7.7.11 A summary of the annual rolling 60-month collision data (01/10/2013 and 30/09/2018) within the study area is provided within **Table 7.7**. This is broken down to show the total collisions and additionally the vulnerable road users (pedal cyclists and pedestrians) involved in the collisions. The five rolling years are as follows:

Year 1 - 01/10/2013 – 30/09/2014

Year 2 – 01/10/2014 – 30/09/2015

Year 3 - 01/10/2015 – 30/09/2016

Year 4 – 01/10/2016 – 30/09/2017

Year 5 – 01/01/2017 – 30/09/2018

Table 7.7: Summary of Collisions (01/01/2013 – 30/09/2018)

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	0	0	1	1	3
	Serious	5	4	6	4	3	22
	Slight	49	48	36	41	36	210
	Sub Total	55	52	42	46	40	235
Pedestrian	Fatal	0	0	0	1	1	2
	Serious	1	0	3	1	0	5
	Slight	6	4	6	6	4	26
	Sub Total	7	4	9	8	5	33
Cyclist	Fatal	0	0	0	0	0	0
	Serious	2	0	2	1	0	5
	Slight	7	12	7	7	11	44
	Sub Total	9	12	9	8	11	49

7.7.12 During the 60-month period between the 1st October 2013 to 30th September 2018, there were 235 collisions resulting in 3 (1%) fatal accident types, 22 (9%) serious accident types and 210 (90%) slight accident types.

7.7.13 Over the entire 5-year period, 35% (82) of the recorded collisions involved a vulnerable road user (pedestrian or cyclists) resulting in 2 fatal accident types, 10 serious accident types and 70 slight accident types. For the individual years, the proportion of collisions involving either cyclists or pedestrians are as follows; 2014: 19.5% (16),

2015: 19.5% (16),

2016: 22% (18),

2017: 19.5% (16); and

2018: 19.5% (16).

Casualties Summary

7.7.14 A summary of the casualties across the 54-month period are provided in **Table 7.8**. The table is disaggregated to show casualties including vulnerable road users (pedestrians and cyclists).

Table 7.8: Summary of Casualties (01/01/2013 – 30/09/2018)

Casualties	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	0	0	1	1	3
	Serious	5	4	6	4	3	22
	Slight	61	64	46	48	55	274
	Sub Total	67	68	52	53	59	299
Pedestrian	Fatal	0	0	0	1	1	2
	Serious	1	0	3	1	0	5

Casualties	Injury Severity	Year					Total
		1	2	3	4	5	
	Slight	6	4	6	6	3	25
	Sub Total	7	4	9	8	4	32
Cyclist	Fatal	0	0	0	0	0	0
	Serious	2	0	2	1	0	5
	Slight	7	12	7	7	11	44
	Sub Total	9	12	9	8	11	49

7.7.15 During the 60-month period between the 60-month period between the 1st October 2013 to 30th September 2018, there were 299 casualties resulting in 3 (1%) fatal injuries, 22 (7%) serious injuries and 274 (92%) slight injuries.

7.7.16 Over the entire 5-year period, 27% (81) of casualties involved a pedestrian or cyclists, 11% (32) were pedestrians and 16% (49) cyclists. There were 2 fatalities involving a vulnerable road user and 10 serious casualties. The full PIC assessment for the agreed study area in Bristol City is provided within **Appendix F**.

8 Bristol Airport Forecast Travel Demands

8.1 Introduction

8.1.1 To determine the likely impacts resulting from an increase in passengers of 2 mppa, it is necessary to quantify both the trip generation of the permitted 10 mppa scheme and the 12 mppa proposals.

8.1.2 The 10 mppa scheme was permitted in 2011 and the assessment was based on the forecast flight schedule at that time. There is now a more up-to-date understanding of air traffic volumes and commercial viability of flight routes, and therefore the forecast 10 mppa flight schedule has been updated and used within this assessment. In addition to this, the CAA passenger survey, carried out in 2015, provides a more up to date understanding of passenger trends, which has been used within the trip generation methodology of this TA. application.

8.1.3 As detailed in **Chapter 5.2**, the established baseline of the assessment is 2017, which relates to 8.2 mppa. Comprehensive traffic surveys carried out in July 2018 forms the observed traffic baseline, which relates to a larger number of passengers (~8.6 mppa).

8.1.4 This chapter sets out the approach and methodology adopted for deriving the multi-modal trip generation for the consented 10 mppa (additional 1.8 mppa) and the proposed 12 mppa (additional 2 mppa) at Bristol Airport.

8.2 Passenger Annual Profile

8.2.1 BAL projections to 10 mppa and 12 mppa are based on the recorded monthly passenger profile from 2017. This is supported by historic annual trends at Bristol Airport for the past 5 years.

8.2.2 **Table 8.1** sets out the projected annual profile of passenger throughput for 10 mppa, 12 mppa and the difference by month and for an average (mean) day within the month.

Table 8.1: Passenger Profile 10 mppa and 12 mppa

Month	Passenger % per Month	2021 (10 mppa)		2026 (12 mppa)		Difference (2 mppa)	
		Month	Average Day	Month	Average Day	Month	Average Day
January	5.8%	579,019	18,678	69,4823	22,414	115,804	3,736
February	5.9%	594,475	21,231	71,3370	25,478	118,895	4,246
March	7.0%	695,106	22,423	83,4127	26,907	139,021	4,485
April	8.2%	817,698	27,257	98,1238	32,708	163,540	5,451
May	9.4%	942,090	30,390	1,130,508	36,468	188,418	6,078
June	10.3%	1,034,035	34,468	1,240,842	41,361	206,807	6,894
July	10.6%	1,061,809	34,252	1,274,171	41,102	212,362	6,850
August	**11.0%**	**1,098,181**	**35,425**	**1,317,817**	**42,510**	**219,636**	**7,085**
September	10.2%	1,021,950	34,065	1,226,340	40,878	204,390	6,813
October	9.3%	93,4502	30,145	1,121,403	36,174	186,900	6,029

Month	Passenger % per Month	2021 (10 mppa)		2026 (12 mppa)		Difference (2 mppa)	
		Month	Average Day	Month	Average Day	Month	Average Day
November	5.9%	593,448	19,782	712,137	23,738	118,690	3,956
December	6.3%	627,687	20,248	753,224	24,298	125,537	4,050
Year	**100%**	**10,000,000**	**27,397**	**12,000,000**	**32,877**	**2,000,000**	**5,479**

8.2.3 The Development Proposals are predicted to result in a peak daily uplift of 7,085 passengers in the summer month of August.

8.3 Passenger Catchment

8.3.1 Historically, passenger growth at Bristol Airport has been primarily from the South West and South Wales. Passenger growth for 10 mppa and the 12 mppa is predicted to continue in this trend by introducing new flight destinations. This will be more attractive to those from the South West of England and South Wales, who would otherwise travel further distances to other airports to make these journeys.

8.3.2 For these reasons, growth projections are expected to be met by passengers from the South West and South Wales only. **Table 8.2** sets out the predicted 10 mppa and 12 mppa growth per area.

Table 8.2: Passenger Origin / Destination (10 mppa & 12 mppa)

Region	2021 10 mppa	2026 12 mppa	Difference 2 mppa
East Midlands	10,994	10,994	0
East of England	11,910	11,910	0
North East	1,832	1,832	0
North West	13,742	13,742	0
Scotland	17,407	17,407	0
South East	105,359	105,359	0
South West	7,773,308	9,383,308	1,610,000
Wales	1,882,975	2,272,975	390,000
West Midlands	162,161	162,161	0
Yorkshire	5,497	5,497	0
Total	**10,000,000**	**12,000,000**	**2,000,000**

8.3.3 **Table 8.3** presents the passenger catchment for an average day in the peak month of August for both the 10 mppa and 12 mppa scenarios. This has been based on the information set out within **Table 8.1** and **Table 8.2**.

Table 8.3: UK Daily Passenger Origin / Destination for the Peak Month of August (10 mppa & 12 mppa)

Region	Passengers per Day in August 10 mppa	Passengers per Day in August 12 mppa	Daily Difference in August
East Midlands	32	32	0

Region	Passengers per Day in August 10 mppa	Passengers per Day in August 12 mppa	Daily Difference in August
East of England	32	32	0
North East	6	6	0
North West	41	41	0
Scotland	61	61	0
South East	429	429	0
South West	27,262	32,909	+5,647
Wales	6,946	8,384	+1,438
West Midlands	590	590	0
Yorkshire	26	26	0
Total	**35,425**	**42,510**	**+7,085**

8.3.4 This shows that on an average day in the peak month of August, an additional 5,646 (80%) of the number of additional passengers associated with the Development Proposals have an origin or destination in the South West.

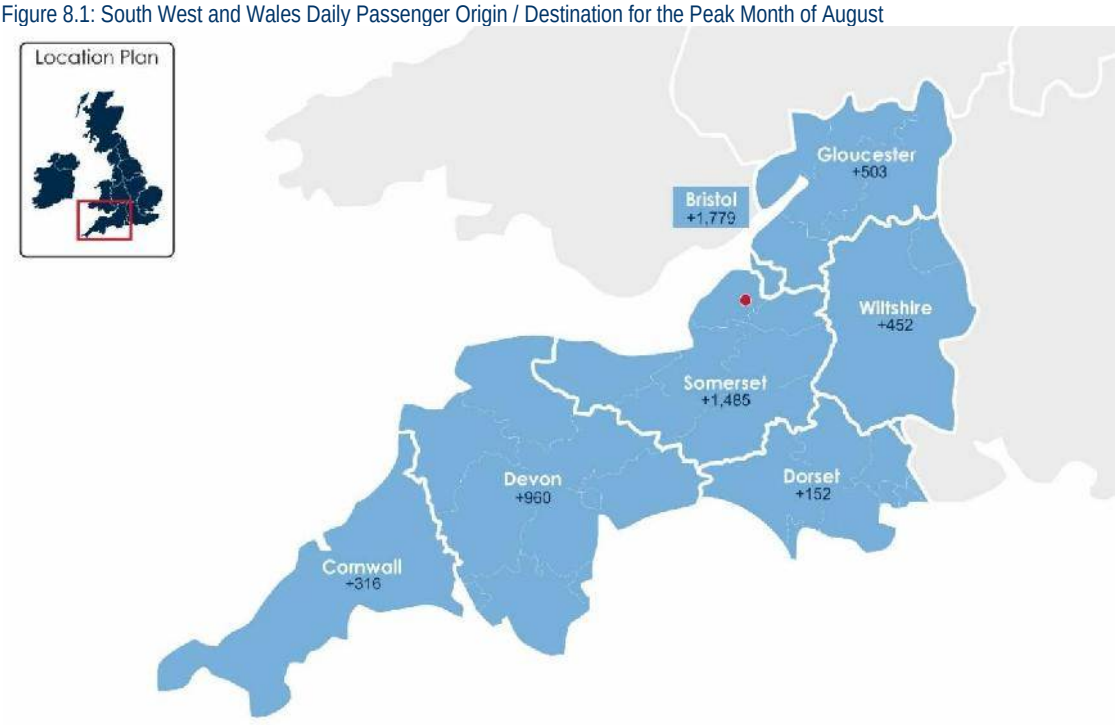
8.3.5 As set out in **Table 8.4**, additional passenger numbers per regional catchment for the South West of England has been determined for the forecast 10 mppa and 12 mppa.

Table 8.4: South West Daily Passenger Origin / Destination for the Peak Month of August (10 mppa & 12 mppa)

South West	Passenger Percentage	Passengers per Day 10 mppa	Passengers per Day 12 mppa	Difference 2 mppa
City of Bristol	31.5%	8,588	10,366	+1,779
Cornwall	5.6%	1,527	1,843	+316
Devon	17.0%	4,635	5,595	+960
Dorset	2.7%	736	889	+152
Gloucestershire	8.9%	2,426	2,929	+503
Somerset	**26.3%**	**7,170**	**8,655**	**+1,485**
Wiltshire	8.0%	2,181	2,633	+452
Total	**100.0%**	**27,262**	**32,909**	**+5,647**

8.3.6 **Figure 8.1** shows the daily passenger increase in South West and Wales increase because of the Development Proposals for the peak month of August.

Figure 8.1: South West and Wales Daily Passenger Origin / Destination for the Peak Month of August



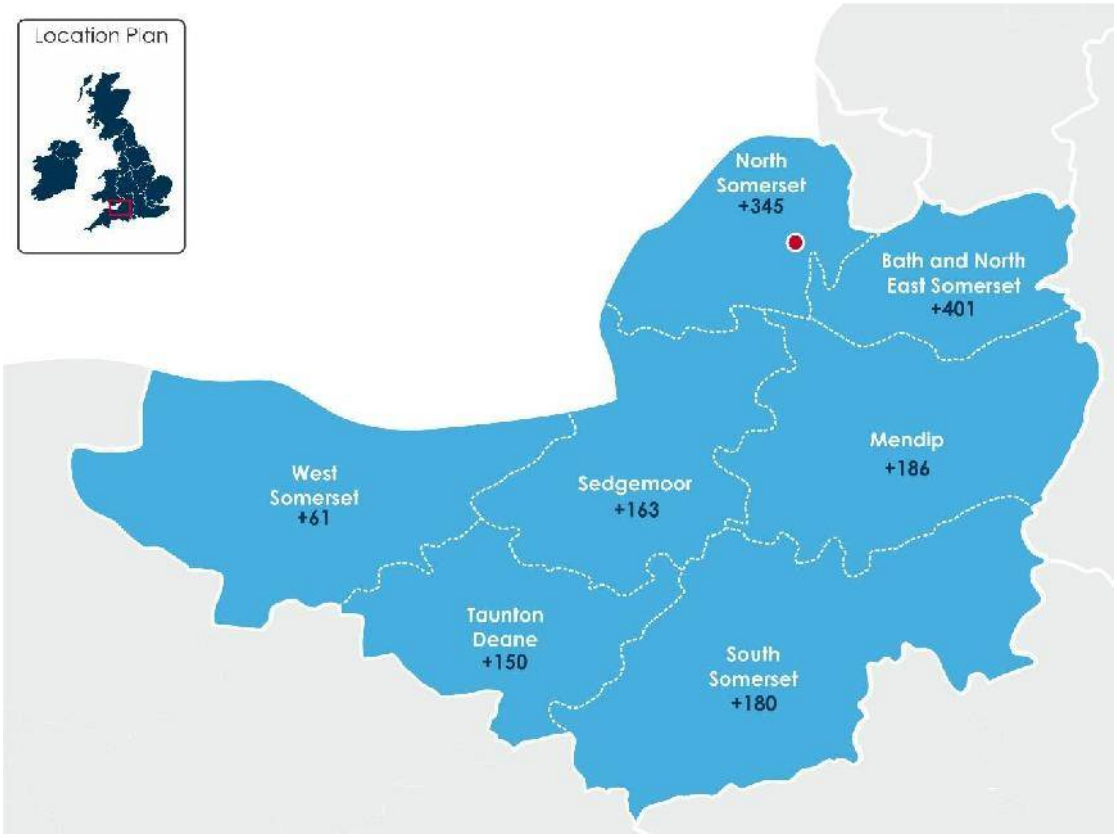
8.3.7 **Table 8.5** presents the additional passenger numbers per catchment within each Local Authority in the wider Somerset area, for an average day in the peak month of August.

Table 8.5: Somerset Daily Passenger Origin / Destination for the Peak Month of August (10 mppa & 12 mppa)

Somerset	Passenger Percentage	Passenger per Day 10 mppa	Passenger per Day 12 mppa	Difference 2 mppa
North Somerset	23.2%	1,663	2,008	345
Bath & North East Somerset	27.0%	1,936	2,337	401
Mendip District	12.5%	896	1,082	186
Sedgemoor District	11.0%	789	952	163
South Somerset	12.1%	868	1,047	180
Taunton Deane	10.1%	731	874	150
West Somerset	4.1%	301	355	61
Total	**100.0%**	**7,170**	**8,655**	**1,485**

8.3.8 **Figure 8.2** shows the additional passenger numbers per catchment within each Local Authorities in the wider Somerset area for an average day in the peak month of August because of the Development Proposals.

Figure 8.2: Somerset Daily Passenger Origin / Destination for the Peak Month of August



8.4 Forecast Passenger Modal Share

8.4.1 2015 CAA data has been used to understand modal share characteristics for each catchment area.

8.4.2 To present a robust assessment the 15% target of passengers travelling via public transport has been utilised to forecast the uplift in public transport passengers from 8.2 mppa to 10 mppa and 12 mppa. The anticipated numbers of passenger using public transport are summarised below:

15% of 10 mppa = 1,500,000 passengers; and

15% of 12 mppa = 1,800,000 passengers.

8.4.3 **Table 8.6** summarises the overall modal share assumption for the Development Proposals on the basis that Public Transport mode share will remain constant between the forecast 10 mppa and 12 mppa scenarios, presenting a robust assessment. However, BAL intend to promote and improve public and shared transport use as part of the package of measures associated with the 12 mppa application as part of the ASAS which the airport will commit to deliver.

Table 8.6: 10mppa & 12mppa Modal share

	Public Transport	Taxi	Car	Car Drop Off	Other	Total
10 mppa Modal share	15% 1,500,000	11% 1,100,00	47% 4,700,000	27% 2,700,000	1% 100,000	100% 10,000,000
12 mppa Modal share	15% 1,800,00	11% 1,320,000	47% 5,640,000	27% 3,240,000	1% 120,000	100% 120,000,00
Change	0% 300,000	0% 220,000	0% 940,000	0% 540,000	0% 20,000	0% 2,000,000

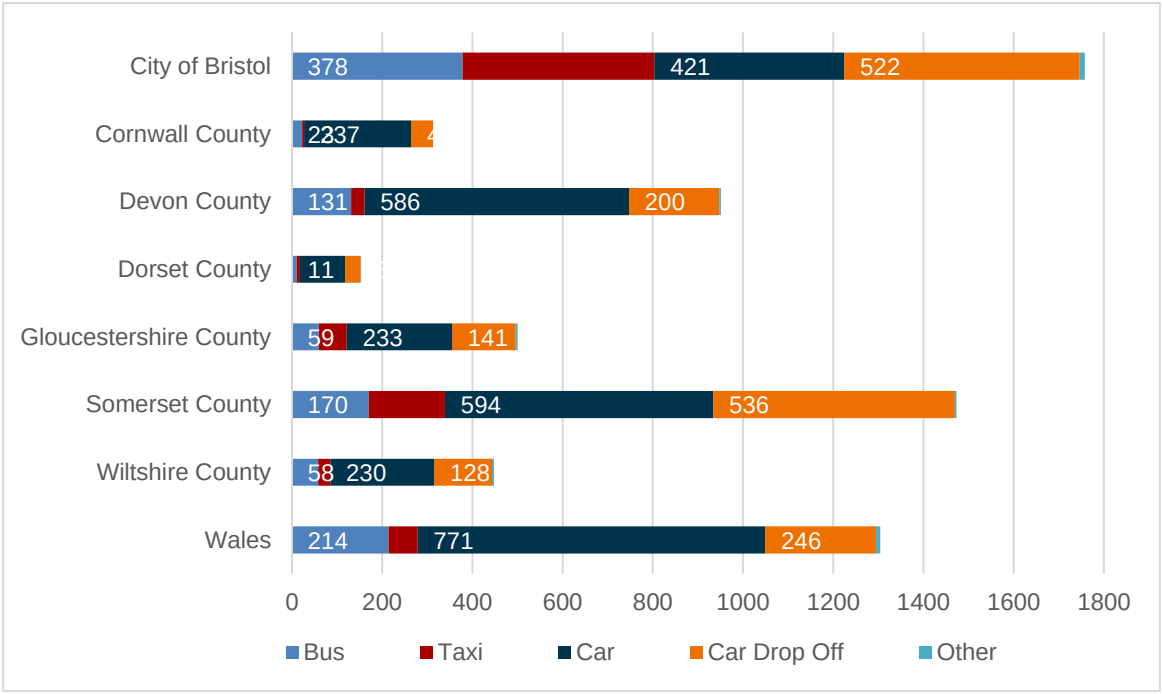
8.4.4 **Table 8.7** presents the predicted daily passenger modal share for each catchment, reflecting the overall 15% public transport modal share, based on CAA passenger survey data. These factors have been utilised for the 10 mppa and 12 mppa scenarios

Table 8.7: Passenger Modal Share per Growth Area for 10 mppa & 12 mppa

	Public Transport	Taxi	Car	Car Drop Off	Other	Total
City of Bristol	22%	24%	24%	30%	1%	100%
Cornwall County	7%	1%	76%	16%	0%	100%
Devon County	14%	3%	62%	21%	0%	100%
Dorset County	7%	4%	65%	23%	1%	100%
Gloucestershire County	12%	12%	47%	28%	1%	100%
Somerset County	12%	11%	40%	36%	0%	100%
Wiltshire County	13%	6%	51%	29%	0%	100%
Wales	16%	5%	59%	19%	1%	100%
Total	15%	11%	47%	27%	1%	100%

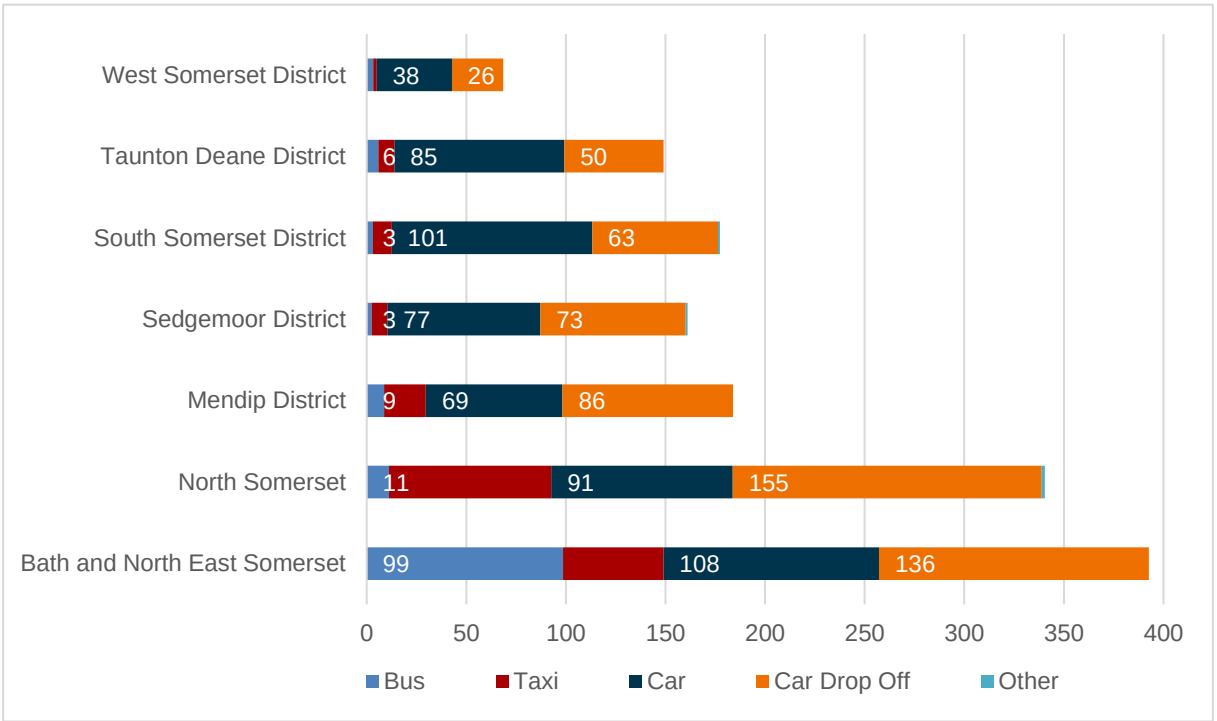
8.4.5 **Figure 8.3** presents the predicted daily passenger modal share for the peak month of August for each growth area.

Figure 8.3: Regional Additional 2 mppa Daily Passenger Modal Share in August



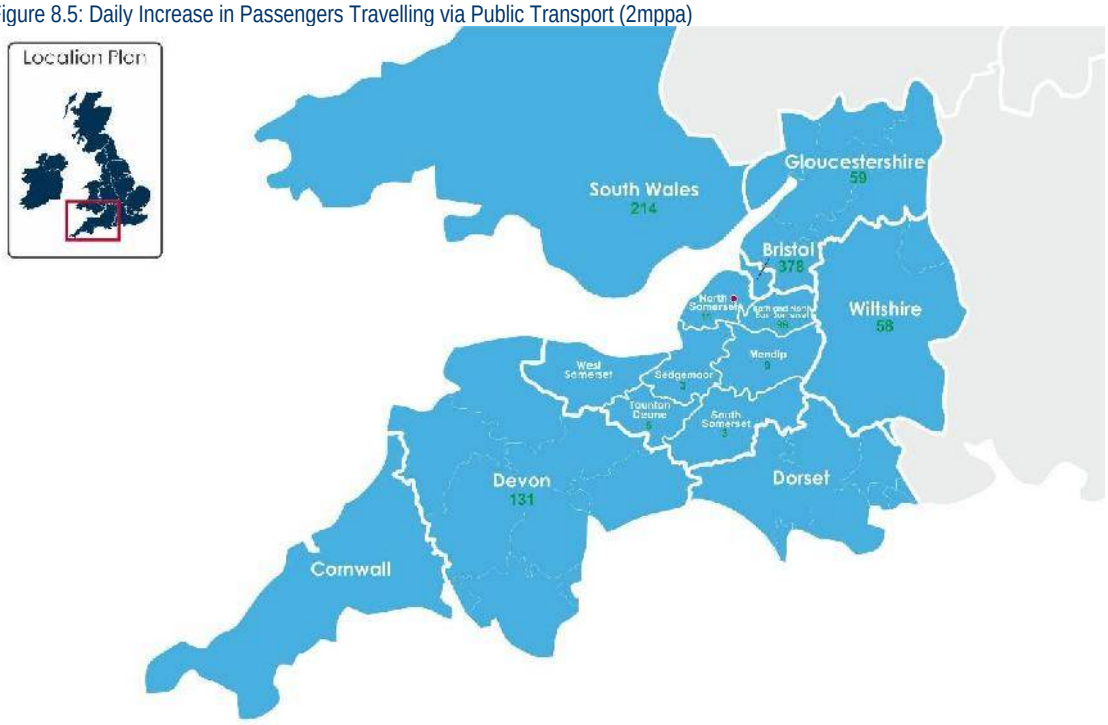
8.4.6 **Figure 8.4** shows the additional passenger modal share for Somerset per Local Authority.

Figure 8.4: Somerset Additional 2mppa Monthly Passenger Modal Share in August



8.4.7 **Figure 8.5** shows the additional daily passengers travelling via public transport per Local Authority in the peak month of August, assuming a constant modal split.

Figure 8.5: Daily Increase in Passengers Travelling via Public Transport (2mppa)



8.4.8 To establish car movements, it is necessary to quantify vehicle occupancy levels. **Table 8.8** presents vehicle occupancy for the South West and Wales for passengers who travel via Taxi / Mini Bus and Car (both parked and dropped off), as recorded in the CAA annual passenger survey at Bristol Airport.

Table 8.8: Passenger Group Size Analysis for the South West and Wales

	City of Bristol	Cornwall	Devon	Dorset	Gloucestershire	Somerset	Wiltshire	South Wales
Taxi / Minicab	1.5	1.5	2.0	2.0	1.5	1.9	1.6	1.7
Car Parked	1.9	2.1	2.0	1.9	2.0	2.0	2.0	2.1
Car Drop Off	1.6	2.5	1.6	1.8	1.6	1.5	1.6	1.6

8.4.9 Passengers travelling by car (Taxi / Minicab, Car Drop Off and Car) have been factored utilising the occupancy rates presented in **Table 8.8** per growth area. The vehicular trip generation has been calculated using taxi, car driver and car drop off modal share for each catchment. The car pick up modal share is assumed to be the same as car drop off.

8.4.10 The passenger car occupancy rates presented above are annual averages per mode per catchment area. For the month of August, the overall average occupancy rates are as follows:

Taxi / Minicab: 2.2

Car Parked: 2.6

Car Drop Off: 2.0

8.4.11 Overall, the car occupancy rates throughout the year are lower than the peak month of August. This would mean that August will have lower car trips in proportion to overall passenger numbers. However, the average rate for the year has been used in the assessment for robustness.

8.4.12 The vehicular trip generation for car drop off accounts for the return trip, and therefore 'outbound' vehicles will include inbound car drop off trips and vice versa.

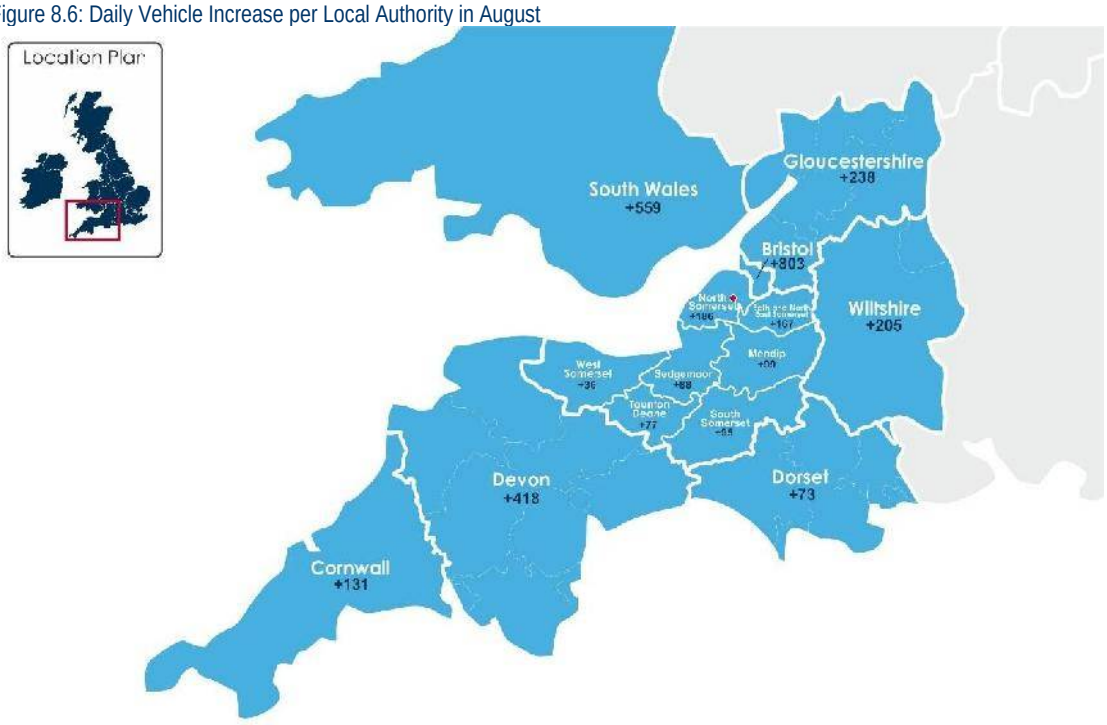
8.4.13 **Table 8.9** presents the predicted daily vehicle increase during the peak month of August, assuming a constant modal split.

Table 8.9: Daily Vehicle Increase (2 mppa) per Growth Area in Peak Month of August

	Taxi / Mini Bus	Car Parked	Car Drop Off	Total
City of Bristol	274	214	315	803
Cornwall	3	109	19	131
Devon	14	283	121	418
Dorset	3	51	19	73
Gloucestershire	40	113	85	238
North Somerset	42	44	100	186
Bath & North East Somerset	26	53	88	167
Mendip District	11	33	55	99
Sedgemoor District	4	37	47	88
South Somerset	5	49	41	95
Taunton Deane	4	41	32	77
West Somerset	1	18	17	36
Wiltshire	16	111	78	205
Wales	38	367	154	559

8.4.14 **Figure 8.6** presents the predicted daily vehicle increase by local authority as set out in **Table 8.9.**

Figure 8.6: Daily Vehicle Increase per Local Authority in August



8.5 Passenger Arrival & Departure Dwell Analysis

8.5.1 As highlighted previously Bristol Airport serves as the operating bases for many of the Airlines (including Easyjet and Thomas Cook). Flights are therefore scheduled to take off early in the morning to their destinations and land at the airport in the evening.

8.5.2 Passengers typically arrive to check in two to three hours before their flight is scheduled to take off. BAL have provided the average passenger dwell time for departures. This has been divided into short haul (under 6-hour flights) and long haul (over 6 hour flights) as set out in **Table 8.10**.

Table 8.10: Average Passenger Dwell Time – Departures

	0-30 Minutes	31-60 Minutes	61-90 Minutes	91-120 Minutes	120+ Minutes
Long Haul	11%	25%	24%	19%	20%
Short Haul	17%	32%	28%	13%	10%

8.5.3 BAL have also provided the passenger dwell time for arrivals, as set out within **Table 8.11**.

Table 8.11: Average Passenger Dwell Time – Arrivals

	Time (Minutes)	Cumulative (Minute)
Land at Bristol Airport	-	
Taxi to Gate	5 - 10	5 – 10
Passengers Disembark	15 - 20	20 – 30
Passenger Walk to Immigration	5 - 10	25 – 40

	Time (Minutes)	Cumulative (Minute)
Dwell at Immigration	5 - 20	30 – 60
Baggage Reclaim	5 - 10	35 – 70
Exit Terminal	2 - 5	37 – 75

8.5.4 As can be seen from **Table 8.11** an average arrival dwell time (land to exit terminal) is approximately 1 hour.

8.5.5 Flight schedules for a full week in the peak month of August for the 10 mppa and 12 mppa scenarios have been provided by BAL. The flight schedules have been compared to the forecast annual passenger numbers to produce a load factor, which represents an approximation of how full each flight is.

8.5.6 The difference between a busy day and a peak day typically is the load factor rather than the number of flights in the schedule.

8.5.7 **Figure 8.7** presents the hourly passenger arrival profile for a peak weekday in August. This has been based on the forecast flight schedule (10 mppa and 12 mppa) and the passenger dwell time summarised in **Table 8.10**.

8.5.8 **Figure 8.8** presents the hourly passenger departure profile for a peak weekday in August. This has been based on the forecast flight schedule (10 mppa and 12 mppa) and the passenger dwell time summarised in **Table 8.11**.

Figure 8.7: Daily Passenger Exit Terminal (Arrival) Profile in August

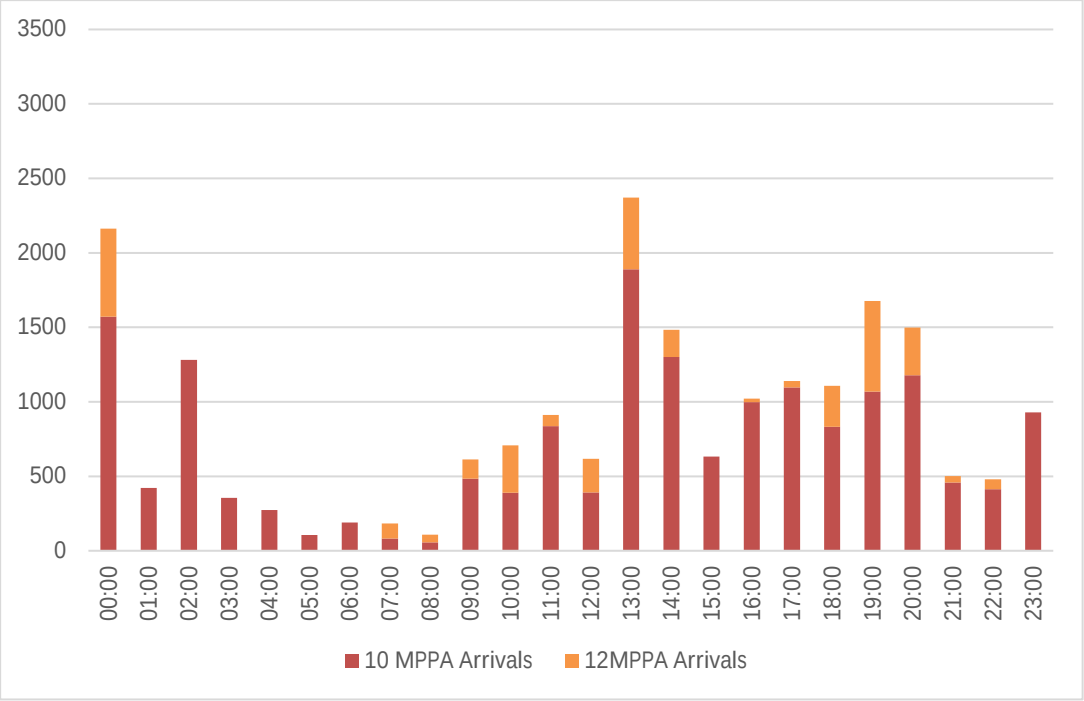
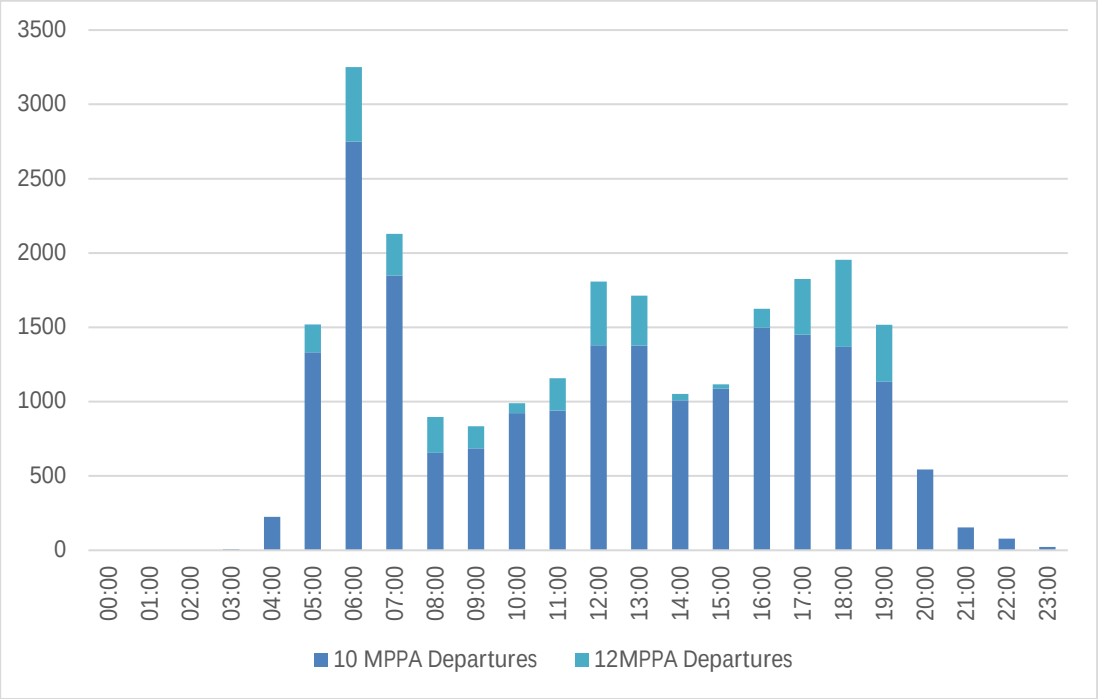


Figure 8.8: Daily Passenger Check In (Departure) Profile in August



8.5.9 The exit terminal and check in profiles indicate that the passenger through-flow peaks at 13:00 for arrivals and 06:00 for departures.

8.5.10 **Table 8.12** present the daily arrival and departure passenger surface access demand profile for the peak month of August. This has been provided for both the 10 mppa and 12 mppa scenarios.

Table 8.12: Daily Passenger Hourly Check In & Exit Terminal Profile in August

	10mppa		12mppa		Difference 2mppa	
	Exit Terminal - Arrival	Check in - Departure	Exit Terminal - Arrival	Check in - Departure	Exit Terminal - Arrival	Check in - Departure
00:00 – 01:00	1,572	-	2,162	-	590	-
01:00 – 02:00	421	-	421	-	-	-
02:00 – 03:00	1,281	-	1,281	-	-	-
03:00 – 04:00	356	7	356	7	-	-
04:00 – 05:00	273	190	273	190	-	-
05:00 – 06:00	106	1,124	106	1,283	-	158
06:00 – 07:00	189	2,322	37	2,746	-152	423
07:00 – 08:00	83	1,561	184	1,797	101	235
08:00 – 09:00	57	554	108	757	51	203
09:00 – 10:00	484	578	614	704	130	125
10:00 – 11:00	389	779	708	836	319	57
11:00 – 12:00	837	795	912	978	75	184
12:00 – 13:00	392	1,165	617	1,526	225	361
13:00 – 14:00	1,889	1,163	2,371	1,446	481	284
14:00 – 15:00	1,301	853	1,484	888	183	36
15:00 – 16:00	632	919	632	943	-	24
16:00 – 17:00	998	1,264	1,021	1,373	23	109
17:00 – 18:00	1,096	1,226	1,139	1,541	43	315
18:00 – 19:00	832	1,155	1,106	1,650	274	495
19:00 – 20:00	1,068	957	1,678	1,281	610	324
20:00 – 21:00	1,179	460	1,499	460	319	-
21:00 – 22:00	458	131	501	131	43	-
22:00 – 23:00	414	65	480	65	66	-
23:00 – 24:00	929	19	929	19	-	-
Daily	17,238	17,287	20,620	20,621	3,382	3,334

8.6 Employee Catchment

8.6.1 BAL have provided the projected employee (FTEs) for the consented 10 mppa and proposed 12 mppa scheme, this is set out within **Table 8.13**. These have been independently verified by York Aviation LLP.

Table 8.13: Employee Growth (FTE)

10 mppa (FTE)	12 mppa (FTE)	Difference 2 mppa (FTE)
3,875	4,575	700

8.6.2 BAL specifically target local residential areas for employee's recruitment. Recruitment growth will therefore be geographically weighted to the nearby residential areas and it is likely, in general, that these would be more suited to public and shared transport access to the airport than more remote employees. However, for robustness, the employee's projection for the 10 mppa and 12 mppa has been based on the current catchment set out in **Table 5.5**. **Table 8.14** summarises the 10 mppa and 12 mppa employee's levels per local authority.

Table 8.14: Employee Origin/Destination (10 mppa & 12 mppa)

Local Authority	Employee Catchment	10 mppa (FTE)	12 mppa (FTE)	Difference 2 mppa (FTE)
North Somerset	31%	1,201	1,418	217
City of Bristol	24%	930	1,098	168
South Gloucestershire	10%	388	458	70
Bath & North East Somerset	7%	271	320	49
Sedgemoor District	7%	271	320	49
Mendip District	4%	155	183	28
Wiltshire	2%	78	92	14
South Somerset District	1%	39	46	7
Caerdydd - Cardiff	1%	39	46	7
Casnewydd - Newport	1%	39	46	7
Stroud District	1%	39	46	7
Taunton Deane District	1%	39	46	7
Sir Fynwy - Monmouthshire	1%	39	46	7
Bro Morgannwg - the Vale of Glamorgan	1%	39	46	7
Caerffili - Caerphilly	1%	39	46	7
Swindon	1%	39	46	7
Others	6%	233	275	42
Total	**100%**	**3,875**	**4,575**	**700**

8.6.3 **Table 8.15** presents the 10 mppa and 12 mppa employees levels within North Somerset. This has been calculated from **Table 8.14** and the current North Somerset employee catchment profile.

Table 8.15: Employee Origin/Destination (10 mppa & 12 mppa)

	Percentage	2021 10 mppa (FTE)	2026 12 mppa (FTE)	Difference 2 mppa (FTE)
Weston-super-Mare	54%	653	771	118
Portishead	16%	192	227	35
Clevedon	4%	52	62	9
Nailsea	14%	163	193	29
Winscombe	5%	58	69	11
Yatton	7%	82	96	15
Total	**100%**	**1,201**	**1,418**	**217**

8.6.4 The Bristol Airport site is operational 24 hours a day, year-round. Employee numbers vary across the year, also peaking during the month of August.

8.6.5 BAL have identified that on an average day, 58% of the FTEs are present at the Bristol Airport site due to shift working patterns.

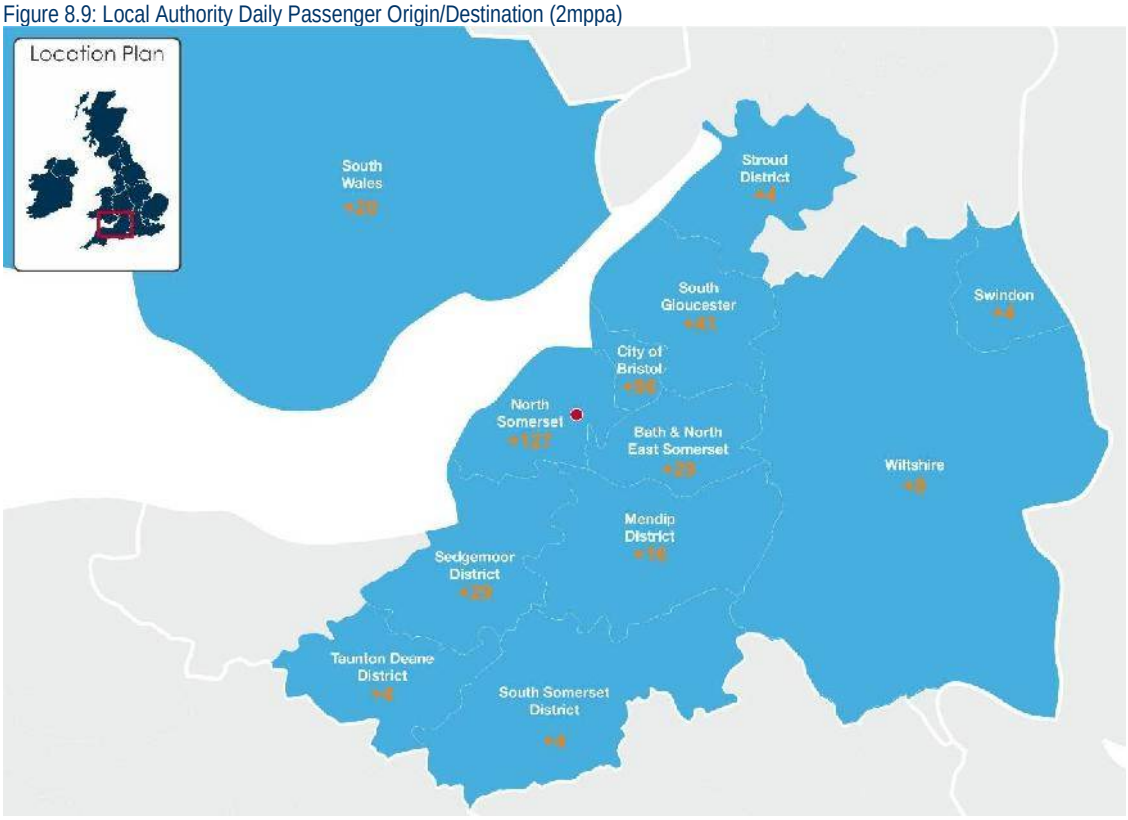
8.6.6 **Table 8.16** presents the projected employees start and finish profiles for the consented 10 mppa and the proposed 1 2mppa. This has been calculated on the level of employees present on any given day during the peak summer months and the shift patterns recorded in the 2017 employees travel survey.

Table 8.16: Daily Profile of Employee Trip Generation (10 mppa & 12 mppa) in Peak Summer Months

Time	10 mppa			12 mppa			Difference 2 mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
00:00 - 01:00	0	0	0	0	0	0	0	0	0
01:00 – 02:00	0	4	4	0	5	5	0	1	1
02:00 – 03:00	212	83	295	250	98	348	38	15	53
03:00 – 04:00	28	6	34	33	7	40	5	1	6
04:00 – 05:00	30	4	34	35	5	40	5	1	6
05:00 – 06:00	320	14	335	378	17	395	58	3	60
06:00 – 07:00	303	426	728	357	503	860	55	77	132
07:00 – 08:00	204	196	400	241	232	472	37	35	72
08:00 – 09:00	87	0	87	103	0	103	16	0	16
09:00 – 10:00	90	0	90	107	0	107	16	0	16
10:00 – 11:00	1	4	6	2	5	7	0	1	1
11:00 – 12:00	6	4	10	7	5	12	1	1	2
12:00 – 13:00	195	192	387	231	227	457	35	35	70
13:00 – 14:00	1	22	23	2	25	27	0	4	4
14:00 – 15:00	263	37	300	311	44	354	48	7	54
15:00 – 16:00	91	24	116	108	29	137	16	4	21
16:00 – 17:00	3	27	30	3	32	36	1	5	5
17:00 – 18:00	6	384	390	7	454	460	1	69	70
18:00 – 19:00	227	306	533	268	361	629	41	55	96
19:00 – 20:00	115	223	338	136	263	399	21	40	61
20:00 – 21:00	75	10	85	88	12	100	14	2	15
21:00 – 22:00	3	66	69	3	78	81	1	12	12
22:00 – 23:00	1	24	26	2	29	31	0	4	5
23:00 – 24:00	0	202	202	0	239	239	0	37	37
Daily	**2,261**	**2,261**	**4,522**	**2,669**	**2,669**	**5,339**	**408**	**408**	**817**

8.6.7 **Figure 8.9** shows the difference in daily employee origin/destination for the peak month of August across Local Authorities between the 10 mppa and 1 2mppa scenarios.

Figure 8.9: Local Authority Daily Passenger Origin/Destination (2mppa)

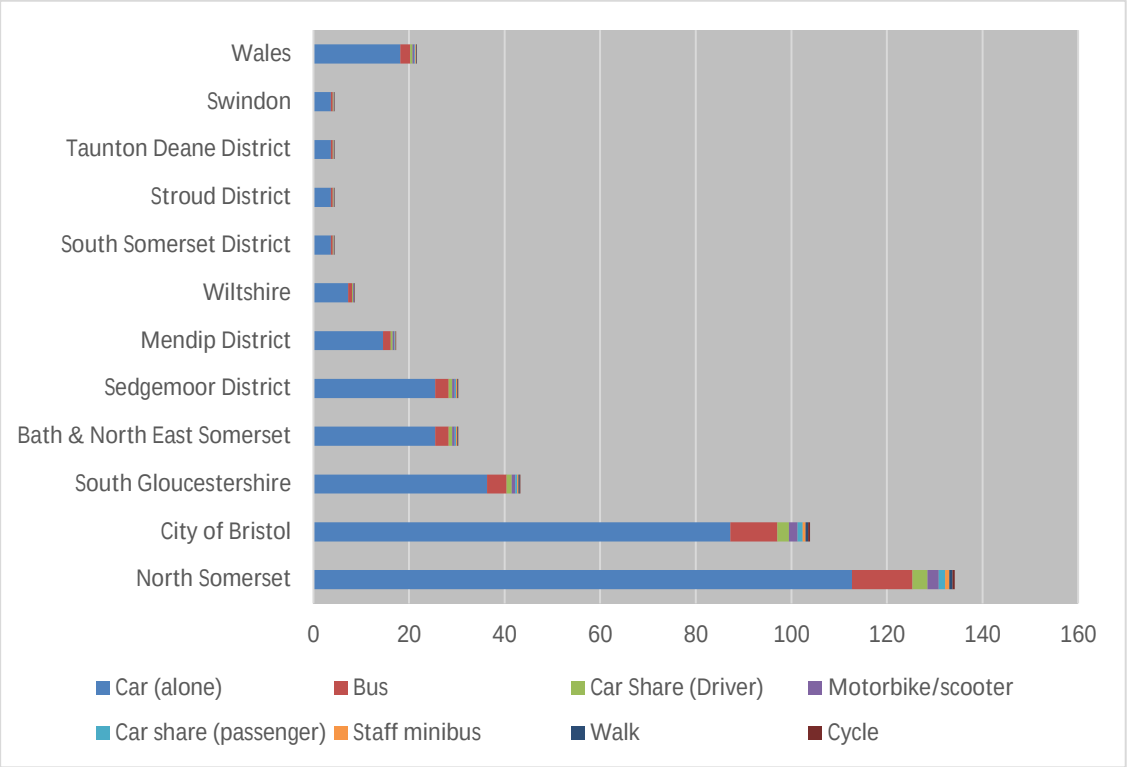


8.7 Employee Modal share

8.7.1 Employee method of travel to work has been assumed to remain constant between the most recent travel survey and the forecast scenarios. No adjustments to mode share have been made, despite the forthcoming launch of a new Workplace Travel Plan and the future reduction in parking spaces for employees, to ensure the assessment is robust.

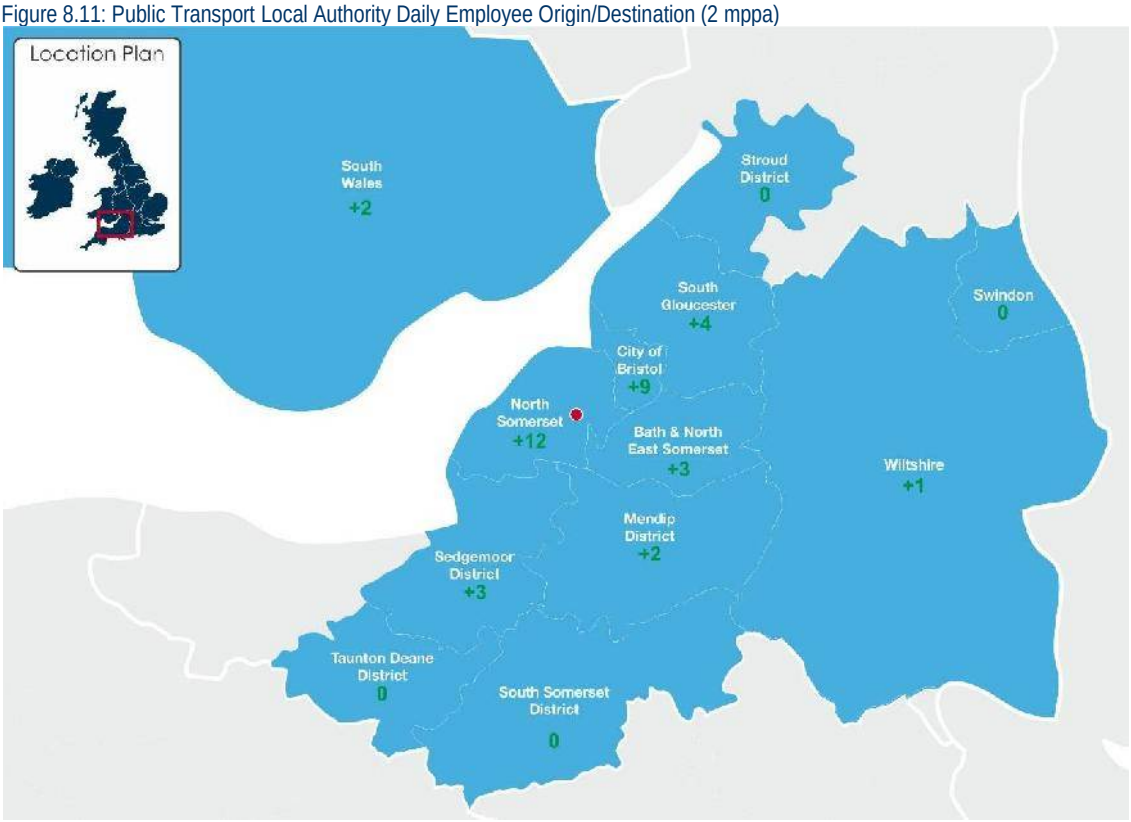
8.7.2 **Figure 8.10** presents the additional (2 mppa) employee modal share in the peak summer months, based on **Table 8.6** and **Figure 8.11**.

Figure 8.10: Employees Travel by Mode (%)



8.7.3 **Figure 8.11** shows the difference in daily employees travelling to the Bristol Airport site via public transport between the 10 mppa consented scenario and the 12 mppa Development Proposals.

Figure 8.11: Public Transport Local Authority Daily Employee Origin/Destination (2 mppa)



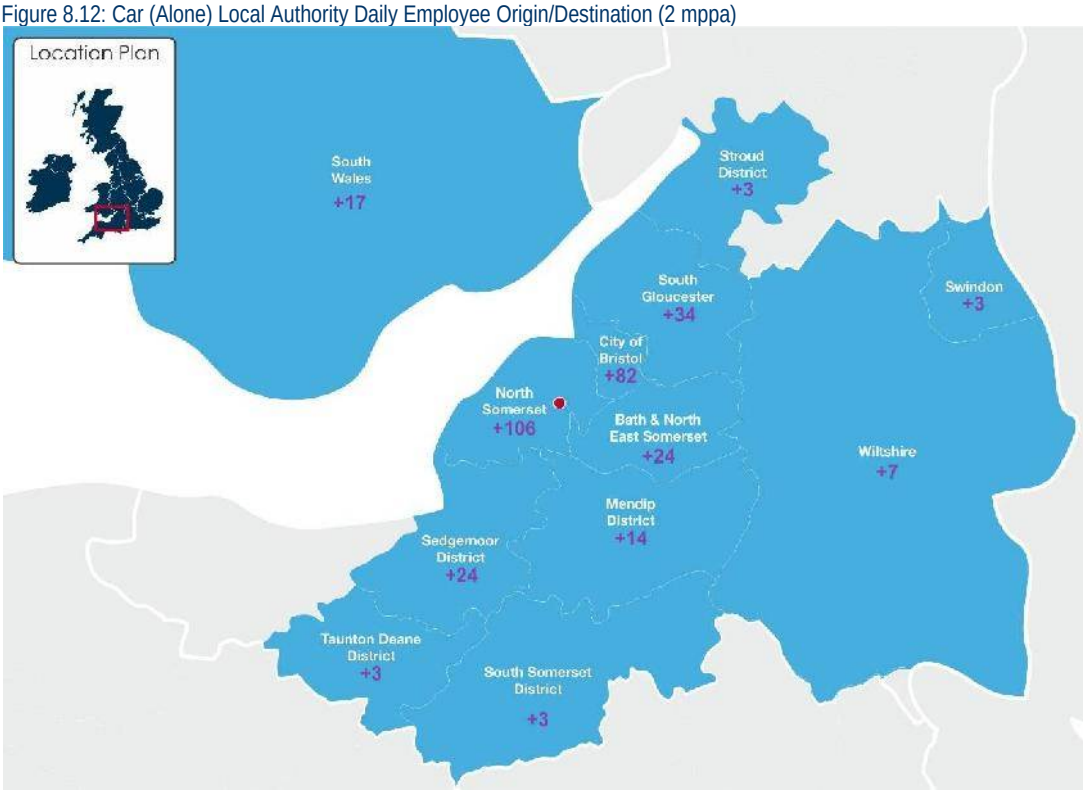
8.7.4 **Table 8.17** sets out the predicted daily additional employees shift patterns for employees who travel to work by public transport. This has been calculated on the level of employees present on any given day, the current shift patterns and modal share recorded in the 2017 employees travel survey. Importantly this also shows the difference between the consented 10 mppa and the 12 mppa Development Proposals.

Table 8.17: Predicted Additional Daily Employee Public Transport Trip Profile in Peak Summer Months

Time	10 mppa			12 mppa			Difference 2 mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
00:00 - 01:00	0	0	0	0	0	0	0	0	0
01:00 – 02:00	0	0	0	0	1	1	0	0	0
02:00 – 03:00	22	8	30	25	10	35	3	2	5
03:00 – 04:00	3	1	4	3	1	4	0	0	1
04:00 – 05:00	3	0	4	4	1	4	0	0	1
05:00 – 06:00	33	1	35	38	2	40	5	0	5
06:00 – 07:00	31	43	74	36	50	86	4	8	12
07:00 – 08:00	21	20	41	24	23	47	3	4	6
08:00 – 09:00	9	0	9	10	0	10	1	0	1
09:00 – 10:00	9	0	9	11	0	11	1	0	1
10:00 – 11:00	0	0	1	0	1	1	0	0	0
11:00 – 12:00	1	0	1	1	1	1	0	0	0
12:00 – 13:00	20	19	40	23	23	46	3	3	6
13:00 – 14:00	0	2	2	0	3	3	0	0	0
14:00 – 15:00	27	4	31	31	4	36	4	1	4
15:00 – 16:00	9	2	12	11	3	14	1	0	2
16:00 – 17:00	0	3	3	0	3	4	0	0	1
17:00 – 18:00	1	39	39	1	46	46	0	7	7
18:00 – 19:00	24	31	54	27	36	63	3	6	9
19:00 – 20:00	12	22	34	14	26	40	2	4	6
20:00 – 21:00	8	1	9	9	1	10	1	0	1
21:00 – 22:00	0	7	7	0	8	8	0	1	1
22:00 – 23:00	0	2	3	0	3	3	0	0	0
23:00 – 24:00	0	20	20	0	24	24	0	4	4
Daily	**235**	**227**	**462**	**268**	**268**	**536**	**33**	**41**	**74**

8.7.5 **Figure 8.12** shows the difference in daily employee travelling to the Bristol Airport site via single occupancy vehicles between the 10 mppa consented scheme and the 12 mppa Development Proposals.

Figure 8.12: Car (Alone) Local Authority Daily Employee Origin/Destination (2 mppa)



8.7.6 **Table 8.18** sets out the daily employees shift patterns for employees who travel to work by car. This has been calculated on the level of employees present on any given day, the current shift patterns and modal share recorded in the 2017 employees travel survey. Importantly this also shows the difference between the consented 10 mppa and the 12 mppa Development Proposals.

Table 8.18: Daily Employee Vehicle Trip Profile in Peak Summer Months

Time	10 mppa			12 mppa			Difference 2 mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
00:00 - 01:00	0	0	0	0	0	0	0	0	0
01:00 – 02:00	0	4	4	0	4	4	0	1	1
02:00 – 03:00	177	70	247	209	82	291	32	13	45
03:00 – 04:00	24	5	28	28	6	34	4	1	5
04:00 – 05:00	25	4	28	29	4	34	4	1	5
05:00 – 06:00	268	12	280	316	14	331	48	2	51
06:00 – 07:00	253	356	609	299	420	719	46	64	110
07:00 – 08:00	170	164	335	201	194	395	31	30	60
08:00 – 09:00	73	0	73	86	0	86	13	0	13
09:00 – 10:00	76	0	76	89	0	89	14	0	14
10:00 – 11:00	1	4	5	1	4	6	0	1	1
11:00 – 12:00	5	4	8	6	4	10	1	1	2
12:00 – 13:00	163	161	324	193	190	383	30	29	59
13:00 – 14:00	1	18	19	1	21	23	0	3	3
14:00 – 15:00	220	31	251	260	36	296	40	6	45
15:00 – 16:00	76	20	97	90	24	114	14	4	17
16:00 – 17:00	2	23	25	3	27	30	0	4	5
17:00 – 18:00	5	321	326	6	379	385	1	58	59
18:00 – 19:00	190	256	446	224	302	526	34	46	80
19:00 – 20:00	96	187	283	114	220	334	17	34	51
20:00 – 21:00	63	8	71	74	10	84	11	2	13
21:00 – 22:00	2	55	58	3	65	68	0	10	10
22:00 – 23:00	1	20	22	1	24	26	0	4	4
23:00 – 24:00	0	169	169	0	200	200	0	31	31
Daily	**1,891**	**1,891**	**3,782**	**2,233**	**2,233**	**4,465**	**342**	**342**	**683**

8.8 Logistics

8.8.1 As set out in **Section 5.2**, the logistics trip generators have been classified into the following categories:

a. Fuel Tankers

b. Car Rental Deliveries

c. Operational Deliveries

8.8.2 The vehicular trip generation calculated in **Section 5.2** has been scaled up using the passenger numbers to estimate a realistic logistic forecast associated with 10 mppa and 12 mppa. **Table 8.19** sets out the uplift in vehicles for each of the logistics categories.

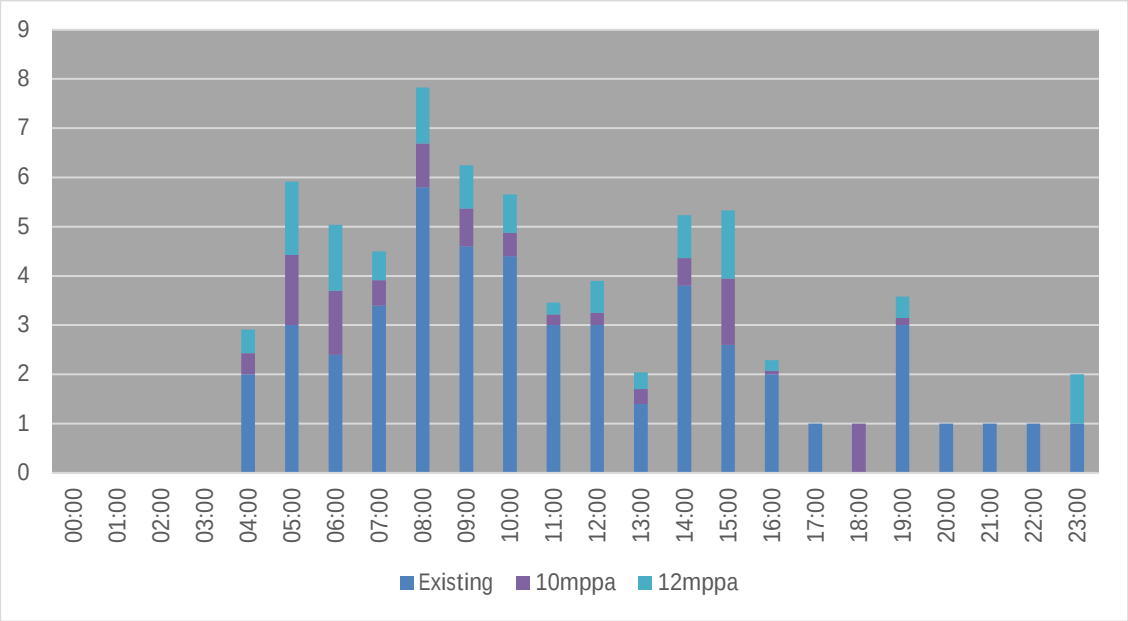
Table 8.19: Additional Logistics Daily Vehicles Profile (10 mppa & 12 mppa)

Time	Consented 10 mppa			Proposed 12 mppa			Difference		
	Car Rental	Fuel	Operational	Car Rental	Fuel	Operational	Car Rental	Fuel	Operational
00:00 - 01:00	0	0	0	0	0	0	0	0	0
01:00 – 02:00	0	0	0	0	0	0	0	0	0
02:00 – 03:00	0	0	0	0	0	0	0	0	0
03:00 – 04:00	0	0	0	0	0	0	0	0	0
04:00 – 05:00	0	0	2	0	0	3	0	0	0
05:00 – 06:00	0	2	2	0	3	3	0	1	0
06:00 – 07:00	0	2	2	0	3	2	0	1	0
07:00 – 08:00	0	1	3	0	1	3	0	0	1
08:00 – 09:00	1	1	5	1	1	6	0	0	1
09:00 – 10:00	0	1	4	0	1	5	0	0	1
10:00 – 11:00	2	1	2	2	1	2	0	0	0
11:00 – 12:00	0	2	1	0	2	1	0	0	0
12:00 – 13:00	3	0	0	4	0	0	1	0	0
13:00 – 14:00	0	0	2	0	0	2	0	0	0
14:00 – 15:00	2	0	2	2	0	3	0	0	0
15:00 – 16:00	0	2	2	0	3	2	0	1	0
16:00 – 17:00	1	1	0	1	1	0	0	0	0
17:00 – 18:00	0	1	0	0	1	0	0	0	0
18:00 – 19:00	0	1	0	0	1	0	0	0	0
19:00 – 20:00	2	1	0	3	1	0	0	0	0
20:00 – 21:00	0	1	0	0	1	0	0	0	0
21:00 – 22:00	0	1	0	0	1	0	0	0	0
22:00 – 23:00	0	1	0	0	1	0	0	0	0
23:00 – 24:00	0	1	0	0	2	0	0	1	0
Daily	**11**	**20**	**28**	**13**	**24**	**34**	**2**	**4**	**6**

8.8.3 The greatest increase in any hour is one logistic vehicle movement when comparing the consented 10mppa to proposed 12 mppa scenario. In total, there is a daily increase of 12 vehicles between the consented 10 mppa scheme and the proposed 12 mppa. **Figure 8.13**

demonstrates the total uplift in logistic vehicles for the consented 10mppa and the proposed 12 mppa scenarios.

Figure 8.13: Daily Increase in Logistic Vehicle Movements (2 mppa)



8.9 Total People Increase

8.9.1 **Table 8.20** sets out the predicted daily people increase (passengers and employees) during the peak month of August.

Table 8.20: Total Daily People Increase (2 mppa) in Peak Month of August

Time	Passengers			Employees			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
00:00 - 01:00	0	590	590	0	0	0	0	590	590
01:00 – 02:00	0	0	0	0	1	1	0	1	1
02:00 – 03:00	0	0	0	38	15	53	38	15	53
03:00 – 04:00	0	0	0	5	1	6	5	1	6
04:00 – 05:00	0	0	0	5	1	6	5	1	6
05:00 – 06:00	158	0	158	58	3	60	216	3	219
06:00 – 07:00	423	-152	271	55	77	132	478	-75	403
07:00 – 08:00	235	101	337	37	35	72	272	137	409
08:00 – 09:00	203	51	253	16	0	16	218	51	269
09:00 – 10:00	125	130	255	16	0	16	142	130	272
10:00 – 11:00	57	319	376	0	1	1	57	320	377
11:00 – 12:00	184	75	259	1	1	2	185	76	260
12:00 – 13:00	361	225	586	35	35	70	396	260	656
13:00 – 14:00	284	481	765	0	4	4	284	485	769
14:00 – 15:00	36	183	219	48	7	54	83	190	273
15:00 – 16:00	24	0	24	16	4	21	41	4	45
16:00 – 17:00	109	23	132	1	5	5	109	28	137
17:00 – 18:00	315	43	358	1	69	70	316	112	429
18:00 – 19:00	495	274	770	41	55	96	536	330	866
19:00 – 20:00	324	610	934	21	40	61	345	650	995
20:00 – 21:00	0	319	319	14	2	15	14	321	335
21:00 – 22:00	0	43	43	1	12	12	1	55	56
22:00 – 23:00	0	66	66	0	4	5	0	70	71
23:00 – 24:00	0	0	0	0	37	37	0	37	37
Daily	**3,334**	**3,382**	**6,716**	**408**	**408**	**817**	**3,742**	**3,790**	**7,533**

8.10 Total Public Transport Increase

8.10.1 **Table 8.21** sets out the predicted daily public transport increases (passengers and employees) in the peak month of August, based on a public transport overall modal share of 15%.

Table 8.21: Total Daily PT Increase (2 mppa) in Peak Month of August

Time	Passengers			Employees			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
00:00 - 01:00	0	86	86	1	5	6	1	91	92
01:00 – 02:00	0	0	0	0	4	4	0	4	4
02:00 – 03:00	0	0	0	22	6	28	22	6	28
03:00 – 04:00	0	0	0	24	5	29	24	5	29
04:00 – 05:00	0	0	0	25	4	29	25	4	29
05:00 – 06:00	23	0	23	21	12	33	44	12	56
06:00 – 07:00	61	-22	39	60	11	71	121	-11	110
07:00 – 08:00	34	15	49	52	16	68	86	31	117
08:00 – 09:00	29	7	37	18	0	18	47	7	55
09:00 – 10:00	18	19	37	23	0	23	41	19	60
10:00 – 11:00	8	46	55	1	4	5	9	50	60
11:00 – 12:00	27	11	38	5	4	9	32	15	47
12:00 – 13:00	52	33	85	12	30	42	64	63	127
13:00 – 14:00	41	70	111	1	18	19	42	88	130
14:00 – 15:00	5	27	32	5	6	11	10	33	43
15:00 – 16:00	3	0	3	1	21	22	4	21	25
16:00 – 17:00	16	3	19	2	23	25	18	26	44
17:00 – 18:00	46	6	52	1	22	23	47	28	75
18:00 – 19:00	72	40	112	2	19	21	74	59	133
19:00 – 20:00	47	89	136	13	48	61	60	137	197
20:00 – 21:00	0	46	46	0	9	9	0	55	55
21:00 – 22:00	0	6	6	2	11	13	2	17	19
22:00 – 23:00	0	10	10	1	15	16	1	25	26
23:00 – 24:00	0	0	0	0	0	0	0	0	0
Daily	**484**	**491**	**975**	**292**	**293**	**585**	**776**	**784**	**1,560**

8.11 Total Vehicle Increase

8.11.1 **Table 8.22** sets out the predicted daily vehicle increase (passengers and employees) in the peak month of August, based on a constant mode share between the two scenarios. The Airport Peak has been identified as 13:00-14:00 as the largest increase in traffic associated with Development Proposals between the two traditional peaks can be seen in this hour.

Table 8.22: Total Daily Vehicle Increase (2 mppa) in Peak Month of August

Time	Passengers			Employees			Logistics			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
00:00 - 01:00	146	279	426	0	0	0	0	0	0	146	279	426
01:00 – 02:00	0	0	0	0	1	1	0	0	0	0	1	1
02:00 – 03:00	0	0	0	33	13	46	0	0	0	33	13	46
03:00 – 04:00	0	0	0	4	1	5	0	0	0	4	1	5
04:00 – 05:00	0	0	0	5	1	5	0	0	1	5	1	6
05:00 – 06:00	75	39	114	50	2	52	1	1	3	126	43	169
06:00 – 07:00	163	33	196	47	66	113	1	1	3	211	101	312
07:00 – 08:00	137	106	243	32	30	62	1	1	1	169	138	307
08:00 – 09:00	109	74	183	14	0	14	1	1	2	123	75	199
09:00 – 10:00	92	93	184	14	0	14	1	1	2	107	94	200
10:00 – 11:00	106	165	272	0	1	1	1	1	2	107	167	274
11:00 – 12:00	106	81	187	1	1	2	0	0	0	107	82	189
12:00 – 13:00	227	196	423	30	30	60	1	1	1	258	227	485
13:00 – 14:00	254	298	552	0	3	4	0	0	1	254	302	557
14:00 – 15:00	62	96	158	41	6	47	1	1	2	104	102	206
15:00 – 16:00	11	6	17	14	4	18	1	1	3	27	11	38
16:00 – 17:00	57	38	95	0	4	5	0	0	0	58	42	100
17:00 – 18:00	160	99	259	1	60	61	0	0	0	161	158	319
18:00 – 19:00	303	253	556	35	47	83	0	0	0	338	300	638
19:00 – 20:00	305	369	674	18	35	53	0	0	1	323	404	728
20:00 – 21:00	79	151	230	12	2	13	0	0	0	91	153	244
21:00 – 22:00	11	20	31	0	10	11	0	0	0	11	31	42
22:00 – 23:00	16	31	48	0	4	4	0	0	0	17	35	52
23:00 – 24:00	0	0	0	0	31	31	1	1	2	1	32	33
Daily	**2419**	**2430**	**4849**	**351**	**351**	**702**	**12**	**12**	**24**	**2782**	**2793**	**5575**

9 Surface Access Improvement Opportunities

9.1 Introduction

9.1.1 To ensure more sustainable transport modes are encouraged, a new and ambitious ASAS will be developed as a result of ongoing Section 106 discussions and input from the ATF.

9.1.2 There has already been significant progress towards achieving the consented 10 mppa public transport strategy as outlined in **Section 2.4**. The 12 mppa public transport strategy seeks to build on that progress to enhance accessibility and connectivity further still.

9.1.3 The ASAS will set out:

proposed improvements to public transport services;

travel plan measures designed to encourage access to the Airport by sustainable modes; and

improvements to local highway infrastructure and on-site car parking provision.

9.1.4 These are considered further in the sections below, following a high-level assessment of the existing public transport network which guides the strategy in terms of what level of enhancement will be necessary to meet the continued growth of the Airport.

9.2 Catchment Analysis

9.2.1 Analysis of public transport trip origins and destinations has identified that the current bus network is able to absorb the predicted increase in travel demand from both passengers and employees at the Airport. Origins with the largest number of passengers are the focus of encouraging PT usage. Modal shift is most likely to occur from areas with larger numbers of trips associated with them.

9.2.2 **Figure 9.1** and **Figure 9.2** demonstrate the 12 mppa forecast total people movements by origin and forecast total public transport movements by origin, respectively. This includes both passengers and employees.

Figure 9.1: Total People Movements

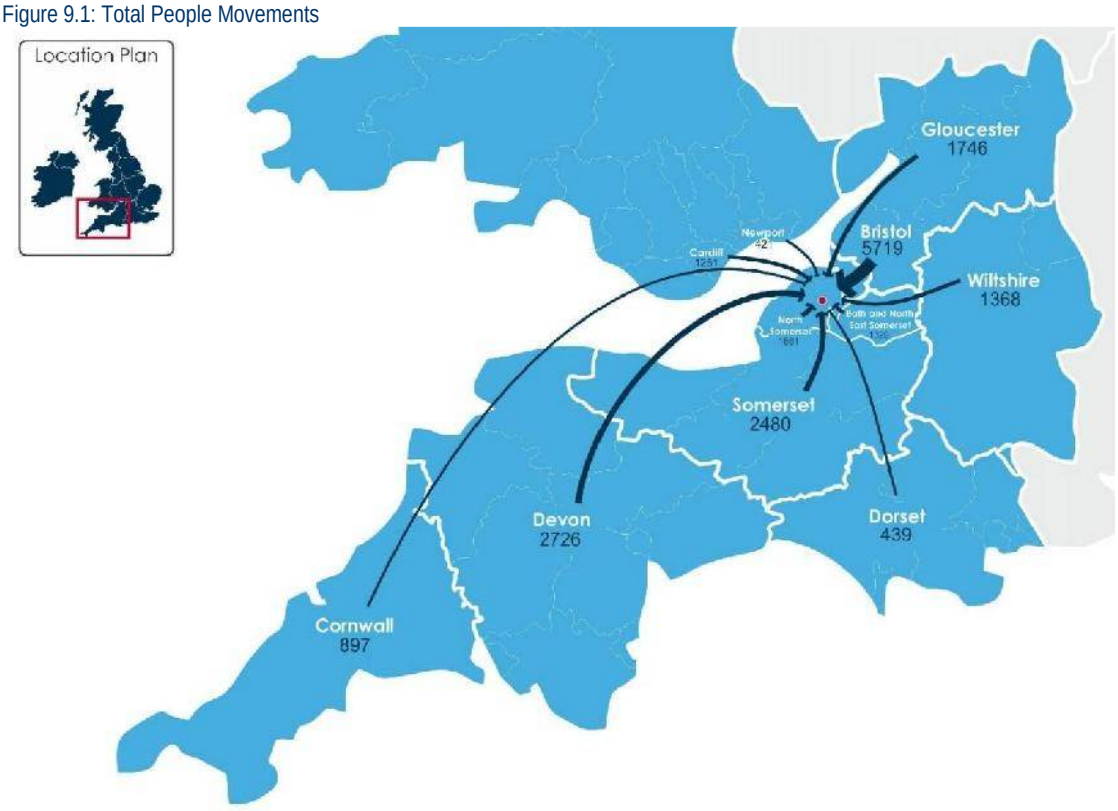
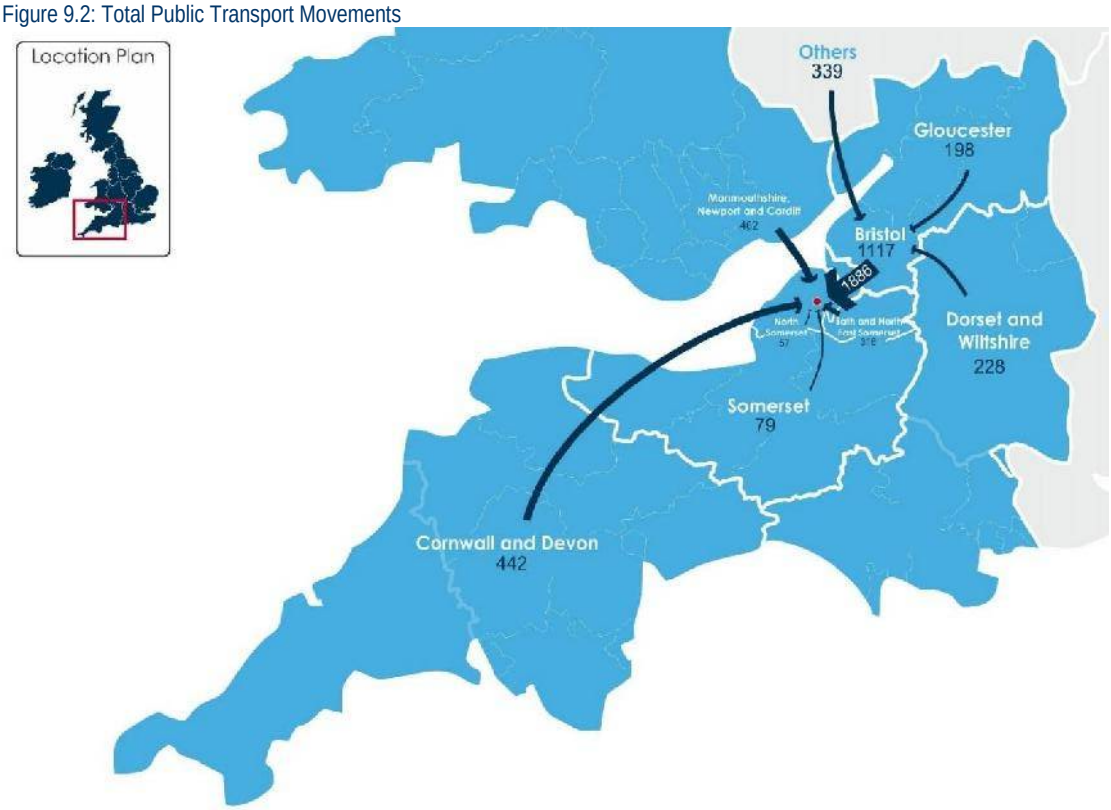


Figure 9.2: Total Public Transport Movements



9.3 Improvements to Public Transport

A370 Corridor Services

9.3.1 At present, the main bus services between Bristol and Weston-super-Mare operate on the A370 corridor. These are as follows:

X1: Weston-super-Mare to Bristol via Worle, Congresbury, Backwell and Long Ashton (up to 2 buses per hour);

X2: Weston-super-Mare to Bristol via Worle, Congresbury, Claverham and Backwell (up to 2 buses per hour); and

X8: Nailsea to Bristol via Backwell (up to 2 buses per hour).

9.3.2 Airport Flyer service A3 provides an additional bus per hour between Weston-super-Mare, Worle and Congresbury.

9.3.3 Journey times between Bristol and Weston-super-Mare are 66 minutes on the X2 and 68 minutes on the X1. This compares unfavourably with the 54-minute journey time achieved by the X1 in 2012, which did not serve Long Ashton or Claverham.

9.3.4 North Somerset Council wish to see the MetroBus network extended to Weston-super-Mare. Subject to further discussions with First, who operate all the existing services on a purely commercial basis, it is considered that a potential opportunity exists to restructure the existing offer on the corridor to provide express limited-stop services between Bristol and Weston-super-Mare. This would be complemented by additional services to Bristol Airport, all utilising MetroBus infrastructure between the city centre and Long Ashton Park & Ride.

9.3.5 Key bus stops on the corridor would be upgraded to receive the guided buses, together with improved facilities for passengers. It is potentially envisaged that between five and ten pairs of bus stops would be served by the new limited-stop express bus services.

9.3.6 Given that the express services would utilise fewer stops than the former X1 service, in the off-peak period end-to-end journey times could potentially be achieved in less than 54 minutes.

9.3.7 Separately, the *West of England Joint Transport Study*, dated October 2017, recommends extension of MetroBus services from Bristol to Nailsea and Clevedon which would potentially

result in infrastructure improvements on the periphery of Bristol and could assist with development of a scheme designed to extend MetroBus towards Weston-super-Mare.

9.3.8 Bristol Airport are actively engaging with First on bus service opportunities and are exploring the potential options for integrating services to the Airport with existing arrangements on the A370 corridor. This may assist with the local authority aspirations of delivering MetroBus services into North Somerset whilst enhancing the attractiveness of the service for both employees and passengers.

Weston-super-Mare Express Bus Link

9.3.9 Service A3 is currently the direct public transport link between Weston-super-Mare and Bristol Airport, currently operating hourly between 03:00 and 00:00 seven days per week. The service is operated by Airport Flyer branded single deck buses with an hourly seating capacity of 72.

9.3.10 This service was introduced in May 2017 and in the eight months of operation to the end of the year carried over 11,000 passengers to and from the Airport. Patronage growth has been encouraging throughout 2018 and it is expected that by 10 mppa there will be sufficient generated travel demand from the Weston-super-Mare area for a higher frequency service to be deliverable.

9.3.11 A service with a frequency of two buses per hour would deliver significant benefits to surface access at the Airport as well as enhancing connectivity between Weston-super-Mare and Congresbury. It would also assist in increasing the attractiveness of the route and increasing bus modal share for Airport journeys within North Somerset.

Public Transport Fund

9.3.12 Bristol Airport currently operate a Public Transport Fund which is utilised to support enhanced local bus services in the area. As part of the 12 mppa application it is proposed to extend this further for the purpose of ongoing development of public transport serving Bristol Airport, which would be managed by the Surface Access Steering Group and would be available for improvements such as:

Trials of new bus routes, including demand-responsive services;

Frequency enhancements;

Service quality upgrades;

Bus priority measures;

Passenger interchange improvements;

Improved passenger information;

Improved ticketing; and

Technology innovations and improvements.

Trials of new bus routes, including demand-responsive services

9.3.13 There is considerable potential for delivering increased modal share for the local and regional areas by utilising and enhancing resources already engaged on local bus services to provide new direct connections to the Airport. The Steering Group will consider potential options for new services on a case-by-case basis given the information available on passenger and staff origins overlaid on the existing public transport network.

9.3.14 Some consideration has been given to development of a demand responsive transport (DRT) scheme which would provide more flexible solutions either at off-peak or outside conventional hours or in areas of lower, more dispersed demand. Two potential markets for a DRT-type solution have been identified which are:

Provision of demand responsive services for staff outside of conventional bus service operating hours; and

Operation of feeder services to the Airport from the rural hinterland which is currently poorly served by local bus routes.

9.3.15 The provision of services outside conventional hours is often difficult and expensive for commercial bus operators, but is important in an Airport context because of the requirements of staff and passengers who are required to travel early in the morning and late in the evening. As a result, one potential solution to this issue would be to develop a scheme where staff can pre-book transport to and from the Airport from locations where alternative services are not available.

9.3.16 Bath & North East Somerset Council (BaNES) have recently published a study into transport patterns in the Chew Valley – a large and deeply rural area to the east of Bristol Airport. The '*Chew Valley Transport Strategy*', dated October 2017, identified the area as being served by

a significant number of irregular bus services. This may be a future opportunity for joint working on a demand-responsive transport scheme.

Frequency Enhancements

9.3.17 Bristol Airport is served by a comprehensive package of public transport services which meet and exceed the current demand. Analysis indicates that the existing level of service will be sufficient to meet the needs of an expanded Airport, apart from an increase in frequency to Weston-super-Mare.

9.3.18 As the Airport grows, close attention will be paid to the need for additional capacity on the public transport network. The Steering Group will consider each route on a case-by-case basis and utilise the latest data to identify whether an increase in frequency is necessary and/or desirable.

9.3.19 Enhancements, potentially to hours of operation, may be considered on some routes not operating directly to the Airport where there is anticipated demand for connections to the Flyer service (for example, earlier starts on urban bus routes in Bristol to enable early morning travel).

Service Quality Upgrades

9.3.20 Most bus and coach services to the Airport are operated with new, high specification vehicles. BAL will keep under review, via the Steering Group, the need for future enhancements which may tie in to interchange or information improvements being proposed (for example, audio-visual equipment on buses).

Bus Priority Measures

9.3.21 Services to Bristol Airport currently benefit from extensive bus priority on the South Bristol Link and the MetroBus infrastructure into and within Bristol city centre. Further measures may be considered on the A38 corridor where prudent and technically feasible to do so, through such measures as:

Bus lanes;

Bus priority roads;

Signal detection at key junctions; and

Waiting and loading restrictions.

9.3.22 Such measures would require significant work with stakeholders to identify suitable schemes and take them forward through the usual planning process.

Passenger Interchange Improvements

9.3.23 In addition to providing high quality, comfortable and accessible public transport services, consideration must also be given to the specification of facilities at key interchange locations so that passengers feel comfortable making travel choices that involve a change of vehicle or mode.

9.3.24 Bristol Temple Meads is a significant gateway to the Airport Flyer bus service. As the primary access to the National Rail network serving a wide variety of regional and national destinations, it is considered of significant importance that the bus stop facilities at the station are:

Easy to locate;

Maintained to a high standard;

Equipped with passenger information;

Secure and well-lit;

Covered with a shelter or canopy; and

Not in conflict with high-flow pedestrian or vehicle movements.

9.3.25 The Airport Flyer stop was located immediately outside the main station entrance until the service was converted to double deck operation, upon which it was deemed necessary to relocate the bus stop to prevent a potential collision with the station canopy.

9.3.26 Bristol Temple Meads is a listed building of national importance and the provision of extensive bus passenger infrastructure has traditionally been difficult. As a result, the current bus stop suffers from a poor waiting environment with no shelter, no electronic information and on the main pedestrian route from Temple Gate. It is also the last bus stop on the station approach, has no dedicated provision, and suffers from congestion as Flyer services in both directions must share with terminating city services on other routes.

9.3.27 The Airport are in dialogue with Network Rail and Great Western Railway about the bus stop issues at Bristol Temple Meads. These will be ongoing and a fund has been set aside for improvements to the bus stop facilities should agreement be reached on the type, style and location of facilities to be provided.

9.3.28 In addition to Bristol Temple Meads, other strategic interchanges exist in Weston-super-Mare town centre and at Worle railway station where connections can be made to destinations in Devon and Somerset. The Airport will look to work with North Somerset Council regarding these locations and potential opportunities for their enhancement.

Improved Passenger Information

9.3.29 The Airport Flyer fleet has been designed to a high-quality specification. The brand-new vehicles are equipped with leather seats, additional luggage space and free wi-fi; however, there are additional incremental improvements that could be made to information provision on the service and at the Airport which would provide extra amenity to passengers who may not be familiar with Bristol or who may require additional assistance with their journey.

9.3.30 The public transport fund to be delivered through the Section 106 Agreement may be used in part to deliver information improvements such as installing RTPI capability at the Airport, facilitate the introduction of on-bus screen and audio-visual stop announcements on all bus routes, or the introduction of i-points (information screen and ticket sales) at stops which would speed boarding times and reduce queuing for the bus.

Improved Ticketing

9.3.31 Passengers and staff accessing Bristol Airport via the National Rail network can purchase through tickets via online portals, at booking offices and on trains where applicable. However, such a facility is not available in reverse where passengers arriving at Bristol Airport are required to purchase a bus ticket to Bristol city centre before an onward ticket to a National Rail destination; similarly, there is no facility at the Airport to collect pre-paid online tickets.

9.3.32 As part of the development of an integrated travel centre within the Airport, it is anticipated that tickets for the National Rail network will be available. Further discussions are being held with stakeholders to secure this enhancement for the benefit of passengers and staff.

9.3.33 In addition, the Airport will seek to secure the wider promotion of the dedicated bus services to the Airport across the National Rail network to raise awareness of the access possibilities from the Midlands, South Wales and South West by rail/bus interchange at Bristol Temple Meads and Weston-super-Mare.

Technology Innovations & Improvements

9.3.34 Transport technology is constantly innovating and evolving over time; therefore, it is important that consideration is given to some of the emerging technologies which will shape the future of urban transport. These include:

Connected vehicle communications;

Autonomous public transport vehicles; and

Mobility as a Service (MaaS).

9.3.35 Public transport services are expected to be amongst the first mass applications of autonomy in the sector. Major developments are well placed to offer this as a potential transport solution given the ability to construct and maintain segregated routes around sites which can be used safely with minimal interruption from general traffic.

9.3.36 Small, electrically propelled shuttle services could provide quiet, emission-free transport in areas such as the airside locations and in public zones (e.g. car parks) within the apron of the Airport.

9.3.37 MaaS, short for Mobility as a Service, brings all means of travel together. It combines options from different transport providers into a single mobile service, removing the hassle of planning and one-off payments.

9.3.38 The concept is being trialed in a number of locations, e.g. Birmingham in the UK where the 'Whim' brand offers a number of package options at varying prices where for a fixed monthly fee (taken by Direct Debit) users have unlimited access to bus services, rail services, car hire, bike hire (when available) and taxi use from selected companies.

9.3.39 The service is based around a smartphone app; the user books transport or uses the app as a ticket for public transport services.

9.3.40 Bringing MaaS together successfully requires the support and co-operation of a number of partners such as the major bus operator(s), taxi services, car hire companies, bike hire schemes and rail operators. In Bristol, the EU Replicate project is seeking to support sustainable mobility and some of the key elements required for MaaS are being proposed, such as electric bus services, personalized mobility applications, car clubs and e-bikes.

9.3.41 The Airport will consider the potential opportunities for use of these emerging technologies as and when appropriate and cost-effective market-driven solutions are available.

Promotion of Coach Services

9.3.42 Bristol Airport is currently served by two regular coach routes:

Stagecoach Falcon: an hourly service from Plymouth, Exeter, Taunton and Bridgwater to Bristol Airport and Bristol city centre; and

National Express 216: a 2-hourly service from Cardiff and Newport.

9.3.43 The Airport has worked with coach operators to enhance the regional network of destinations available by public transport. The 10 mppa permission included a commitment to work

towards developing such a network and this has been achieved ahead of schedule through the provision of these frequent and attractive coach routes which operate 24 hours a day, 7 days per week.

9.3.44 BAL will continue to work with coach operators to develop the existing routes and to encourage new provision where possible. The existing coach services are well aligned with the key areas of expected patronage growth in the South West and South Wales; therefore, further development of these services is seen as the most beneficial means of securing improved public transport modal share.

9.4 Taxis & Private Hire Provision

9.4.1 BAL recognise the impact that waiting taxis and private hire vehicles can have on local communities. Through engagement with the Airport Transport Forum and from dialogue with other local stakeholders, the Airport are aware that villages and local roads close to the terminal can be subject to a significant increase in parking demand.

9.4.2 As a result, BAL is considering the introduction of an Authorised Waiting Zone for taxis and private hire vehicles as part of the 12 mppa application. This would be a facility where such vehicles can await the arrival of their passengers. Such a facility would be introduced as part of a partnership approach with local stakeholders, including the Police and the local enforcement bodies, to introduce local on-street parking controls in the areas affected.

9.4.3 Heathrow Airport introduced a similar Authorised Waiting Zone on a trial basis in 2018 when local residents and businesses expressed their concerns about the number of private hire vehicles waiting in local residential areas. This is a dedicated area for private hire vehicles and licensed taxis in which to wait for passengers prior to picking up from a short stay car park and meeting at an agreed location within the terminal; open 7 days a week, facilities include vending machines, hot refreshments, a covered smoking area, toilets and litter bins throughout.

9.5 Walking & Cycling Improvements

9.5.1 Walking and cycling improvements as part of the 12 mppa application include:

A38 / Downside Road Junction

9.5.2 As part of the proposed Masterplan and strategy to improve surface access to Bristol Airport, the A38/ Downside Road junction, to the north of the site, is to be upgraded. The scheme is being developed to improve footway and cycleway facilities.

9.6 Road Access

9.6.1 Highway improvements as part of the 12 mppa application include:

A38 / Downside Road Junction

9.6.2 As part of the proposed Masterplan and strategy to improve surface access to Bristol Airport, the A38/ Downside Road junction, to the north of the site, is to be upgraded.

9.6.3 As set out in Section 4.3 BAL is proposing to undertake a significant improvement of the A38 between the main airport access roundabout and West Lane to accommodate any additional traffic generated by an extra 2 mppa. The main carriageway over this length will be increased in width to allow two through lanes to be provided on each carriageway. The widening will be mainly undertaken on the western side of the road providing an overall width of 16m. The improvements taper back to join the existing carriageway width some 130m beyond West Lane. A dedicated lane will be provided for northbound traffic turning left into Downside Road, along with a right turn lane into West Lane. The centre of the carriageway will be hatched or have traffic islands to separate traffic flows. Downside Road will be widened to two lanes for 80m prior to the junction with the A38 and new access provided into the Airport Tavern car park.

9.6.4 The existing footway / cycle track will remain on the eastern side of the A38, with a new footway provided north of the West Lane junction. An enhanced footway / cycle track will be provided on the western side of the road between the airport and Downside Road, with a footway provided for the section north of the Downside road tying in with the existing facility north of West Lane. Pedestrian and cycle facilities will be provided within the Downside Road junction and the design will incorporate drop kerbs. Bus stops will be maintained albeit adjusted for the new alignment. Access will also be maintained to the footpath which runs along the western boundary of the Airport Tavern land towards Lulsgate Bottom.

Drop Offs

9.6.5 The current express drop-off lane that is used by taxis, buses and authorised vehicles will be altered as part of the proposed Masterplan. As part of the 10 mppa consent, a new transport interchange hub, with a dedicated drop-off zone, will be built above the MSCP to the north of the terminal. There will be a footbridge connecting the transport interchange directly into the terminal building. The transport interchange will be utilised by taxis, private hire vehicles, buses, coaches and car drop-offs.

9.7 Employee Travel Plan Measures

9.7.1 The updated Workplace Travel Plan sets out measures to encourage travel by walking, cycling, public transport and car sharing. These are summarised below:

Management Measures:

- Travel Plan Co-ordinator

- TPC participation in the Employee forum
- TPC participation in the Airport Transport Forum
- TPC participation in the Surface Access Steering Group

Car Sharing;

- Provision of Liftshare Service

Public Transport;

- Provision of existing bus services
- Potential Bus Service Improvements
- Potential New Bus Services
- Promotion of Coach Services
- Discounted Employee Travel
- Upgrade of Public Transport Travel Information
- Ticketing Improvements
- Potential Technology Improvements

Taxi;

- Provision of new waiting and drop off zone and local parking control measures

Cycling;

- Additional cycle parking at key locations
- Encouragement to provide shower / changing facilities

Walking;

- Provision of incentives
- Publicization of bus services that are within walking distance to employee home address

Reduce the Need to Travel;

- Tele / Video Conferencing
- Working from home
- Agile working
- External visitor hours arranged outside peak hours
- Servicing / deliveries outside of peak hours

Electric Vehicles;

- Additional charging points provided
- Future airport logistics vehicles to run on electric

Information Provision;

- Marketing Strategy
- Travel Plan Relaunch
- Marketing Budget
- Travel Plan Leaflet
- Information Pack to new employees
- Transport information dissemination

9.8 Summary of Surface Access Improvements

9.8.1 **Table 9.1** below summarises the key improvement opportunities that have been identified in this chapter of the report.

Table 9.1: Key Surface Access Improvement Opportunities

Area	Opportunity
Public Transport	Improvement to bus services and infrastructure on the A370 corridor
	Enhancement of Weston-super-Mare express bus link
	Extension of the public transport fund to support new routes and infrastructure enhancements
	Promotion and development of longer distance bus and coach services
Taxi & Private Hire	Consideration of Authorised Waiting Zone
Walking & Cycling	An enhanced footway / cycle track will be provided on the western side of the A38 between the airport and Downside Road, with a footway provided for the section north of the Downside road tying in with the existing facility north of West Lane.
Road Access	Carriageway widening on A38 between north and south access junctions
	Improved capacity at A38/Downside Road junction
Drop Offs	Dedicated drop-off zone with public transport interchange

9.8.2 The proposed package offers a robust and deliverable set of enhancements which will improve connectivity by all surface access modes to the Airport whilst delivering on the commitment to promote sustainable means of travel.

9.8.3 Public transport opportunities are focused on the areas of greatest travel demand and seek to better utilise existing provision as well as make targeted improvements where necessary. The proposed fund will cover a broad range of measures incorporating service delivery and infrastructure, which will be supported by Travel Plan measures to make sustainable travel options a real choice for passengers and employees.

10 Forecast Traffic Assignment

10.1 Introduction

10.1.1 To determine where the proposed 2 mppa increase may have an impact on the surrounding highway network it is necessary to determine the increase in traffic movements associated with the 12 mppa scheme. To do this it is also necessary to establish the vehicle movements associated with the permitted 10 mppa scheme. Once any vehicle increases are identified it will be possible to compare this with future network flows and information on the operation of existing junctions to determine which areas require consideration in more detail.

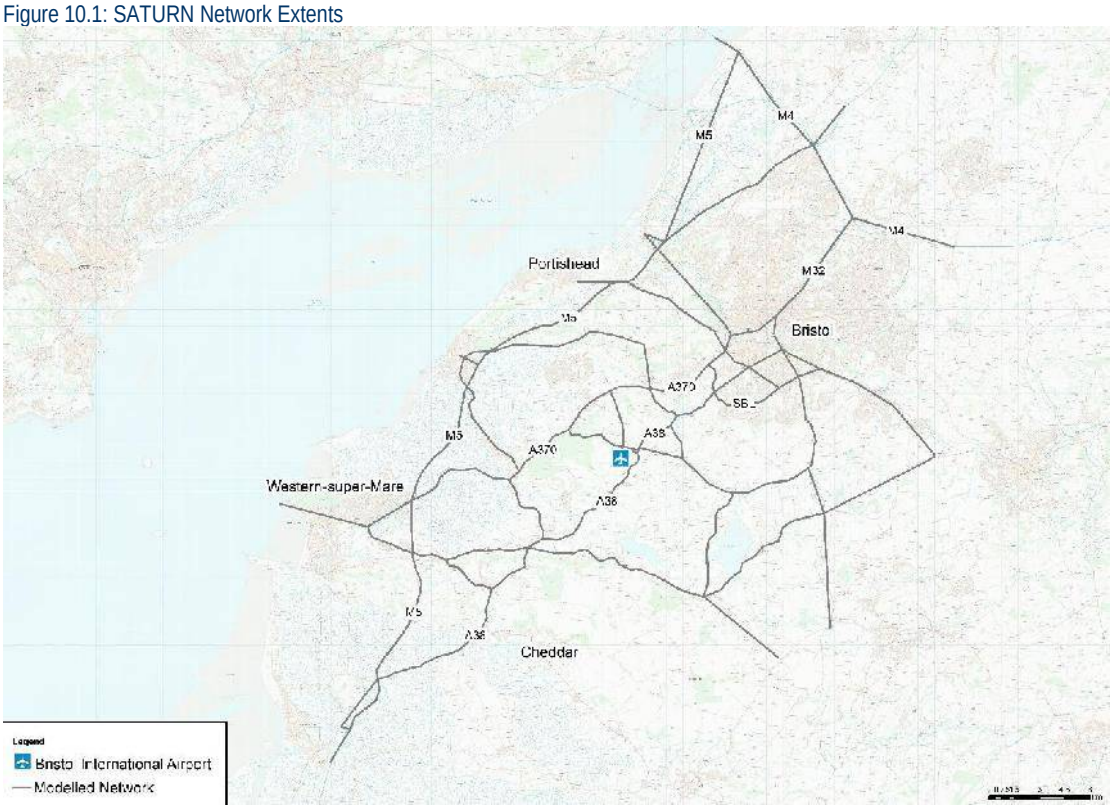
10.1.2 This chapter therefore sets out the approach and methodology adopted for assigning the vehicular trip generation for the consented 10 mppa and the proposed 12 mppa scenarios at Bristol Airport.

10.2 Methodology

10.2.1 To assess the impact of the increase in patronage to 10 and 12 mppa at Bristol Airport, a basic buffer network has been developed within SATURN to identify the impact on a number of junctions near the airport. The thirteen junctions surveyed have been coded as Dummy Simulation nodes within the network to enable the junction turning movements to be calculated.

10.2.2 The Bristol Airport Strategic Highway Tool (BASHT) has been built within SATURN, it uses an all or nothing assignment method on an unconstrained network, based on link distances between specific nodes and recorded HERE speed data. HERE data is extracted from the databases collected and used by in car satellite navigation systems, so is a good indication of actual journey times at specific times of day. **Figure 10.1** illustrates the extents of the SATURN network.

Figure 10.1: SATURN Network Extents



10.2.3 As noted, the HERE data set, this uses GPS data from a number of car manufactures to provide average speed data over a specific period of time. The average speeds for the modelled time periods have been isolated per direction and have been assigned to each link within the model.

10.2.4 The speeds taken from the HERE network are for the relevant time periods and correspond with the peak periods identified within the junction surveys and used for the subsequent junction assessments.

10.2.5 The tool has been developed for three time periods including;

AM peak – 08:00 to 09:00;

Airport Peak – 13:00 to 14:00; and

PM Peak – 17:00 to 18:00.

10.2.6 Two scenarios have been assessed using the tool; the 10 mppa and 12 mppa scenarios. The additional trips associated with these scenarios have been assessed in addition to the 2018 recorded traffic volumes, scaled up to the year 2026 using TEMPro growth rates. This enabled the total 10 mppa and subsequently the 12 mppa traffic volumes to be assigned using the BASHT. The growth assumptions are set out in **Section 7.6**.

10.2.7 The agreed assessment year is 2026 in line with the full completion of the Development Proposals. To test the impact of the development on the highway, the following scenarios have been assessed:

2026 Baseline + Committed Development (2026 Reference Case including 10 mppa consent); and

2026 Baseline + Committed Development + Proposed 12 mppa Development (2026 Test Case).

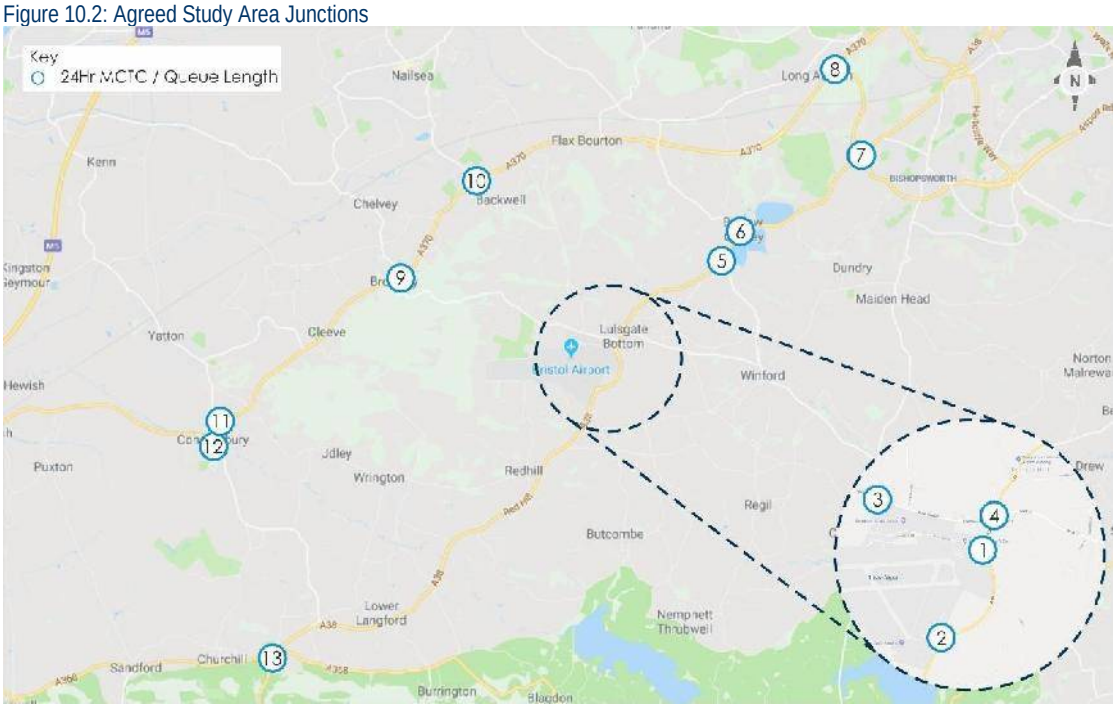
10.2.8 Assigned traffic network diagrams for each scenario and time period have been provided in **Appendix G**.

10.2.9 These outputs have informed specific junction capacity assessments, as outlined in **Section 10.4**.

10.3 Local Highway Assessment

10.3.1 As described above, the forecast development trips have been assigned to the local highway network. **Figure 10.2** shows the junctions being considered within the agreed study area.

Figure 10.2: Agreed Study Area Junctions



10.3.2 **Table 10.1** summarises the vehicular increases per junction during the AM (08:00-09:00), PM (17:00-18:00) and Airport Peak (13:00-14:00) periods. For ease of comparison the flows provided are for total vehicles through the junction for each scenario.

Table 10.1: Vehicular Increases per Junction

Junction Ref No	Junction Name	Time Period	2026 Reference Case	Forecast Development Traffic	2026 Test Case	% Increase
1	A38 / Bristol Airport Northern Roundabout	AM	2,480	188	2,668	7.6%
		Airport Peak	2,984	531	3,515	17.8%
		PM	3,299	306	3,605	9.3%
2	A38 / Bristol Airport Southern Roundabout	AM	1,935	63	1,997	3.2%
		Airport Peak	1,774	181	1,955	10.2%
		PM	2,081	98	2,179	4.7%
3	Downside Road / Bristol Airport Service Access	AM	788	13	801	1.6%
		Airport Peak	527	27	555	5.1%
		PM	671	30	701	4.5%
4a	A38 / Downside Road	AM	2,908	154	3,062	5.3%
		Airport Peak	2,910	429	3,339	14.7%
		PM	3,496	254	3,750	7.3%
4b	A38 / West Lane	AM	2,587	141	2,728	5.4%

Junction Ref No	Junction Name	Time Period	2026 Reference Case	Forecast Development Traffic	2026 Test Case	% Increase
		Airport Peak	2,637	402	3,038	15.2%
		PM	3,078	224	3,302	7.3%
5	A38 / Barrow Lane	AM	2,572	115	2,687	4.5%
		Airport Peak	2,371	329	2,700	13.9%
		PM	2,893	182	3,075	6.3%
6	A38 / Barrow Street	AM	2,777	115	2,892	4.1%
		Airport Peak	2,459	329	2,788	13.4%
		PM	3,014	182	3,196	6.0%
7	A38 / A4174 SBL	AM	3,816	115	3,931	3.0%
		Airport Peak	3,137	329	3,466	10.5%
		PM	3,952	182	4,134	4.6%
8	A370 / A4174 SBL	AM	3,472	64	3,536	1.8%
		Airport Peak	2,962	185	3,147	6.2%
		PM	3,811	99	3,910	2.6%
9	A370 / Brockley Combe Road / Brockley Lane	AM	1,770	10	1,779	0.6%
		Airport Peak	1,402	27	1,429	1.9%
		PM	1,951	29	1,979	1.5%
10	A370 / Dark Lane / Station Road	AM	1,797	-	1,797	0.0%
		Airport Peak	1,602	-	1,602	0.0%
		PM	2,081	-	2,081	0.0%
11	A370 / Smallway	AM	2,251	13	2,264	0.6%
		Airport Peak	1,937	27	1,965	1.4%
		PM	2,509	30	2,539	1.2%
12	A370 / High Street	AM	2,433	-	2,433	0.0%
		Airport Peak	2,024	-	2,024	0.0%
		PM	2,633	-	2,633	0.0%
13	A38 / A368	AM	2,333	43	2,376	1.8%
		Airport Peak	1,892	124	2,016	6.5%
		PM	2,415	66	2,481	2.7%

10.3.3 To determine which of the junctions in the study area require more detailed consideration, the effects of the Development Proposals at each of the junctions should be considered.

10.3.4 The predicted impact at Junctions 1 to 7 has been considered potentially material due to the percentage increase in traffic flows predicted and therefore detailed junction modelling has been undertaken, as set out within **Section 11**.

10.3.5 The predicted impact at the A370 / A4174 roundabout (Junction 8) and the signal junction with the A368 (Junction13) is forecast to be greater than 5% in the Airport peak. However, the forecast 2026 Test Case traffic volumes in the Airport peak hour are lower than the recorded 2018 traffic volumes at both junctions in the weekday peak hours. Therefore, the effects of the Development Proposals at these junctions would not be considered 'severe', unless there is a clear safety issue that would be exacerbated (based on NPPF 2018). This is not the case, as set out previously in Section 7.7. Therefore, no further analysis of these junctions has been undertaken at this stage.

10.3.6 The Development Proposals result in an additional vehicle every 2 minutes at the signalised crossroad A370 / Brockley Combe Road / Brockley Lane Junction (Junction 9) in the afternoon and evening peak hour, which relates to 1 additional vehicle every 1.5 signal cycles. Clearly this minimal impact falls well within day to day vehicle flow variation. The impact is therefore not considered to be severe in accordance with the NPPF and no further assessment is required at this junction.

10.3.7 The Development Proposals are not predicted to increase traffic on the A370 / Dark Lane / Station Road Junction (Junction 10). The impact is therefore not considered to be severe in accordance with the NPPF and no further assessment is required at this junction.

10.3.8 The Development Proposals result in a maximum of 1 additional vehicle every 2 minutes at the A370 / Smallway Roundabout (Junction 11). The effects of the Development Proposals are therefore not considered severe, in accordance with the NPPF, and no further assessment is required at this junction.

10.3.9 As with the A370 / Dark Lane / Station Road Junction (Junction 10), the impact at the A370 / High Street (Junction 12) is not considered severe in accordance with the NPPF and no further assessment is required at this junction.

10.3.10 The airport peak time period (13:00 – 14:00) shows the greatest vehicle uplift as a result of the Development Proposals at A38 / A368 signalised crossroad (Junction 13). The overall predicted traffic in the 2026 test case (2,016) is lower than the recorded 2018 morning and evening peak hour traffic volume at this junction. The Development Proposals result in an increase of 1 vehicle per minute or 1.5 additional vehicles per signal cycle. Given the above evidence, no further assessment is required at this junction

10.4 Highways England Junctions Net Trip Generation

10.4.1 During the pre-application process, Highways England requested M5 junctions 18 to 22 to be considered as part of the numerical assessment.

10.4.2 The junctions did not form part of the agreed traffic survey study area, and therefore the existing junction operations cannot be quantified as part of this assessment. However, an overall analysis of traffic volume increase has been undertaken.

10.4.3 As described in **Section 10.2**, the BASHT is an all or nothing assignment tool. Therefore, all traffic to or from the south has been routed through Junction 22 and all the traffic to or from the north has been routed through Junction 18. The SATURN plots have been provided in **Appendix I**.

10.4.4 **Table 10.2** summarises the additional traffic that is forecast to pass through the junctions requested during the AM (08:00-09:00), PM (17:00-18:00) and Airport (13:00-14:00) peaks.

Table 10.2: Forecast Development Traffic Passing through M5 Junctions 18 and 22

Time Period	Junction 18		Junction 22	
	Inbound	Outbound	Inbound	Outbound
AM Peak	19	11	25	15
Airport Peak	27	18	65	54
PM Peak	40	49	25	36

10.4.5 Given the above, the vehicle increases at Junctions 18 and 22 of the M5 motorway are unlikely to be considered 'severe' in the context of the NPPF (2018). Further assessment of the above junctions is not considered to be required.

11 Residual Highway Impacts

11.1 Introduction

11.1.1 BAL intend on developing an ambitious ASAS through Section 106 and ATF discussions. These proposals are designed to improve access, legibility and safety to reduce congestion on the road network surrounding Bristol Airport.

11.1.2 Notwithstanding this and based on the analysis set out in Chapter 10, which identified which junctions could require more detailed consideration, this chapter sets out the predicted vehicle operational impact on the local road network at the following junctions within the agreed study area:

Junction 1 A38 / Bristol Airport Northern Roundabout;

Junction 2 A38 / Bristol Airport Southern Roundabout;

Junction 3 Downside Road / Bristol Airport Service Access;

Junction 4a A38 / Downside Road;

Junction 4b A38 / West Lane;

Junction 5 A38 / Barrow Lane;

Junction 6 A38 / Barrow Street; and

Junction 7 A38 / A4174 SBL.

11.1.3 The agreed assessment year is 2026 in line with the completion of the development. To test the impact of the development on the highway, the following scenarios have been assessed:

2026 Baseline + Committed Development (2026 Reference Case including 10 mppa consent); and

2026 Baseline + Committed Development + Proposed 12 mppa Development (2026 Test Case).

11.2 A38 / Bristol Airport Roundabouts (J1 & J2)

Existing Layout

11.2.1 The results of the junction capacity assessment at the existing A38 roundabouts with Bristol Airport are summarised in **Table 11.1**.

Table 11.1: A38 / Bristol Airport Roundabouts Existing Scheme - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2018 Baseline							
A38 / Northern Roundabout	A38 (N)	0.46	0.9	0.46	0.9	0.59	1.4
	Cul-de-sac	0.03	0.0	0.05	0.0	0.09	0.1
	A38 (S)	0.58	1.4	0.39	0.7	0.55	1.2
	Bristol Airport	0.19	0.2	0.39	0.6	0.39	0.6
A38 / Southern Roundabout	A38 (N)	0.32	0.5	0.35	0.5	0.43	0.7
	A38 (S)	0.45	0.8	0.23	0.3	0.34	0.5
	Bristol Airport	0.09	0.1	0.19	0.2	0.19	0.2
2026 Reference Case							
A38 / Northern Roundabout	A38 (N)	0.57	1.3	0.62	1.6	0.73	2.7
	Cul-de-sac	0.04	0.0	0.08	0.1	0.16	0.2
	A38 (S)	0.73	2.6	0.54	1.2	0.72	2.6
	Bristol Airport	0.26	0.4	0.59	1.4	0.54	1.1
A38 / Southern Roundabout	A38 (N)	0.38	0.6	0.44	0.8	0.50	1.0
	A38 (S)	0.53	1.2	0.30	0.4	0.41	0.7
	Bristol Airport	0.12	0.1	0.28	0.4	0.26	0.4
2026 Test Case							
A38 / Northern Roundabout	A38 (N)	0.61	1.6	0.72	2.6	0.79	3.7
	Cul-de-sac	0.05	0.0	0.12	0.1	0.22	0.3
	A38 (S)	0.77	3.3	0.64	1.8	0.79	3.7
	Bristol Airport	0.31	0.4	0.73	2.7	0.62	1.6
A38 / Southern Roundabout	A38 (N)	0.39	0.6	0.49	1.0	0.52	1.1
	A38 (S)	0.55	1.2	0.33	0.5	0.43	0.8
	Bristol Airport	0.14	0.2	0.33	0.5	0.29	0.4

RFC – Ratio of Flow to Capacity

11.2.2 The existing Bristol Airport accesses (A38 roundabouts with Bristol Airport) have been validated against the recorded traffic and queue length surveys.

11.2.3 The existing southern A38 roundabout with Bristol Airport is forecast to operate within capacity in both the 2026 reference case and test case.

11.2.4 The full junction assessment output for the existing A38 roundabouts with Bristol Airport is contained within **Appendix H**.

Improvement Scheme

11.2.5 As set out within **Section 4.4**, the development proposals include upgrades to the northern roundabout. This includes a dedicated left turn slip lane onto the A38 and an internal dual carriageway gyratory.

11.2.6 The results of the junction capacity assessment at the proposed improved A38 northern roundabout with Bristol Airport is summarised in **Table 11.2**.

Table 11.2: A38 / Bristol Airport Roundabouts Improvement Scheme - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2026 Test Case							
A38 / Northern Roundabout	A38 (N)	0.57	1.4	0.62	1.7	0.79	3.8
	Cul-de-sac	0.04	0.0	0.08	0.1	0.22	0.3
	A38 (S)	0.73	2.6	0.54	1.2	0.79	3.7
	Bristol Airport	0.14	0.2	0.27	0.4	0.20	0.2

RFC – Ratio of Flow to Capacity

11.2.7 The improved Bristol Airport northern access roundabout is predicted to operate well within capacity in each 2026 Test Case scenario.

11.2.8 The proposed junction offers a variety of improvements outside of capacity issues, such as improved safety, ease of wayfinding, and reduction in driver delay. Delay is considered an important factor in passenger experience at Bristol Airport due to the possibility of passengers missing their flights.

11.2.9 The full junction assessment output for the proposed A38 roundabouts with Bristol Airport is contained within **Appendix H**.

11.3 Downside Road / Bristol Airport (J3)

11.3.1 The results of the junction capacity assessment at the existing Downside Road junction with Bristol Airport are summarised in **Table 11.3**.

Table 11.3: Downside Road / Bristol Airport Existing Layout - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2018 Survey Flows							
Downside Road / Bristol Airport	Bristol Airport Left Turn	0.05	0.1	0.08	0.1	0.12	0.1
	Bristol Airport Right Turn	0.03	0.0	0.07	0.1	0.05	0.1
	Downside Road (W)	0.12	0.2	0.07	0.1	0.08	0.1
2026 Reference Case							
Downside Road / Bristol Airport	Bristol Airport Left Turn	0.06	0.1	0.09	0.1	0.14	0.2
	Bristol Airport Right Turn	0.04	0.0	0.08	0.1	0.06	0.1
	Downside Road (W)	0.14	0.3	0.08	0.1	0.09	0.2
2026 Test Case							

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
Downside Road / Bristol Airport	Bristol Airport Left Turn	0.06	0.1	0.10	0.1	0.14	0.2
	Bristol Airport Right Turn	0.04	0.0	0.09	0.1	0.07	0.1
	Downside Road (W)	0.15	0.3	0.09	0.1	0.10	0.2

RFC – Ratio of Flow to Capacity

11.3.2 The existing Bristol Airport accesses with Downside Road models have been validated against the recorded traffic and associated queue length surveys.

11.3.3 The junction is forecast to operate well within capacity in each scenario assessed. Given the above junction assessment results, the impact of the development is not considered 'severe' in the context of the NPPF.

11.3.4 The full junction assessment output for the existing Downside Road priority junction with Bristol Airport is contained within **Appendix H**.

11.4 A38 / West Lane & Downside Road (J4)

Existing Layout

11.4.1 The results of the junction capacity assessment at the existing A38 signalised junction with Downside Road and the A38 priority junction with West Lane is summarised in **Table 11.4** and **Table 11.5** respectively.

Table 11.4: A38 / Downside Road Existing Layout - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
2018 Survey Flows							
A38/Downside Road	A38 (S)	78.8	23.9	65.9	15.2	81.8	24.8
	Downside Road	78.4	10.7	73.5	8.5	96.5	13.9
	A38 (N)	80.6	23.6	72.9	17.9	98.2	53.7
PRC (%)		11.6		22.5		-9.1	
2026 Reference Case							
A38/Downside Road	A38 (S)	92.4	40.7	89.1	36.1	100.7	30.2
	Downside Road	95.3	16.9	93.4	13.8	112.9	77.0
	A38 (N)	97.2	47.8	96.8	47.6	119.9	205.4
PRC (%)		-8.0		-7.6		-33.3	
2026 Test Case							
A38/Downside Road	A38 (S)	95.3	48.2	101.8	83.8	107.7	131.6
	Downside Road	102.1	22.9	108.6	26.3	123.7	41.9
	A38 (N)	103.1	74.5	108.8	118.4	127.2	265.7

PRC (%)	-14.6	-20.9	-41.4

DOS – Degree of Saturation, PRC – Practical Reserve Capacity

11.4.2 The existing A38 signal junction with Downside Road have been validated against the recorded traffic and queue length surveys.

11.4.3 The results indicate the existing A38 signal junction is operating over capacity in the 2018 survey flow evening peak, with the PRC recorded at -9.1%. In the 2018 survey flows morning peak and inter peak the junction is operating within capacity.

11.4.4 All the 2026 scenarios assessed forecast the existing A38 signal junction with Downside Road is predicted to operate over capacity.

Table 11.5: A38 / West Lane Existing Layout - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		RFC	Queue	RFC	Queue	RFC	Queue
2018 Survey Flows							
A38 / West Lane	West Lane (Left Turn)	0.52	1.1	0.40	0.7	0.84	4.3
	West Lane (Right Turn)	0.15	0.2	0.15	0.2	0.47	0.7
	A38 (S)	0.37	0.6	0.33	0.5	0.60	1.4
2026 Reference Case							
A38 / West Lane	West Lane (Left Turn)	0.78	3.1	0.80	3.6	1.43	59.5
	West Lane (Right Turn)	0.55	0.9	1.83	5.9	-	5.9
	A38 (S)	0.49	1.0	0.54	1.2	0.86	6.1
2026 Test Case							
A38 / West Lane	West Lane (Left Turn)	0.97	9.8	1.03	14.0	1.6	87.4
	West Lane (Right Turn)	3.48	6.2	-	11.7	-	10.1
	A38 (S)	0.54	1.2	0.72	2.7	1.01	22.5

RFC – Ratio of Flow to Capacity

11.4.5 The existing A38 priority junction with West Lane models have been validated against the recorded traffic flows and queue length surveys. The 2018 survey flows models operate within capacity for each scenario assessed.

11.4.6 The existing A38 junction with West Lane is forecast to operate over capacity in both the 2026 reference case and 2026 test case. The full junction assessment output for the existing A38 signalised junctions with Downside Road and the existing A38 priority junction with West Lane is contained within **Appendix H**.

Improvement Scheme

11.4.7 As set out within Chapter 4.3, the development proposals include significant upgrades to A38 junctions with Downside Road and West Lane.

11.4.8 The results of the junction capacity assessment at the improved A38 signalised staggered cross roads with West Lane and Downside Road are summarised in **Table 11.6**.

Table 11.6: A38 / West Lane & Downside Road Improvement Scheme - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
2026 Test Case							
A38 / Downside Road	A38 (S) - Left & Ahead	75.1	12.4	71.3	12.8	80.7	11.2
	A38 (S) - Ahead	54.7	9.6	54.7	10.2	59.5	8.7
	Downside Road - Left	71.9	8.1	77.3	8.3	79.5	6.5
	Downside Road – Right	71.9		77.3		79.5	
	A38 (N) – Ahead	60.6	4.1	60.8	5.1	73.4	4.3
	A38 (N) – Ahead & Left	63.4	4.3	62.8	3.8	78.4	4.8
PRC (%)		19.9		16.5		11.6	
A38 / West Lane	A38 (N) – Ahead	67.2	8.6	81.2	12.8	79.6	10.5
	A38 (N) – Left	67.2		81.2		79.6	
	West Lane – Left	54.5	5.7	51.8	6.0	78.4	7.4
	A38 (S) – Ahead	52.0	6.6	55.6	7.6	57.6	6.3
	A38 (S) – Ahead & Right	71.9	14.7	81.1	15.7	77.2	13.8
PRC (%)		25.1		10.8		13.1	

DOS – Degree of Saturation, PRC – Practical Reserve Capacity

11.4.9 The improved signalised A38 junction with West Lane and Downside Road is predicted to operate within capacity in each 2026 Test Case scenario. As summarised in Table 11.6 the PRC is predicted to be above 10% for all scenarios assessed at the proposed A38 signal junctions with Downside Road and West Lane.

11.4.10 In addition to providing additional highway capacity the proposed scheme offers significant improvements to pedestrians and cyclists facilities as detailed in Section 4.3.

11.4.11 The full junction assessment output for the proposed A38 signalised junctions with West Lane and Downside Road is contained within **Appendix H**.

11.5 A38 / Barrow Lane & A38 / Barrow Street (J5&J6)

11.5.1 The results of the junction capacity assessment at the existing A38 priority junction with Barrow Lane and the existing A38 signal junction with Barrow Street are summarised in **Table 11.7**.

Table 11.7: A38 / Barrow Lane & A38 / Barrow Street Existing Layout - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
2018 Survey Flows							
A38 / Barrow Street	A38 Bridgewater Road (W)	68.9	9.3	49.1	5.4	66.1	7.9
	B3130 Barrow Street	40.0	4.0	31.8	2.0	43.9	4.2

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
	A38 Bridgewater Road (E)	50.1	5.9	31.6	3.2	57.1	8.0
PRC (%)		30.7		83.3		70.6	
A38/Barrow Lane	A38 Bridgewater Road (W)	54.7	0.6	43.1	0.4	49.5	0.5
	Barrow Lane	55.2	1.6	42.6	0.7	52.7	1.6
PRC (%)		63.0		108.8		36.2	
2026 Reference Case							
A38 / Barrow Street	A38 Bridgewater Road (W)	82.0	12.4	69.6	8.7	77.1	10.3
	B3130 Barrow Street	44.0	4.6	30.6	2.2	50.4	5.0
	A38 Bridgewater Road (E)	85.8	18.9	45.8	5.5	69.1	10.9
PRC (%)		5.0		29.4		16.7	
A38/Barrow Lane	A38 Bridgewater Road (W)	64.6	0.9	58.2	0.7	60.5	0.8
	Barrow Lane	93.5	6.5	75.0	3.1	86.2	4.5
PRC (%)		-3.9		20.0		4.4	
2026 Test Case							
A38 / Barrow Street	A38 Bridgewater Road (W)	87.8	14.5	87.7	12.9	87.3	12.8
	B3130 Barrow Street	41.5	4.5	26.0	2.0	46.5	4.7
	A38 Bridgewater Road (E)	81.3	16.5	57.5	7.7	78.4	134
PRC (%)		2.5		2.7		3.1	
A38/Barrow Lane	A38 Bridgewater Road (W)	66.9	1.0	67.2	1.0	65.0	1.0
	Barrow Lane	99.6	8.6	93.9	6.2	94.2	6.1
PRC (%)		-10.7		-4.4		-4.7	

DOS – Degree of Saturation, PRC – Practical Reserve Capacity

11.5.2 The existing signalised A38 junction with Barrow Street operates on Microprocessor Optimised Vehicle Actuation (MOVA), as such the green times and cycle time differ depending on the demand at the junction. Therefore, green times and cycle times for the baseline model have been calculated from video data.

11.5.3 The 2026 Reference Case and 2026 Test Case models have been optimised to reflect the operation of MOVA.

11.5.4 As can be seen from the assigned traffic plots using the BASHT, none of the traffic associated with the Development Proposals is routed through Barrow Lane or Barrow Street. Therefore, all traffic is passing through the junction on the A38. Although the junction is approaching

capacity, mitigation measures or junction improvements are not considered appropriate given the likelihood this will encourage through traffic.

11.5.5 The full junction assessment output is contained within **Appendix H**.

11.6 SBL / A38 (J7)

11.6.1 The results of the junction capacity assessment at the existing A4174 SBL signalised roundabout with the A38 are summarised in **Table 11.8**.

Table 11.8: SBL / A38 Existing Layout - Capacity Results Summary

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
2018 Survey Flows							
SBL / A38	SBL (N) – Ahead & Left	57.0	5.6	58.4	4.4	73.2	6.9
	SBL (N) – Ahead	31.6	2.8	36.7	2.5	55.0	4.6
	SBL (N) – Circulatory Ahead	26.6	2.7	17.6	1.5	22.0	2.0
	SBL (N) – Circulatory Right Ahead	33.2	3.6	22.6	2.2	28.5	2.8
	A38 (N) – Ahead + Left	56.3	3.2	44.7	2.2	70.9	4.4
	A38 (N) – Ahead	35.9	1.9	18.4	0.8	50.3	2.9
	A38 (N) – Circulatory Ahead	20.6	1.4	21.4	0.7	28.7	1.3
	A38 (N) – Circulatory Right Ahead	30.1	1.2	25.9	0.6	35.3	1.1
	A38 (N) – Circulatory Right	13.0	0.1	12.7	0.1	20.5	0.1
	SBL (S) – Left	44.6	4.3	41.5	2.7	54.4	4.2
	SBL (S) – Ahead	60.9	4.7	43.8	2.5	54.8	3.6
	SBL (S) – Circulatory Ahead	21.4	1.5	20.1	1.0	32.2	2.1
	SBL (S) – Circulatory Ahead	32.2	3.8	25.5	1.2	42.7	2.7
	SBL (S) – Circulatory Right	10.1	0.7	4.6	0.3	13.7	1.2
	A38 (S) – Left	53.0	3.6	47.2	2.4	39.2	2.1
	A38 (S) – Ahead	53.7	3.5	34.9	1.6	45.7	2.5
	A38 (S) – Circulatory Ahead	42.6	4.3	27.1	0.5	42.2	1.1
	A38 (S) – Circulatory Right Ahead	47.9	5.4	34.5	0.9	47.9	2.4
	PRC (%)	47.7		54.1		22.9	
2026 Ref Case							
	SBL (N) – Ahead & Left	65.4	6.8	65.1	5.8	80.8	9.0

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
SBL / A38	SBL (N) – Ahead	35.8	3.4	46.6	3.7	65.0	6.3
	SBL (N) – Circulatory Ahead	32.4	3.3	21.9	2.0	27.5	2.7
	SBL (N) – Circulatory Right Ahead	39.6	4.4	31.5	3.2	34.2	3.6
	A38 (N) – Ahead + Left	69.4	4.3	58.8	3.4	76.3	5.8
	A38 (N) – Ahead	41.0	2.2	20.0	1.0	50.5	3.4
	A38 (N) – Circulatory Ahead	24.7	1.7	26.1	1.1	34.0	1.9
	A38 (N) – Circulatory Right Ahead	35.1	1.5	31.6	1.1	41.8	1.8
	A38 (N) – Circulatory Right	15.4	0.1	17.5	0.1	26.1	0.2
	SBL (S) – Left	50.9	5.0	51.1	3.5	62.3	5.4
	SBL (S) – Ahead	70.7	7.0	52.2	3.1	63.4	4.4
	SBL (S) – Circulatory Ahead	28.2	2.6	28.1	1.5	39.0	2.5
	SBL (S) – Circulatory Ahead	38.9	5.4	34.1	1.8	51.9	3.6
	SBL (S) – Circulatory Right	11.4	0.9	5.1	0.3	15.4	1.0
	A38 (S) – Left	66.2	5.0	61.5	3.8	47.1	2.9
	A38 (S) – Ahead	64.2	4.5	44.5	2.4	52.6	3.2
	A38 (S) – Circulatory Ahead	45.3	2.5	34.6	0.6	49.8	2.4
	A38 (S) – Circulatory Right Ahead	53.5	6.0	41.1	1.3	54.9	5.4
PRC (%)		27.2		38.2		11.4	
2026 Test Case							
SBL / A38	SBL (N) – Ahead & Left	68.6	7.2	70.2	6.5	83.4	9.8
	SBL (N) – Ahead	41.0	3.8	52.6	4.3	68.9	7.0
	SBL (N) – Circulatory Ahead	32.2	3.2	27.5	2.5	29.2	2.8
	SBL (N) – Circulatory Right Ahead	39.6	4.3	32.4	3.3	36.0	3.8
	A38 (N) – Ahead + Left	74.9	4.9	69.6	4.4	82.0	6.7
	A38 (N) – Ahead	41.0	2.2	20.0	1.0	50.5	3.4
	A38 (N) – Circulatory Ahead	25.3	1.7	27.9	1.1	35.0	2.0

Junction	Arm	AM Peak Hour (0800-0900)		Inter Peak Hour (1300-1400)		PM Peak Hour (1700-1800)	
		DOS	Queue	DOS	Queue	DOS	Queue
	A38 (N) – Circulatory Right Ahead	35.7	1.5	33.3	1.1	42.9	4.8
	A38 (N) – Circulatory Right	16.8	0.1	19.8	0.1	27.7	0.2
	SBL (S) – Left	50.9	5.0	51.1	3.5	62.3	5.4
	SBL (S) – Ahead	70.6	7.0	54.1	3.3	64.2	4.6
	SBL (S) – Circulatory Ahead	31.4	3.0	34.8	2.1	43.4	3.1
	SBL (S) – Circulatory Ahead	42.2	6.0	39.4	2.4	55.3	6.5
	SBL (S) – Circulatory Right	11.4	0.9	5.1	0.3	15.4	1.0
	A38 (S) – Left	66.6	5.1	73.5	5.3	52.5	3.4
	A38 (S) – Ahead	64.2	4.5	46.3	2.5	55.6	3.4
	A38 (S) – Circulatory Ahead	47.9	4.9	32.0	0.6	49.2	1.4
	A38 (S) – Circulatory Right Ahead	55.4	6.4	43.5	1.3	55.4	5.7
PRC (%)		20.2		22.5		7.9	

DOS – Degree of Saturation, PRC – Practical Reserve Capacity

11.6.2 The existing signalised A38 junction with Bristol South Link operates on Microprocessor Optimised Vehicle Actuation (MOVA), as such the green times and cycle time differ depending on the demand at the junction. Therefore, green times and cycle times for the baseline model have been calculated from video data.

11.6.3 The 2026 Reference case and 2026 Test case models have been optimised to reflect the operation of MOVA.

11.6.4 The existing signalised A38 junction with Bristol South Link are predicted to operate within capacity in each scenario assessed.

11.6.5 Given the above junction assessment results, the impact of the development is not considered 'severe' in the context of the NPPF. The full junction assessment output is contained within **Appendix H**.

12 Construction

12.1 Introduction

12.1.1 This chapter details the estimated construction traffic movements for each phase of construction, which have been provided by QuantumCLS Ltd.

12.1.2 The estimated construction traffic movements have been used to derive the total vehicle and HGV AAWT construction traffic flows, provided in **Appendix I**.

12.2 Construction Traffic

12.2.1 Total vehicle AAWT flows during construction are estimated to be 39 vehicles a day and HGV AAWT flows are estimated to be nine vehicles a day. It is anticipated that peak vehicle movements will occur in January 2020; during this period there may be movements of 138 vehicles a day where a number of elements are being constructed concurrently (such as the A38 highway improvement works).

12.2.2 **Table 12.1** sets out the potential increases in traffic associated with construction.

Table 12.1: Potential Construction Traffic Movements

Link	Name	% Change in All Traffic 18hr AAWT (when compared to 2026 traffic flows)	% Change in HGV 18hr AAWT (when compared to 2026 traffic flows)	% Change in All Traffic 18hr AAWT (2026 without development)	% Change in HGV 18hr AAWT (2026 without development)
2	A38 New Road	0.3%	1.4%	0.2%	1.2%
4	A38 (North of Dinghurst Road)	0.2%	0.9%	0.2%	0.8%
10	A38 Bridgwater Road (North)	0..3%	1.6%	0.3%	1.3%
12	A38 (North of West Lane)	0.2%	0.9%	0.1%	0.7%
16	A38 (South of Silver Zone)	0.2%	1.2%	0.2%	1.0%

12.2.3 Vehicle movements associated with construction traffic would not cause an increase of more than 5% in total vehicles or HGVs on any of the identified study links along the A38. Significant effects are not anticipated where traffic increases of <5% are experienced as such variance can occur on a daily basis. It is therefore considered that there are no significant effects in regards to severance, fear and intimidation and accidents and disasters during the construction phase.

12.2.4 The vehicle trip generation during the peak construction phase is substantially lower than the operational traffic predictions in 2026 and is therefore expected to have a lesser effect on driver delay than that considered in 2026 and does not justify detailed junction modelling.

12.2.5 Improvements to the highway network associated with the Proposed Development, such as the upgrading of the A38/Downside Road and A38/West Lane junction, and widening of the A38 may result in a short term localised increase in delays between October 2019 and April 2020 when it is proposed that the improvements will be undertaken. However, this will be

confirmed during detailed construction planning and the temporary nature of the works mean it is unlikely to have a significant effect.

12.2.6 Similarly, during these works there may be temporary disruption to pedestrian delay and amenity such as to users of nearby PRoW (LA2/37/10/XG2, LA2/37/10/X and LA19/77/70). As flows are not anticipated to increase by more than 5% there are unlikely to be any significant effects to delay, however there may be a temporary reduction in amenity in this area whilst improvements works are carried out but it is not anticipated that this would result in a significant effect.

12.2.7 It is considered that there are unlikely to be any significant effects on severance, fear and intimidation, pedestrian delay and amenity, driver delay and accidents and safety during construction. This is due to the small increases in vehicle movements associated with this phase, temporary nature of improvement works on the A38, Downside Road and West Lane and control of HGV movements through the implementation of measures outlined in the CEMP such as controls on HGV routing to avoid smaller local roads where possible.

13 Summary & Conclusions

13.1 Summary

13.1.1 This Transport Assessment (TA) supports a planning application for the Development Proposals by Bristol Airport Limited (BAL) to North Somerset Council (NSC). The planning application seeks permission to expand Bristol Airport beyond the permitted passenger cap of 10 mppa to 12 mppa.

13.1.2 This TA should be read in conjunction with the suite of transport related planning application documents submitted as part of the application, including: Workplace Travel Plan (WTP), Parking Demand Study, Parking Strategy Planning Statement and Environmental Impact Assessment (EIA). BAL also commits to produce a new and ambitious Airport Surface Access Strategy (ASAS) secured through a S 106 agreement, which will seek to implement measures to reduce single occupant car trips and encourage public transport (PT) use where possible.

13.1.3 This report has set out the approach taken to assessing the potential transport impact of the Development Proposals. Chapters 1 – 4 set out the existing context, relevant policy considerations, permitted 10 mppa scheme and the details of the Development Proposals.

13.1.4 The Development Proposals at Bristol Airport support the proposed increase in passenger numbers and seek to ensure safer and more efficient passenger movement to and around the airport site. The Development Proposals include a number of new infrastructure components, improvements to existing facilities and a number of operational changes, including:

Extensions to the terminal building on its west and southern sides and a canopy over the forecourt of the main terminal building;

Erection of a new east walkway and pier with vertical circulation cores, pre-board zones and a 5m high acoustic timber fence;

Construction of a new service yard directly north of the western walkway;

New and additional car parking, including erection of a multi-storey car park (MSCP) providing approximately 2,150 spaces (Phase 3), extension to the Silver Zone car park to provide approximately 2,700 spaces (Phase 2) and year-round use of the existing Silver Zone car park extension (Phase 1);

Surface access improvements including enhancements to the A38 between the main airport access roundabout and West Lane and an improved internal road system with gyratory and internal surface car parking;

Enhancements to airside infrastructure including construction of a new eastern taxiway link and taxiway widening (and fillets) to the southern edge of Taxiway; and

Operational changes including retention of an annualised cap of 4,000 night flights between the hours of 23:30 and 06:00, albeit with the removal of the current caps on the number of night-time flights during the British Summer and Winter Seasons respectively, and revisions to the use of aircraft stand numbers 38 and 39 so that they operate under the same terms as stands 34-37.

13.1.5 In preparing this TA, key stakeholders NSC, BCC, BaNES, SCC and Highways England have been consulted with as part of the formal pre-application process. This has contributed to the development of the TA methodology which is contained in **Chapter 5**.

13.1.6 **Chapter 6** sets out the current passenger transport, walking and cycling opportunities for passengers and staff at the Bristol Airport site.

13.1.7 **Chapter 7** describes the highway network surrounding the Bristol Airport site, including details of the broad range of traffic surveys carried out in July 2018 prior to the school summer holidays. These form the baseline traffic movement for the 2017 baseline passenger movement of 8.2 mppa.

13.1.8 An assessment year of 2026 has been evaluated, since this is the year at which passenger numbers are forecast to reach 12 mppa, subject to planning consent for the Development Proposals being granted. The 2018 baseline traffic which includes airport and non-airport traffic has been factored to 2026 to reflect this. This presents a robust assessment since these 'scaled-up' flows at Bristol Airport would relate to approximately 1.4 mppa in themselves.

13.1.9 Collision data analysis has not identified any specific concern regarding the geometric design / road layout of the local highway network. There are no re-occurring patterns of the frequency of severity of collisions recorded. The data does not highlight any specific concerns to clustering of collisions or locations within the study area.

13.1.10 **Chapter 8** provides the step by step forecasting methodology for each trip generation category and details the 24-hour trip generation by mode associated with the Development Proposals. This is based on the agreed mode share for the permitted development of 15% of passenger trips by PT. The calculation of vehicle trips has considered drop-offs and vehicle occupancy rates. The resulting total daily increase in two-way person trips (beyond the permitted 10mppa trips) is 7,533, of which 1,560 are PT trips and 5,575 relate to vehicle trips.

13.1.11 A TA Scoping Report was submitted on 15th August 2018 to the key stakeholders. The report was formally commented on by NSC and a response was submitted on 21st October 2018.

13.1.12 The TA has assessed the proposals to increase passenger numbers from 10 mppa to 12 mppa for a typical week day during a peak week in the peak month of August. Detailed junction capacity assessments have been undertaken in the highway network morning (08:00-09:00), and evening (17:00-18:00) and the forecast future Airport (13:00-14:00) peak periods. The TA has therefore assessed the impact of 12 mppa in the peak passenger throughput month of August. This presents a robust core assessment.

13.1.13 The baseline transport conditions have been established using a combination of the most recent CAA survey (2015) results, the most recent Employee Travel Survey (2017) results, PIC data from NSC and BCC, 24-hour traffic surveys (July 2018) and a combination of commercial and published data from BAL.

13.1.14 The travel demand was determined for the existing, 10 mppa and 12 mppa scenarios for the following categories of trip generators:

Air passengers;

Employees; and

Operational and Logistical movements

13.1.15 The forecast travel demand for passengers includes an assumption that the PT mode share target BAL committed to working towards as part of the 10 mppa application, will be achieved as a result of the significant investments already being made by BAL.

13.1.16 The following scenarios have been assessed in the TA:

2026 Reference Case (10 mppa); and

2026 Test Case (12 mppa).

13.1.17 The July 2018 traffic surveys recorded both airport and non-airport related traffic across the entire study area. To present a robust assessment, the recorded traffic has been factored up to 2026, which includes the traffic associated with approximately 8.6 mppa (the estimated 2018 passenger numbers), an additional 4,021 daily two-way vehicle movements. This relates to approximate increase of 1.4 mppa Bristol Airport. The traffic and highway assessment methodology could thus be viewed as effectively testing the effects of 13.4 mppa on the highway network in the study area, ensuring a robust assessment and accounting for daily or monthly variations.

13.1.18 For a number of reasons, the assessment represents a robust consideration of the impacts of the additional 2mppa on the highway network. This is reflected in the methodology which allows for:

Growth in all trips up to 2026 using TEMPro factors. This includes the existing airport traffic;

An assumed passenger mode share of 15% by non-car means to reflect the commitment with respect to the permitted scheme; and

Employee mode share of 10% by non-car means to reflect the 2017 Employee Travel Survey, even though a target of 25% has been set out in the WTP.

13.1.19 **Chapter 9** describes a package of potential surface access improvement options. BAL is committed to encouraging passengers and employees to travel to and from Bristol Airport by means other than single occupancy car. A new and ambitious ASAS will be developed as a result of ongoing Section 106 discussions and following input from the Air Transport Forum (ATF). The ASAS will set out:

Proposed improvements to public transport services;

Proposed improvements to other more sustainable transport modes;

Travel plan measures designed to encourage access to the Airport by more sustainable modes; and

Improvements to local highway infrastructure and on-site car parking provision.

13.1.20 **Chapter 10** sets out the highway capacity analysis which has been undertaken on key junctions within the agreed study area. The analysis is based on a 2026 Reference Case representing the permitted 10mmpa scheme, and a 2026 Test Case representing the Development Proposals (12mppa).

13.1.21 The analysis has indicated the A38 roundabout with Bristol Airport Silver Zone, Downside Road junction with Bristol Airport, A38 junction with Barrow Lane, A38 junction with Barrow Street and the A38 junction with the A4174 will operate within capacity at both the 2026 Reference Case and 2026 Test Case without the need for improvement, and that the Development Proposals have a minimal impact on these junctions.

13.1.22 The A38 roundabout with Bristol Airport, A38 junction with Downside Road and A38 West Lane are predicted to operate over capacity in both the 2026 Reference Case and 2026 Test Case without improvement.

13.1.23 An extensive mitigation scheme is therefore proposed as an inherent part of the Development Proposals. This includes:

Proposed A38 Travel Improvements

- BAL is proposing to undertake a significant improvement of the A38 between the main airport access roundabout and West Lane to accommodate any additional traffic generated by an extra 2 mppa. This incorporates highway widening and junction capacity increases.

- The existing footway / cycle track will remain on the eastern side of the A38, with a new footway provided north of the West Lane junction. An enhanced footway / cycle track will be provided on the western side of the road between the airport and Downside Road, with a footway provided for the section north of the Downside road tying in with the existing facility north of West Lane.

Gyratory Road with Internal Surface Car Parking

- To accommodate vehicle movements and improve flows within Bristol Airport and onto the A38, a two lane, one-way system, gyratory is proposed. This will provide additional capacity onto North Side Road and a connection between the A38 and the northern components of the airport, including the main terminal building, multi-storey car park and surface car parking areas. To the west, the gyratory road serves the airport servicing area and hotel.

- The gyratory also includes a pedestrian footway along its southern edge, linking the main terminal building with the A38. A new zebra crossing will be located across the dual carriageway to the east.

13.1.24 The mitigation which is included as part of the Development Proposals (by means of significant junction capacity improvements), means that these junctions are forecast to operate within capacity at the 2026 Test Case, and significantly better than in the 2026 Reference Case.

13.1.25 The overall proposed mitigation measures therefore include:

A370 corridor bus service improvements;

Increased frequency of the A3 Weston Flyer;

Bus priority measures on the A38 corridor;

Passenger interchange improvements at Bristol Temple Meads;

A comprehensive upgrade to the A38 / Downside Road / West Lane junction;

Improvements to the A38 / Bristol Airport northern access;

An enhanced footway / cycleway on the western side of the A38 between Bristol Airport and Downside Road; and

A comprehensive Workplace Travel Plan including measures aimed at meeting a 25% target for trips not made by single occupant car; and

Commitment to a new and ambitus ASAS which will be developed with the ATF as per Government guidance.

13.1.26 The proposed package offers a substantial and deliverable set of enhancements which will improve connectivity by all surface access modes to the Airport whilst delivering on the commitment to promote more sustainable means of travel.

13.1.27 **Chapter 11** describes the enabling works and construction activity that will be generated in the short to medium-term showing potential increases in vehicle movements. The construction

traffic volumes are relatively minor compared with the existing traffic flows on the network and the impact of construction traffic is considered negligible.

13.2 Conclusions

13.2.1 Analysis of the policy context concludes that the proposed development is consistent with and supports policy aims and objectives at a national, regional and local level. The principle of the expansion of the operation at Bristol Airport is supported at both a national regional level.

13.2.2 An ambitious and updated ASAS will be developed in partnership with the ATF. BAL is committed to continuing to promote more sustainable means of surface access and an updated ASAS will achieve this based on the success of similar recent investments. For example, the recent public transport investment by BAL has increased the frequency of the Airport Flyer to Bristol City Centre to 8 buses an hour, in upgraded double decker buses.

13.2.3 An assessment year of 2026 has been evaluated, since this is the point at which passenger numbers are forecast to reach 12 mppa, subject to the Development Proposals gaining planning consent. The July 2018 traffic surveys, which informs the established baseline traffic conditions, includes airport and non-airport traffic and relates to estimated passenger numbers of 8.6 mppa. The traffic volumes within the survey have been factored up to estimate the future background traffic conditions in the year 2026. A separate trip generation exercise has been carried out which estimates the transport effects of the increase in passengers from the 8.2 mppa scenario to the 10 and 12 mppa. Therefore, the assessment is robust as the background traffic volumes scaled up to the year 2026 include airport-related traffic equivalent to ~1.4 mppa.

13.2.4 There will be a continued growth in demand for bus and coach services to and from the Bristol Airport site for both passengers and employees. BAL has a successful track record in facilitating and promoting additional or new bus and coach services to meet demand as it arises through the new and ambitious ASAS.

13.2.5 The TA has identified a number of mitigation measures which will be implemented or continued in order to offset or reduce the impacts of growth to 12 mppa. Such measures include highway improvements, on-site parking improvements as well as commitments to public transport and sustainable transport improvements.

13.2.6 Overall, this TA demonstrates that the Development Proposals will not have a significant adverse impact on the operation of the wider local or strategic highway network even allowing for the robust traffic flow forecast approach, and that the junction improvements proposed will provide a significant improvement in the local area compared with the currently permitted scheme.

13.2.7 In addition, significant improvements are being made for public transport provision and a comprehensive package of further improvements is being explored through the ATF and ASAS.

13.2.8 The application is therefore considered to be policy compliant and the measures proposed will more than mitigate any potentially adverse impacts compared with the permitted development.

Appendix A 12 mppa Development Proposals

TYPE OF PLANNING PROCESS & DESCRIPTION		SUBMISSION DATE :
MAJOR HYBRID PLANNING APPLICATION FOR 12 MPPA THROUGHPUT TO INCLUDE THE FOLLOWING :		AUGUST/ EARLY SEP 18
		PLANNING TYPE
C1	SOUTH TERMINAL EXTENSION (F&B)	FULL
B1	NEW ARRIVALS VCC (BUSSING)	FULL
B2	NEW ARRIVALS VCC (BUSSING)	FULL
B3	NEW ARRIVALS VCC (BUSSING)	FULL
D	WEST TERMINAL EXTENSION PHASE 2 & 2A	FULL
E	NEW SERVICE YARD	OUTLINE
G	WALKWAY TO EAST PIER with VCC to 1 No, PBZ	FULL
H	EAST PIER WITH VCCs AND 5 No. PBZS	FULL
J	NEW CANOPY TO FRONT OF EXISTING TERMINAL	FULL
K	ADDITIONAL MULTI-STOREY CAR PARK approx 2150 spaces	OUTLINE
O	NEW GYRATORY ROAD WITH INTERNAL SURFACE CAR PARKING	OUTLINE
EE	NEW EAST TAXIWAY	OUTLINE
HH	SURFACE PARKING ON COGLOOP 2 LAND - APPROX 2700 SPACES	FULL
KK	PROPOSED ROADWORKS ON A38 REFER TO CTAS DESIGN INFORMATION	FULL
LL	TAXIWAY WIDENING AND FILLETS	OUTLINE
WW	USE OF STANDS TO REFLECT STANDS 33-36	
ZZ	PROPOSED YEAR ROUND OPERATION AND INSTALLATION OF LIGHTING	

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Appendix B Scoping Report

JACOBS

Memorandum

Subject	**Bristol Airport Transport Assessment Scoping Response**
Attention	Steve Thorne / Tom Gaze, North Somerset Council
From	Simon Shapland
Date	12/09/2018

Introduction

Comments below have been provided in line with the headings used in the Transport Assessment (TA) scoping document for ease of reference. Please note that the comments made within this response are made without prejudice and the final recommendations of Highways will be subject to our review of the submitted planning application.

General Comments

Whilst it is understood that this only a scoping note to determine the scoping of the assessment within the TA, there are a number of sections missing which would be expected to be provided within the final submission. The final submitted TA will need to be compliant with current standards for the production of TA's, which includes NPPG and North Somerset's Highways Development Design Guide.

There is considerable analytical data provided within the TA scoping document, which includes a number of tables and graphs. It would be useful to be provided with the spreadsheets that sit behind these tables to ensure that the calculations are correct. This will assist the Authority in the review of the final TA when it is submitted.

It is noted that considerable onus has been placed on CAA passenger survey data recorded from 2015. There are concerns that CAA data may not capture sufficient passenger information in order to demonstrate both historical trends, or provide suitable confidence that the survey data is representative of normal trends and operating conditions. This is expanded on below, but given the numbers of passengers predicted to use the airport, any relatively small underestimations of modal splits or passenger locations will result in a significant difference in the final vehicular generation figures. More evidence will be required by the applicant which demonstrates that 2015 data is representative of expected conditions, along with validation information to support these claims. This is a fundamental underpinning of the assessment within the TA and the Authority requires the confidence that the evidence base is robust.

1.2 Background

There appears to be some missing text from paragraph 1.2.3.

2.3 Passenger Catchment

CAA passenger data from 2015 has been used to determine where passengers who use the airport are arriving from, with the majority arriving from the South West and Wales. Paragraph 2.3.2 states that

annual passenger growth has been achieved primarily from this area, and table 2.2 has used the data from 2015 to predict where passenger in 2017 have arrived from. This indicates that 77.2% originated from South West and 18.8% from Wales. It would be useful to understand if there is any data that provides a more robust evidence to confirm this trend, as using 2015 data only is not robust enough to indicate an on-going trend. This will have a considerable impact on the distribution and modal split of passenger arrivals at the airport in the future. It should be noted that 2015 data is now 3 years old, and the assessment appears to be reliant on this single snap shot for much of the assessment.

It would be interesting to understand the response rate to the CAA passenger surveys, to ensure that there is an adequate sample size to support the assumptions made within the survey. Given these surveys form the basis for the prediction of all trips to the Airport, the Authority will need to have the confidence that a suitably large sample size has been achieved to ensure robust analysis.

Furthermore, there is a requirement to validate the data taken from the CAA data with other data sources to ensure that CAA data is accurately capturing arrivals and departures at the airport. For example a useful check would be to compare traffic counts at the site access against the extrapolated data from the CAA survey data.

There are a number of minor typo issues within this section, for example figure 2.7 does not label all of the bars of the graph, and there is an incorrect statement in paragraph 2.5.3 which should state ‘Bristol’ not ‘Bath’. This reiterates them importance of being provided with the raw spreadsheet analysis.

2.4 Passenger Mode Share

Paragraph 2.4.1 states that passenger mode share varies via catchment area and time of year, which is reflected within the nature of journey purpose and transport options available. Presumably modal choice is also influenced by the time of day a passenger travels – for example for very early morning flights there may not be the same public transport options available as later in the day. This could impact the hourly generation figures and some further clarification is sought here.

Figure 2.7 appears to be missing some of the labels for areas within the South West and Wales. It is expected this is due to the chart being compressed to fit in the report, and reaffirms the importance of providing the raw data for our approval.

The CAA data provides the modal split, which based on the passenger numbers can give an indication of the vehicular generation at the site, but it is not clear whether this has been validated against any other information, for example traffic count data at the car parks and site entrances.

It is not clear how the CAA data deals with people who arrive to use the Silver Zone parking, and how this is recorded. Does the survey data assume that this person drives? Further clarification is sought here.

As you are aware, there are issues with informal parking areas around the Airport. Passengers using these services will arrive at an external site by car, and then transfer to the airport via mini-bus or even by walking. How are these arrivals captured by CAA data? There is an ‘other’ category: does this include such arrivals? The concern here is that the CAA data, and therefore the TA will fail to pick up the use of these external services to the airport. Whilst not controlled by the airport, the passenger ultimately arrives at the Airport and consideration of their impact on the Highway Network is required. As an example, if there is an informal site operating on the A38 south of the airport, and passengers are arriving from the North (from say Bristol), their journey would comprise a trip on the A38 through the site access roundabout, to the external site, and then an hour later the mini bus would constitute another trip through the site access as the passengers are dropped off and return to the off-site car park. Similarly, for their return trip. If the CAA data just assumes that these passengers are a ‘car’ trip, they will only be picked up once, as they arrive at Bristol Airport. Further assessment of this is required within the TA.

2.6 Employee Mode Share

No details have been provided on whether Mode share differs for shift workers as a result of the anti-social times of day that they need to arrive at the site. It is noted there are shift patterns which begin at 2am, and this may have a significantly different modal split profile to arrivals at 8am. Further clarification is sought here.

3.2 Forecast Passenger Annual Profile

The projections for an increase to 10mppa and 12mppa have been based on the recorded data taken from 2017, which is supported by historic trends over the last five years. This data from the last five years should be provided to give confidence that the 2017 data is representative. It would be beneficial to consider what the split in monthly arrivals was considered within the planning application to 10mppa, to determine if there are any differences, and explanations of why the numbers from the 10mppa application may have not been realised. This will give some confidence that using the projections from 2017 data is accurate. As an example, for the month of August, using an 11% monthly split for 10mppa gives a total passenger number of 1,098,181. Projections for the 12mppa, using this 11% monthly split (actual value calculated as 10.98% but it is understood the table has rounded up for simplicity), takes this figure to 1,317,817, a total increase of 219,636 per month, and 7,085 per day.

Should this value increase to say 13% for the 12mppa application for August, this would actually see a total passenger volume of circa 1,560,000 passengers for the month – an increase of 461,819 passengers a month, or 14,897 passengers a day. It is clear that given the scale of the airport, very small changes to percentages lead to a considerable variation in monthly, and daily passenger arrivals. There needs to be careful consideration of this, and more information should be provided by the applicant to support the assumptions that growth will remain uniform from the 2017 data.

3.3 Forecast Passenger Catchment

The assumption is that growth to 12mppa is predicted to come from only the South West and Wales area. Again, as stated above, relatively small increases in percentages from different regions could have a significant impact on the traffic generation at the Airport. Historic trend data will need to be provided to prove that this will be the case in the future. Furthermore, details of how this growth will be realised should be provided. For example, is the increase of 2mppa a function of more people travelling abroad for holidays, or are they in fact ‘transferred’ journeys from other airports in the UK? If it is the latter then evidence should be provided which demonstrates which airport this trade is currently using. This will provide confidence that the assumptions are correct.

3.4 Forecast Passenger Mode Split

Again, for Mode Split it is not clear whether Modal split varies throughout the day, and it has been assumed there is a uniform mode split throughout the day. Further clarification is requested. Furthermore, it has been assumed that car occupancy rates are the same for all time periods in the day. Should there be a lower car occupancy rate during the morning, for example, this would lead to a higher trip generation than if a high car occupancy was assumed.

3.5 Passenger Arrival and Departure Dwell Analysis

The data on passenger dwell analysis is useful to determine likely passenger arrivals and departures on the roads in respect to their flight arrival and departure time. Please clarify whether the graphs presented within figure 3.8 and 3.9 show the actual time of the flight, or flight + 1 hour for arrivals and flight + 90 minutes for departures. It would be useful to be provided with the proposed flight schedule in order to check that the assumptions are correct. Also additional data should be provided which validates these arrivals and departure profiles. Cross checking against vehicular arrivals and departures at the airport will provide additional data here to validate this.

Parahgraph 3.5.2 states that depature dwell times have been provided by BIA, and it would be useful to understand over what period this data was collected, and the sample size used to determine these proportions. The times that people arrive to catch their flight will be a key factor in determining vehicular

impact on the network, and the Authority needs to be convinced that the data used is robust. It would be useful to understand whether in the future these dwell times are likely to reduce as there is a move towards checking in online etc, and if the Airport has any data to reflect this. A reduction in dwell time is likely to result in more passengers arriving at the same time instead of being stretched over several hours and this will require some further consideration.

Furthermore, the analysis assumes a uniform flight schedule for every day of the week, further clarification is required here as there may be days of the week which have a higher proportion of flights that are likely to impact peak periods.

4.2 Vehicle Trip Assignment Methodology

It is proposed to assign trips to the network using a SATURN model based on link speed and distance. This could over simplify the assessment and assign trips away from the current rat runs around the airport. For example, if the model is only considering link speed and distance, it is likely to assign the majority of traffic along the A38 and the SBL, whereas there are multiple route choices in that direction, including Downside Road / A370. Furthermore, the Airport is clearly signed from major strategic routes (such as the M5) and it is expected that trips further afield would follow these signs which may lead to a different assignment than proposed using SATURN alone.

It is not clear how this model will be validated against vehicle assignments for vehicles currently using the airport, and further information will need to be provided in respect of this. The SATURN model will need to be provided for the Authority to review, and this will need to include details of the proposed zones used within the model. The assessment so far assumes that the majority of growth will come from the existing South West and Wales areas, and therefore it is logical to assume that current vehicular assignments will remain. Further clarification is required here – particularly in respect of the proposed validation of the modelling.

The modelling is proposed to consider the traditional network peak hours of 08:00-09:00 and 17:00-18:00. Traffic survey data will need to be provided which confirms that this is the network peak hour around the airport. It is recognised that traffic on a Friday afternoon is particularly busy around the airport, and this will need to be assessed with the TA.

4.3 Assessment Study Area

This was discussed at the recent scoping meeting. Whilst the area seems appropriate at this time, if the TA demonstrates that other junctions are likely to be severely impacted, additional analysis in these locations will be required.

There are a number of smaller quieter roads which have not been picked up in the assessment. Such routes include West Lane / Felton Lane (Winford), as well as Portbury Lane which serves as a rat run from Junction 19 of the M5. There are additional routes from Junction 20 of the M5, including Nailsea Wall which should be included as part of the assessment. These routes are rural in nature, which are characterized with fast vehicular speeds and often impatient drivers. Whilst the absolute volume of traffic increase in these areas may not be substantial, the assessment should be mindful about increasing vehicles on routes which are not of the highest standard. Furthermore many of the quieter routes are popular walking and cycling routes, and increases in vehicles in this location will have an adverse impact on non-motorised users.

4.4 Modelling Scenarios

There are concerns about the proposed modelling scenarios within the TA. Whilst it is recognised that this is not a ‘normal’ development, which can identify opening year assessment, we are concerned that the proposed modelling scenarios may lead to scenario where there is an unacceptable impact on the highway network without mitigation.

The Airport currently has a consent for 10mppa, and there is mitigation in place to ensure this does not have a severe impact on the road network, including Downside Road signals on the A38. From a planning perspective, this impact is 'accepted' and we are only considering the impact beyond this point. However, it is recognised that the network around Bristol Airport is incredibly busy, and the Downside Road signals particularly are reaching capacity. The proposed modelling scenarios only test a 2026 year for 12mppa and mitigation, however there will be an element of growth beyond the 10mppa before the full 12mppa is realised, and this will increase demand on the road network. It is not clear when 10mppa is expected to be achieved, but if the airport were to have a uniform 0.5mppa passenger growth a year it would lead to the following demand:

2018 – 8.2mppa

2019 – 9mppa

2020 – 9.5mppa

2021 – 10mppa (end of current consent)

2022 – 10.5mppa

2023 – 11mppa

2024 – 11.5mppa

2025 - 12mppa

Using the assessment methodology presented in the TA, this would lead to a gap in the assessment, where there would be no assessment (and no mitigation proposed) for any growth between 10 to 12mppa. In order to ensure adequate mitigation is proposed, there should be an assessment which effectively tests the operation of the network as soon as 10mppa is exceeded under any new consent.

JACOBS

Memorandum

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Subject	**Bristol Airport Transport Assessment Scoping Response Issue 2**
Project Name	Bristol Airport
Attention	Tom Gaze/Steve Thorne/Paul Paton, North Somerset Council
From	Simon Shapland, Jacobs
Date	09/11/2018

1. Introduction

Jacobs have reviewed the latest technical note provided by PBA and comments are provided below.

2. Traffic Survey Comparisons

In the previous scoping response note we requested consideration of any other data sources which could help act as a comparison to the CAA data methodology being proposed within the TA. Within Table 4.2 of the latest PBA note there is a comparison made of traffic survey data from the Airport against the proposed trip generation methodology using the CAA data.

The table concludes that the recorded vehicle numbers for July 2018 totals 21,877 vehicles, and the calculated total using the CAA methodology is 22,852, suggesting that the TA methodology would overestimate trips by the order of 975 trips. Some caution must be applied to this conclusion. Firstly; the survey data does not include the emergency and freight entrance on Downside Road, and survey data provided by NSC indicates that this entrance is well used.

Secondly, NSC survey data from a single day in July 2018 (Thursday 12th) indicates a much higher daily generation figure at the airport. On this day there were 20,108 vehicles recorded at the main entrance, 4,909 vehicles recorded at the Silverzone, and 2,603 vehicles at the freight entrance. This is a total generation figure of 27,620 which is some 5,743 trips more than the PBA surveys are indicating for the month of July.

Again, a degree of caution is required when assessing the differences between these two figures, as one is a survey from a single day, and the PBA figure is an average for the month of July. There are several reasons why there could be a variation between the two sets of survey data. It is recognised that there are other uses at the airport that may have influenced the data, for example construction traffic. It would be useful to understand the applicants view on this, and whether they have any evidence to indicate why there could be such a variation in traffic flows. The difference between the two data sets does highlight two significant points:

- There is considerable fluctuation of daily flows at the airport, which could equate to thousands of vehicles a day;

- CAA data by virtue of just collecting passenger data may not be identifying all of the trips likely to be arriving at the site accesses, could lead to an underestimation of future trips.

As discussed at the last meeting, the use of CAA data has its merits in the assessment, but some caution and sense checking needs to be completed to ensure that it is robust and adequately predicts the likely impact of the development.

3. Future Forecasting Scenarios

To move discussions forward and give the authority confidence in the assessment; it is recommended that the Transport Assessment uses a number of future forecasting scenarios when considering the impact on the highway network. The 10mppa consent is understood to have a modal split target of 15% for public transport, which would leave the remaining 85% of trips arriving by vehicles (be that cars parking at the airport, drop offs or taxi's). The TA proposes this as the starting point for the assessment and would seem sensible given it is a target of the 10mppa consent.

In addition, the Authority would like to see a sensitivity test which uses a lower modal split toward public transport (as an example 12%) which would provide a worst-case assessment of the operation of the highway network.

Furthermore; it is felt that the applicant should be looking at further measures to reduce the reliance on private vehicles at the airport and should be seeking to push the modal split further towards public transport, and a final assessment should consider the impact of increasing the PT modal split, for example increasing it to 17.5% and look at measures which could be introduced to reach this target.

4. Off-site Car Parking

A key concern of the Authority is the operation of third party airport car parks which currently service the airport, and how this is considered in the assessment going forward. It is recognised that any current traffic generation for these will have been included in the junction turning counts which have already been completed as part of the survey work, as the sites currently operate, and they are therefore existing trips.

Going forward, the clarification provided by PBA in the latest technical note in paragraph 4.10 indicates that the use of these third party car parks will have been picked up by the CAA survey team. Therefore, they would be included within the modal split identified within PBA's assessment of future vehicle trips to the airport.

However; there could still be an underestimation of trips relating to these third party car parks, and also the Silverzone which requires a shuttle bus to access the terminal building. Using the CAA data, the methodology correctly identifies the trip relating to this as a private vehicle arrival at the car park, but then there is a second trip by these passengers on the shuttle bus which travels from the Silverzone to the airport terminal, passing through two junctions on the local road. Again, the existing pattern of these shuttle buses will have been picked up in the turning movement surveys completed for the existing junctions, however a growth in passengers using the Silverzone will presumably require more shuttle buses per hour to transfer them to the airport, which won't have been included within the CAA assessment. The same logic can be applied to the minibuses from the third party car parking areas. Some consideration of this should be provided within the TA.

Furthermore, it would be useful to understand the current capacity of the car parking available at the airport, their levels of current utilization and whether there is adequate spare capacity to cater for the growth to 12mppa.

5. Daily Trip Profile

It is understood that the daily trip profile is based on the predicted flight schedule produced by Bristol Airport. There are concerns that the daily profile is demonstrating relatively few trips around the PM peak, with a very small increase at 3pm. The latest note states in paragraph 6.1 that this information is 'commercial sensitive', however, without access to it, it is not possible for the authority to check the accuracy of this daily profile. Further information is requested so that a proper audit can be undertaken.

6. Junction Modelling

Whilst we appreciate that it is important to identify the fundamental inputs of the models at the scoping stage, before the assessment is provided, we are mindful that following the submission of the completed TA there may still be significant work to agree the parameters, and outputs of the modelling during the consultation period. It would be helpful if the modelling files could be provided at your earliest convenience, so we can comment on these.

Also, we are mindful that we have not been provided with any indication of the likely wider impact of the development on junctions on the network and, as discussed previously, we may require additional assessment at critical junctions depending on the conclusions drawn from the assessment in the TA.

7. Conclusions

The Authority is confident that the assessment of the Airport proposals are moving forward however, there are a number of outstanding concerns which require resolution within the TA, and we look forward to receiving more information in due course.

TECHNICAL NOTE

Job Name:	Development of Bristol Airport to Accommodate 12mppa
Job No:	43321
Note No:	43321/TN005
Date:	October 2018
Prepared By:	Yasmine Hujair
Subject:	**North Somerset Council Scoping Response**

1. Introduction

1.1. Peter Brett Associates LLP (PBA) on behalf of Bristol Airport Limited (BAL) have provided this response to the comments from North Somerset Council (NSC) that were received in memorandum dated 12th September 2018.

1.2. NSC extracts are shown in italics and PBA response are provided in coloured text underneath each of the main comments.

1.3. The methodology set out in the Transport Assessment Scoping Report are considered to provide a robust assessment of the predicted highways impacts of the development of Bristol Airport to accommodate 12mppa based on:

Forecast flight schedules for 10mppa and 12mppa provided by BAL

The peak passenger month of August (it is worth noting that this is the typical peak passenger month at most UK airports);

More detailed CAA passenger survey modal share, which has been weighted by trip origin to reflect an overall 15% passenger modal share for public transport;

A peak forecast of staff numbers (including shift workers);

Staff modal share, which has been aligned to the 2017 staff travel survey, although staff on-site parking in the future will be less than the current provision and a targeted reduction in the percentage of trips by single occupancy car is in operation; and

Baseline traffic surveys have been undertaken prior to the school summer holidays when traffic flows are higher than in the summer months.

2. General Comments

NSC Comment

It is noted that considerable onus has been placed on CAA passenger survey data recorded from 2015. There are concerns that CAA data may not capture sufficient passenger information in order to demonstrate both historical trends, or provide suitable confidence that the survey data is representative of normal trends and operating conditions.

PBA Response

2.1. The CAA passenger survey's is an industry standard data source in the preparation of Transport Assessments (TA) for Airports across the UK, including but not limited to the TA's prepared for;

London Stansted (Ref. UTT/18/0460/FUL),

Manchester Airport (Ref 110720/FO/2015/S2)

The consented 10mppa TA for Bristol Airport (Ref 09/P/1020/OT2).

2.2. The CAA collects data at more than 60 UK airports from a number of sources including individual flights, airlines, airports and a departing passenger survey. The CAA have conducted the departing passenger survey at Bristol Airport in 2008, 2012 and 2015. Airports use this data to assess the type of market served by airports and consequently for forecasting air transport demand and planning airport facilities, including passenger experience and surface access.

2.3. NSC has noted that the sample size represents a small percentage of the number of passengers passing through the airport per year. The CAA follows a stratified sampling methodology based on carrier, route and quarter, and is weighted based on actual two-way air traffic levels, thus accounting for arriving passengers under the assumption they will show the same characteristics as departing passengers. The survey is operated for an entire year and the passengers interviewed are selected using a robust sampling system.

2.4. With regards to the passenger survey CAA state the following:

CAA surveys generally operate for twelve month periods with anywhere from 3,000 to 70,000 interviews being achieved, depending on airport size. The surveys usually follow a stratified sampling design (stratified by carrier, route and quarter), with interviews taking place in the gaterooms. The interviews are then weighted to actual traffic levels'.

2.5. The following points have been quoted from the CAA and outline the sampling methodology used when interviewing in the gate room:

The interviewing area where passengers are sampled should be clearly defined to all team members present.

The interviewing area is divided into a number of virtual areas, dependent upon the number of team members available to interview. If there are four team members, the interviewing area should be divided into quarters, where there are only three team members, then the area should be divided into thirds and so on.

Each interviewer is assigned an area. It will then be that interviewer's responsibility to sample passengers who move into their area.

It is of key importance that interviewers do not avoid certain passengers or show any favouritism to other groups of passengers.

On selecting the first passenger (perhaps to the extreme left of the interviewing area) the interviewer will run through the questionnaire in the normal manner. On the completion of this interview, the interviewer will then count three more passengers (in this example, towards the right). The third passenger counted, assuming that they are eligible for interview will then be interviewed. Once this interview has been completed, the interviewer will then count a further three passengers and begin the process again. The same passenger cannot be interviewed twice.

The interviewing areas can be redefined during busy or quiet periods in line with the number of team members available to work.

2.6. The CAA passenger survey at Bristol Airport captured mode share from 9,053 people across12 months in 2015. This is a statistically significant sample size. Passenger throughput was recorded at 6.4mppa in 2015 and so the response rate was 0.14%. This is a standard percentage captured at each airport, including Heathrow Airport.

2.7. More details on the CAA passenger survey sampling, validation and weighting methodology can be found on the link below:

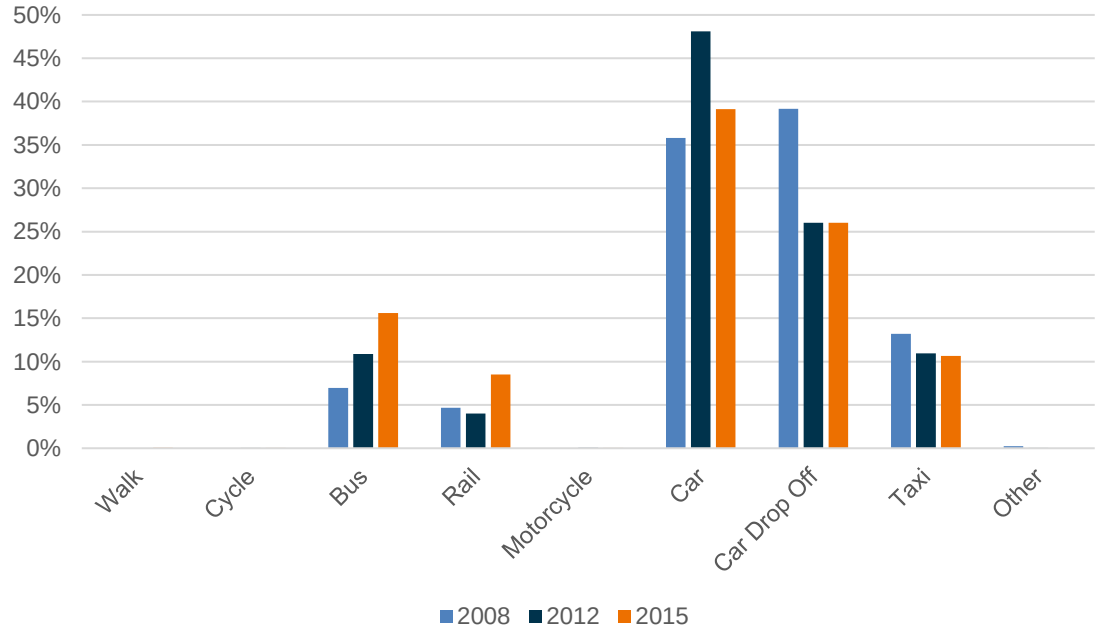
https://www.caa.co.uk/Data-and-analysis/UK-aviation-market/Consumer-research/Departing-passenger-survey/Sampling-methodology/

2.8. CAA have undertaken passenger surveys at Bristol Airport three times in recent times; in 2008, 2012 and 2015. **Table 2.1** and **Figure 2.1** present the recorded passenger mode share information in 2008, 2012 and 2015.

Table 2.1: Passenger Mode Share Historic Trends

Mode	2008	2012	2015
Walk	0%	0%	0%
Cycle	0%	0%	0%
Bus	7%	11%	16%
Rail	5%	4%	9%
Motorcycle	0%	0%	0%
Car	75%	74%	65%
Taxi	13%	11%	11%
Other	0%	0%	0%

Figure 2.1: Passenger Mode Share Historic Trends



2.9. This indicates a clear trend relating to the increase of public transport use reflecting the increased investment in this area and the associated decrease of taxi and car drop off. The TA is based on an assumed passenger PT mode share of 15%, even though the trend suggests car trips will have continued to decrease since the recorded mode share in 2015.

2.10. It is evident from the above that the CAA data is robust and representative of the passengers using Bristol Airport. It is unlikely to be skewed, and is the most up-to-date data on passenger mode share and origin/destination for use within the TA.

2.11. Furthermore, BAL have agreed in principle with NSC that annual CAA passenger surveys will be undertaken at the Bristol Airport site to determine passenger trends including mode share and passenger catchment, etc.

3. Passenger Catchment

NSC Comment

CAA passenger data from 2015 has been used to determine where passengers who use the airport are arriving from, with the majority arriving from the South West and Wales. Paragraph 2.3.2 states that annual passenger growth has been achieved primarily from this area, and table 2.2 has used the data from 2015 to predict where passenger in 2017 have arrived from. This indicates that 77.2% originated from South West and 18.8% from Wales. It would be useful to understand if there is any data that provides a more robust evidence to confirm this trend, as using 2015 data only is not robust enough to indicate an on-going trend.

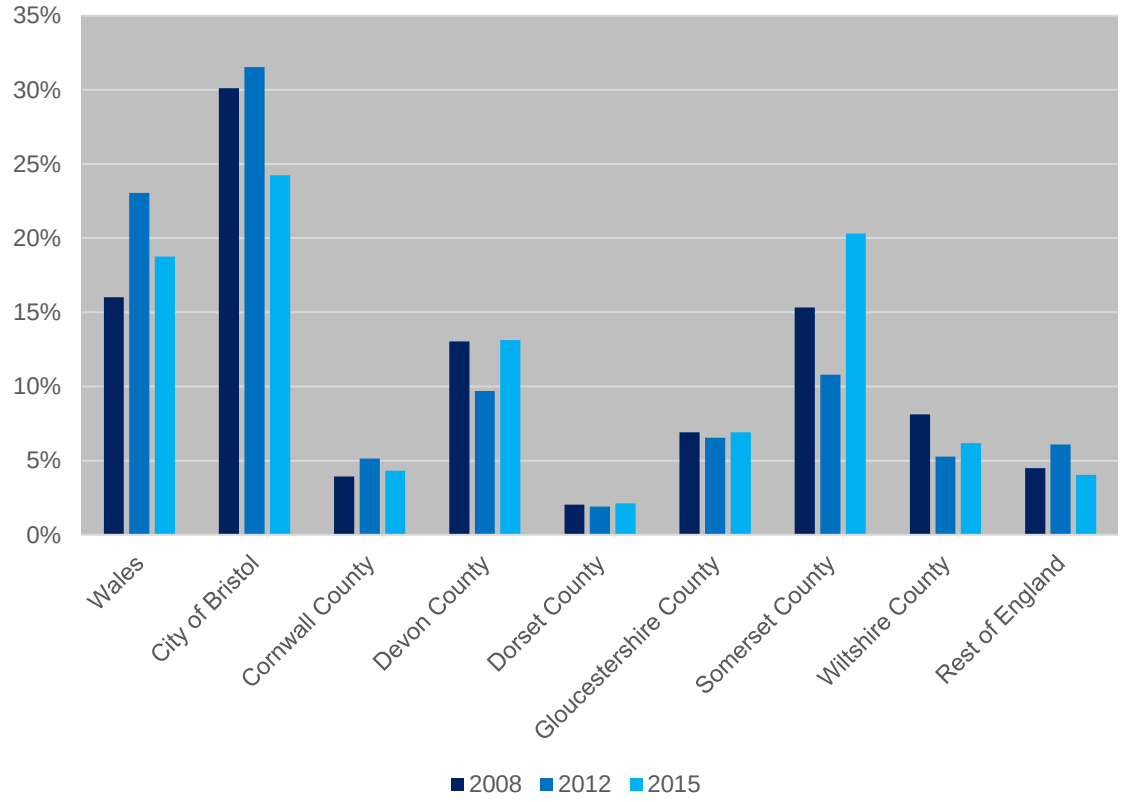
PBA Response

3.1. As highlighted under **Section 2.2** of this TN, the previous consented planning applications for passenger growth at Bristol Airport predicted passenger catchments based on the most readily available CAA passenger surveys at the time of the applications.

3.2. As described in the TA Scoping Report, the most up to date CAA data from the 2015 survey has been used to understand the origin and destination of passenger trips to and from the airport.

3.3. To provide additional information on passenger catchment trends the 2008, 2012 and 2015 catchment have been set out in **Figure 3.1**.

Figure 3.1: Passenger Catchment Trends



3.4. Furthermore, strategic infrastructure being promoted as part of the West of England Joint Spatial Plan (JSP) is also unlikely to be delivered before the predicted 12mppa year of 2026, and will not therefore materially alter passenger catchment before 2026.

NSC Comment

It would be interesting to understand the response rate to the CAA passenger surveys, to ensure that there is an adequate sample size to support the assumptions made within the survey. Given these surveys form the basis for the prediction of all trips to the Airport, the Authority will need to have the confidence that a suitably large sample size has been achieved to ensure robust analysis.

PBA Response

3.5. For clarification, the predicted passenger numbers have been forecast by BAL and the CAA data has been used to build up passenger profiles based on these numbers. The annual passenger numbers have been distributed over the year using the monthly passenger records, and distributed over the average working day using the validated 10mppa and 12mppa flight schedules. The CAA passenger survey has been used to predict passenger mode share, noting that public transport has been capped at 15%, car occupancy (group sizing), and catchment (origin and destination).

3.6. As set out within Section 2 the passenger survey undertaken by CAA follow a strict sampling system. The survey database is also subject to a series of validation checks prior to the weighting process to ensure the integrity of the various aspects of the data.

3.7. The CAA passenger survey at Bristol Airport captured mode share from 9,053 people across12 months in 2015. This is a statistically significant sample size. Passenger throughput was recorded at 6.4mppa in 2015.

NSC Comment

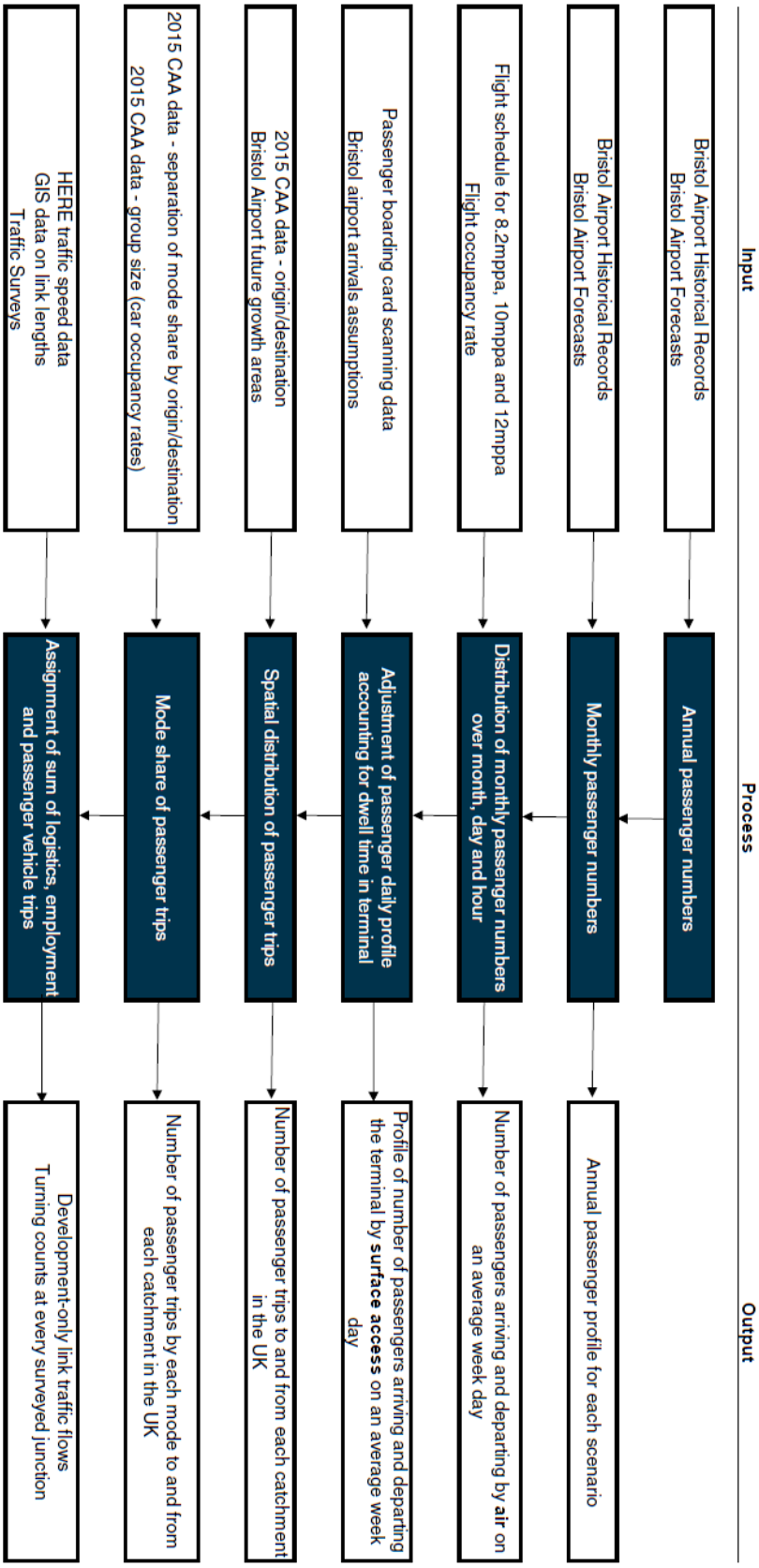
Furthermore, there is a requirement to validate the data taken from the CAA data with other data sources to ensure that CAA data is accurately capturing arrivals and departures at the airport. For example a useful check would be to compare traffic counts at the site access against the extrapolated data from the CAA survey data.

PBA Response

3.8. As highlighted in the previous section, the number of passenger trips has been calculated using the BAL forecasts, historic BAL data and the validated flight schedule. For clarification, **Figure 3.2** sets out the methodology, data sources and outputs for each stage of the assessment.

3.9. It is worth noting this process has been applied to predict the additional passenger growth (additional 1.8mppa up to 10mppa and an additional 3.8mppa uplift to 12mppa) at the Bristol Airport site, which had reached 8.2mppa in 2017.

Figure 3.2: Passenger Growth Methodology



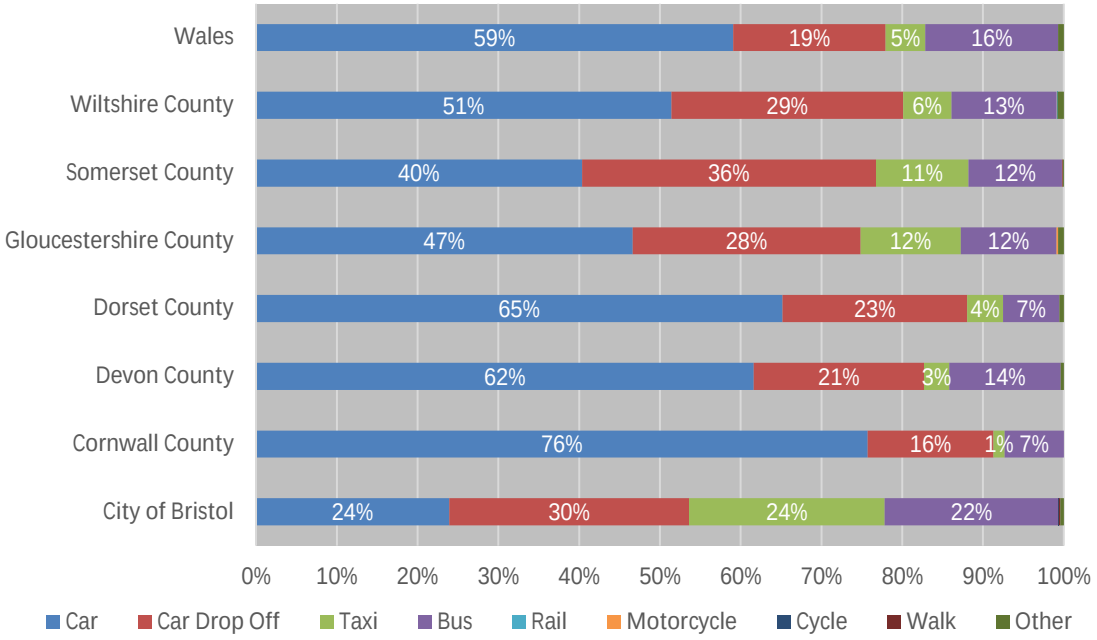
NSC Comment

There are a number of minor typo issues within this section, for example figure 2.7 does not label all of the bars of the graph, and there is an incorrect statement in paragraph 2.5.3 which should state 'Bristol' not 'Bath'.

PBA Response

3.10. The submitted TA will address the above. Figure 2.7 has been updated as shown on **Figure 3.3**

Figure 3.3: Passenger Mode Share by Catchment



4. Passenger Mode Share

NSC Comment

Paragraph 2.4.1 states that passenger mode share varies via catchment area and time of year, which is reflected within the nature of journey purpose and transport options available. Presumably modal choice is also influenced by the time of day a passenger travels – for example for very early morning flights there may not be the same public transport options available as later in the day. This could impact the hourly generation figures and some further clarification is sought here. It is not clear how the CAA data deals with people who arrive to use the Silver Zone parking, and how this is recorded. Does the survey data assume that this person drives? Further clarification is sought here.

PBA Response

4.1. The methodology presented in the TA scoping report provides variable mode share and vehicle occupancy, dependent on the origin/destination of the passenger. The source of which is the 2015 CAA passenger survey data set.

4.2. As has been described previously, passengers are surveyed for the CAA in the gate rooms of the terminal. Therefore, the time the survey is recorded is not equal to the time the passenger arrives at the airport. The passenger dwell time analysis has been carried out within the TA.

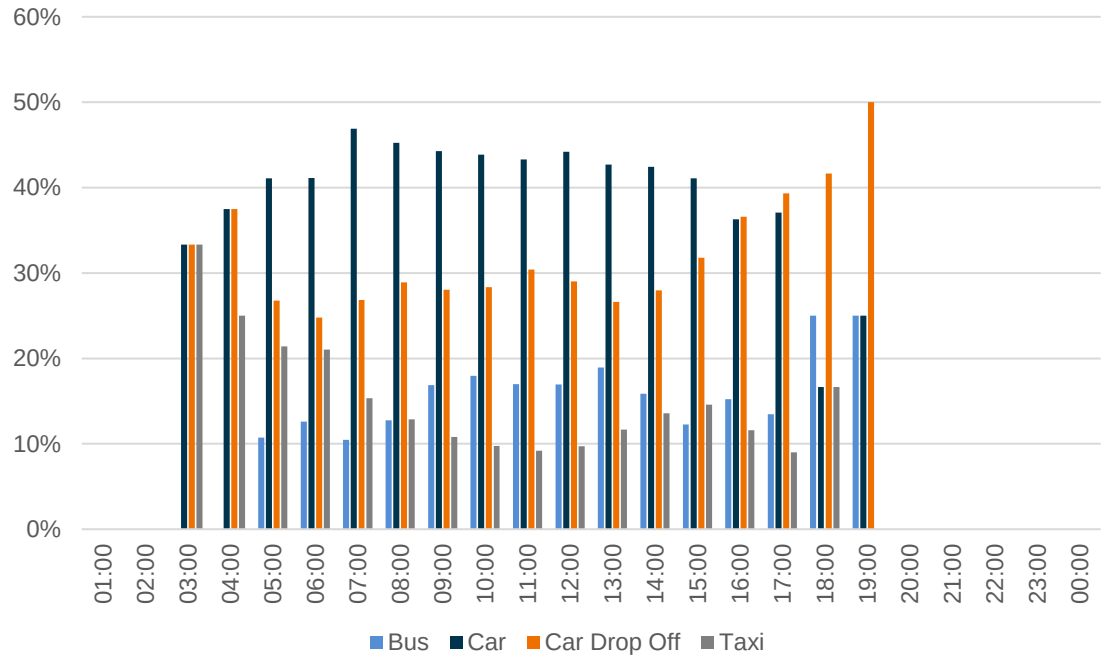
4.3. However, the recorded dwell time, summarised in **Table 4.1**, indicates that approximately 50% of passengers arrive less than one hour before a flight and 50% arrive more than one hour before a flight.

Table 4.1: Summarised Passenger Dwell Time

Minutes	Percentage of Passengers
0-30	17%
31-60	32%
61-90	28%
91-120	13%
120+	10%

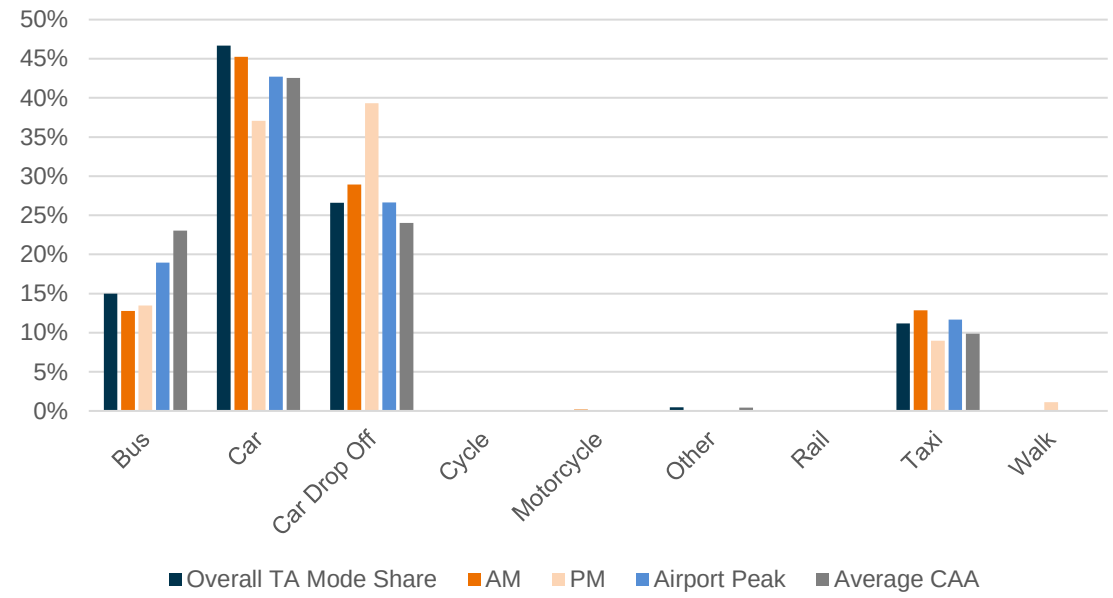
4.4. Therefore, this assumption has been applied to the hourly mode share to produce a more realistic profile. This has been provided in **Figure 4.1**.

Figure 4.1: Daily Variation of Mode Share



4.5. **Figure 4.2** shows a comparison of the overall mode share utilised within the TA, that has been adjusted to reflect the recorded 15% bus mode share, the differing mode shares in each peak and the average over the day.

Figure 4.2: Comparison Between Mode Share used in TA



4.6. In addition, car occupancy rates, which are calculated by catchment using the group size data from CAA, indicate that in the month of August there are more passengers per car than the annual averages. This is summarised in **Table 4.2**.

Table 4.2: Car Occupancy Rates Comparison by Time Period

	City of Bristol	Cornwall	Devon	Dorset	Gloucestershire	Somerset	Wiltshire	South Wales	August Average
Taxi / Minicab	1.5	1.5	2.0	2.0	1.5	1.9	1.6	1.7	**2.2**
Car Parked	1.9	2.1	2.0	1.9	2.0	2.0	2.0	2.1	**2.6**
Car Drop Off	1.6	2.5	1.6	1.8	1.6	1.5	1.6	1.6	**2.0**

4.7. The TA methodology therefore uses a lower car occupancy rate than what has been recorded for the month of August in 2015. This methodology is therefore robust and assumes a worse case for passenger car occupancy.

4.8. Whilst it's acknowledged passenger mode share will depend on availability of public transport, the methodology presented in the TA scoping report is considered to provide a robust assessment as it has been calculated on the annual average mode share and annual average group size per area for the peak passenger throughput month of August. The periods of lower public transport availability occur when the highway network has significantly less volumes of traffic. Furthermore, this approach provides an assessment in the typical highway network peak hour when public transport availability will be higher.

4.9. The CAA data records passenger travel movements using the following question:

Could you tell me in detail how you travelled from (origin) to Bristol Airport today?

4.10. In response to this question the following parking options (where recorded) to answer this question are as follows:

- Car Unspecified
- Hotel bus
- Minicab
- Private car - airport long term car park bus
- Private car - business car park
- Private car - driven away
- Private car - hotel car park bus
- Private car - mid stay car park bus
- Private car – mid stay car park drop off
- Private car - private long term car park bus
- Private car - short term car park
- Private car - short term car park - meet/greet
- Private car - staff car park bus
- Private car - type of car park unknown
- Private car - valet service - Off airport
- Private car - valet service - On airport
- Rental car - hire car courtesy bus
- Rental car - short term car park

4.11. The methodology presented in the TA scoping report determines that all response within these subcategories have a car parked at the Bristol Airport site, including those parked at unauthorised local car parks. Annual average group size per area which is contained with the CAA data set has been utilised to forecast vehicle occupancy ratios. Again, for clarity this has only been applied to the additional 1.8mppa and 3.2mppa forecast passenger demand.

NSC Comment

Figure 2.7 appears to be missing some of the labels for areas within the South West and Wales. It is expected this is due to the chart being compressed to fit in the report, and reaffirms the importance of providing the raw data for our approval.

PBA Response

4.12. This has been addressed in **Figure 3.3**.

NSC Comment

The CAA data provides the modal split, which based on the passenger numbers can give an indication of the vehicular generation at the site, but it is not clear whether this has been validated against any other information, for example traffic count data at the car parks and site entrances.

PBA Response

4.13. The daily vehicle numbers associated with the passenger growth to 12mppa have been calculated using the methodology described in the TA Scoping Report submitted in August 2018. **Table 4.1** highlights the calculated daily additional vehicles in the peak month of August associated with this increase.

Table 4.1: Additional Vehicles Associated with 2mppa Increase in the Peak Month of August (Excluding Operational or Logistics)

Time	Total Vehicle without logistics		
	Inbound	Outbound	Total
00:00	146	279	426
01:00	0	1	1
02:00	33	13	46
03:00	4	1	5
04:00	5	1	5
05:00	125	42	166
06:00	210	99	309
07:00	168	137	305
08:00	122	74	196
09:00	106	93	198
10:00	106	166	273
11:00	107	82	188
12:00	257	226	484
13:00	254	302	556
14:00	103	101	205
15:00	26	10	35
16:00	58	42	100
17:00	161	158	319
18:00	338	300	638
19:00	323	404	727
20:00	91	153	244
21:00	11	31	42
22:00	17	35	52
23:00	0	31	31
Total	**2,770**	**2,781**	**5,552**

4.14. To validate this methodology and the use of the CAA mode share, the recorded two-way vehicle numbers using the northern and southern accesses to the airport from the surveys undertaken in July 2018 have been compared to the above calculated vehicle numbers.

4.15. The calculated uplift in vehicle numbers identified in **Table 4.1** have been scaled up using a growth factor of 4.1 (which represents the growth from 2mppa to 8.2mppa). **Table 4.2** summarises this in comparison with the total two-way vehicle movements per day in July 2018 using the northern and southern accesses.

Table 4.2: Vehicle Validation

	Calculated Vehicle Numbers			Recorded vehicle numbers		
	Inbound	Outbound	**Total**	Northern Access	Southern Access	**Total**
Daily	11,404	11,448	**22,852**	20,014	1,863	**21,877**

4.16. The TA methodology for the 2mppa increase scaled up to 8.2mppa overestimates the traffic generation by 975 vehicles.

4.17. Based on the above, the TA traffic generation methodology is considered to be robust and fit for purpose.

NSC Comment

As you are aware, there are issues with informal parking areas around the Airport. Passengers using these services will arrive at an external site by car, and then transfer to the airport via mini-bus or even by walking. How are these arrivals captured by CAA data? There is an 'other' category: does this include such arrivals? The concern here is that the CAA data, and therefore the TA will fail to pick up the use of these external services to the airport.

PBA Response

4.18. As outlined previously, the CAA data set captures both on-site and off-site parking. The 'other' category, which has a response of 37 people (0.4%), is not attributed to on or off-site parking.

4.19. The methodology for calculating passenger mode share has been undertaken only on the forecast uplift from 8.2mppa to 12mppa. The comprehensive agreed traffic survey package carried out in July 2018 (before the school holidays) has recorded such off-site movements, which have been scaled up to the agreed 2026 assessment year. Therefore, this robust methodology does consider and address the use of these external parking services to the airport.

5. Employee Mode Share

NSC Comment

No details have been provided on whether Mode share differs for shift workers as a result of the anti-social times of day that they need to arrive at the site. It is noted there are shift patterns which begin at 2am, and this may have a significantly different modal split profile to arrivals at 8am. Further clarification is sought here.

PBA Response

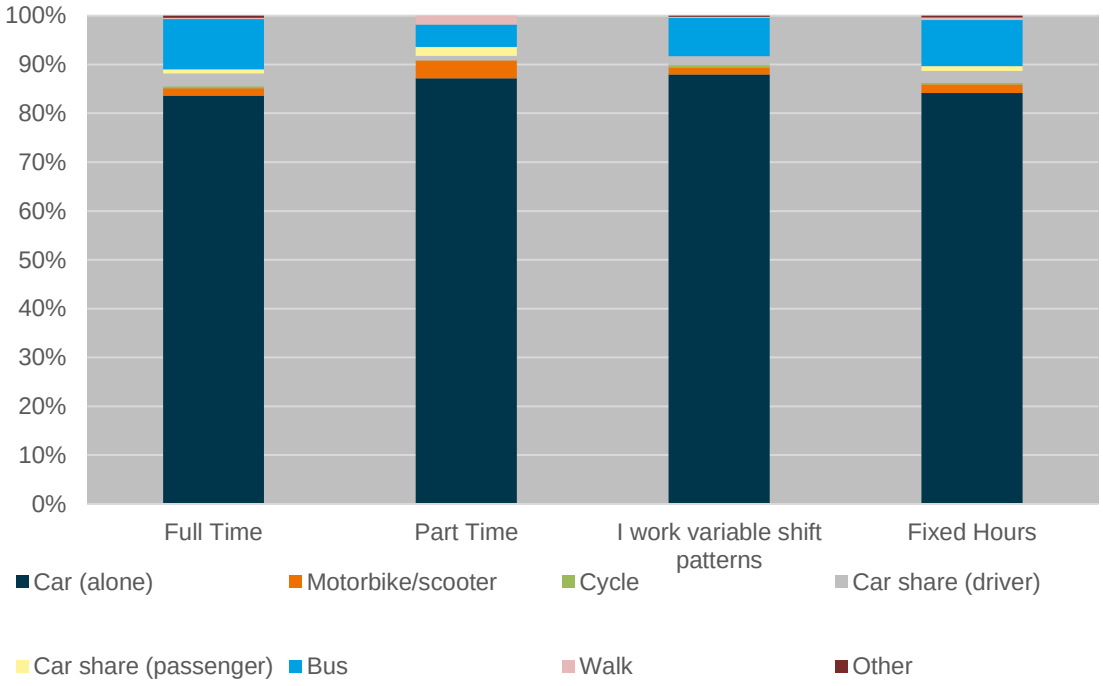
5.1. The data source for the mode share for staff is the 2017 Staff Travel survey, which has a response rate of 850 out of 2,976 Full Time Equivalent (FTE) employees (29%). The staff entry and exit profiles are recorded using the following question:

What is your usual start / end time, to the nearest hour?

5.2. 39% of respondents indicated a typical start and finish time. 61% of respondents indicated that their shift patterns are varied. Therefore, the remaining percentage of employee's entry and exit times have been soured from Bristol Airport business partners.

5.3. **Figure 5.1** indicates the mode share variation between varied and fixed shift employees.

Figure 5.1: Staff Mode Share & Shift Type



5.4. It is evident from **Figure 5.1** that the variation between employment type is minor, and therefore the application of a constant mode share throughout the day is considered acceptable.

5.5. Furthermore, as previously mentioned, the number of staff parking spaces will reduce in the future and the number of FTE's will increase. Therefore, the car driver mode share for employees is expected to reduce, which has not been considered within the TA to present a robust worst case.

6. Forecast Passenger Annual Profile

NSC Comment

The projections for an increase to 10mppa and 12mppa have been based on the recorded data taken from 2017, which is supported by historic trends over the last five years. This data from the last five years should be provided to give confidence that the 2017 data is representative. It would be beneficial to consider what the split in monthly arrivals was considered within the planning application to 10mppa, to determine if there are any differences, and explanations of why the numbers from the 10mppa application may have not been realised. This will give some confidence that using the projections from 2017 data is accurate.

PBA Response

6.1. The forecast flight schedules have been produced by BAL and verified by Mott MacDonald. The Validation report contains commercial sensitive information however an extract of Mott MacDonald Bristol Airport – Forecast Validation (dated August 2018) report has been provided below:

"BRS Management have performed a forecast study of expected growth of passenger traffic. This forecast blended a top-down econometric model with a bottom-up, airline by airline, approach. For the period until 2027 BRS Management have forecast the supply of seat capacity, load factors and based aircraft. This bottom-up approach makes informed assumptions regarding the level of air service that can be expected over the planning period.

BRS Management forecast included detailed assumptions on airline growth plans and fleet renewal. As part of this forecast validation, Mott MacDonald consulted the main BRS airline operators. The airline feedback broadly validated the BRS Management assumptions both in terms of future seat capacity offered and fleet modernisation assumptions. In Mott MacDonald's view, the BRS Management short-term assumptions are reasonable".

6.2. Based on the above information it is considered that the 2017 flight schedules are valid and fit for purpose data sources for predicting future flight trends at Bristol Airport.

NSC Comment

Projections for the 12mppa, using this 11% monthly split (actual value calculated as 10.98% but it is understood the table has rounded up for simplicity), takes this figure to 1,317,817, a total increase of 219,636 per month, and 7,085 per day. Should this value increase to say 13% for the 12mppa application for August, this would actually see a total passenger volume of circa 1,560,000 passengers for the month – an increase of 461,819 passengers a month, or 14,897 passengers a day. It is clear that given the scale of the airport, very small changes to percentages lead to a considerable variation in monthly, and daily passenger arrivals. There needs to be careful consideration of this, and more information should be provided by the applicant to support the assumptions that growth will remain uniform from the 2017 data.

PBA Response

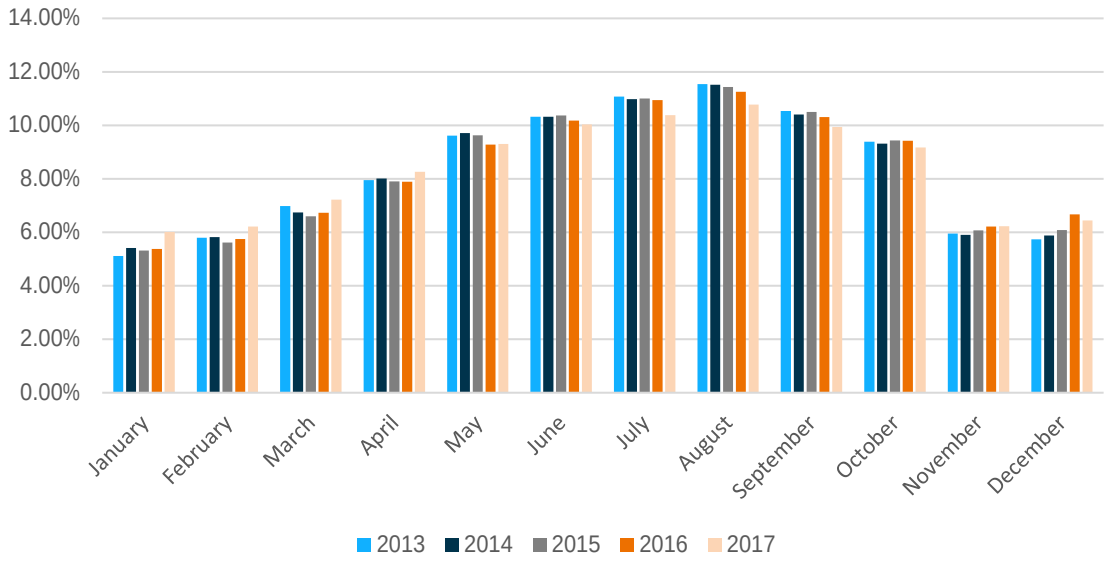
6.3. **Table 6.1** sets out the historic passenger profile at Bristol Airport as reported to CAA. The percentage of passengers using the airport each year in August for the last five years has been within the range of 10.87% - 11.54%.

Table 6.1: Passenger Annual Profile 2013 to 2017

	2013	2014	2015	2016	2017
January	313,393	342,989	360,924	408,792	494,821
February	355,234	368,932	381,531	437,850	512,018
March	428,022	427,151	448,061	511,908	594,481
April	487,744	507,592	536,549	600,657	680,200
May	589,932	615,556	653,430	705,820	766,081
June	632,708	653,994	704,112	774,168	825,952
July	678,886	696,218	747,168	833,071	854,999
August	707,649	730,536	776,246	856,728	887,485
September	646,336	659,657	712,931	784,705	817,823
October	575,763	590,218	640,720	716,834	754,998
November	364,654	374,452	412,322	472,660	513,064
December	351,575	372,560	412,796	507,587	530,708
Yearly	**6,131,896**	**6,339,855**	**6,786,790**	**7,610,780**	**8,232,630**

6.4. **Figure 6.1** shows the monthly passenger profile over the last five years. This data indicates that during the summer months, passenger numbers are decreasing, yet passenger numbers are increasing during the winter months. Therefore, assuming 11% of the annual passengers travel through BAL during August is robust.

Figure 6.1: Historic Monthly Passenger Numbers



7. Forecast Passenger Catchment

NSC Comment

The assumption is that growth to 12mppa is predicted to come from only the South West and Wales area. Again, as stated above, relatively small increases in percentages from different regions could have a significant impact on the traffic generation at the Airport. Historic trend data will need to be provided to prove that this will be the case in the future. Furthermore, details of how this growth will be realised should be provided. For example, is the increase of 2mppa a function of more people travelling abroad for holidays, or are they in fact 'transferred' journeys from other airports in the UK? If it is the latter then evidence should be provided which demonstrates which airport this trade is currently using. This will provide confidence that the assumptions are correct.

PBA Response

7.1. Future passenger catchment has been determined through liaison with BAL and reference to the CAA data. As set out within the TA scoping report passenger growth for 10mppa and the 12mppa is predicted to continue in this trend by introducing new destinations. This will be more attractive to those from the South West and Wales, who would otherwise travel beyond Bristol Airport to make these journeys. For other regions, this is not the case.

7.2. An extract of Mott MacDonald Bristol Airport – Forecast Validation (dated August 2018) report has been provided below with regards to forecast methodology and key assumptions:

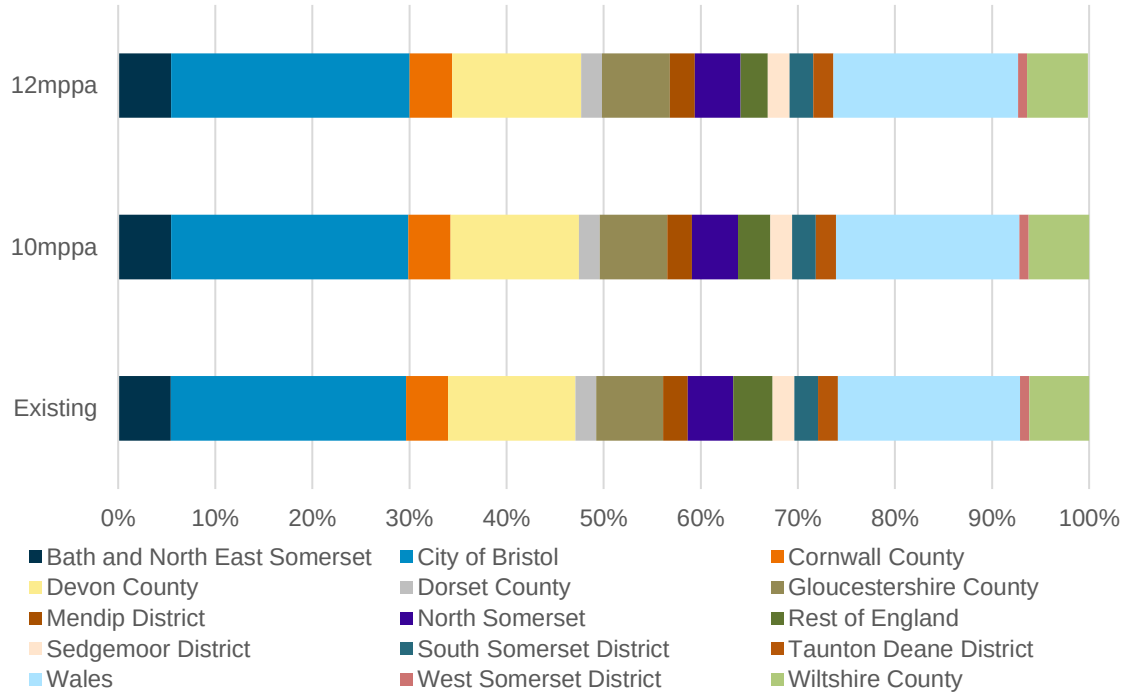
"No new airport in the Southwest England region

The forecast assumes that there will be no new airport or any material changes to any existing airport in the Southwest of England, or the UK, during the forecast period, excluding for the planned Heathrow expansion assumption described below

7.3. The total spill-over traffic of Southwest residents using London airports in 2017 was around 7 million passengers, mostly using Heathrow and Gatwick. It is assumed that increasing capacity constraints at both of these London airports, up to the opening of a third Heathrow runway, will help BRS capture a greater share of this Southwest resident traffic, as well as attract airlines to base aircraft at BRS when London slots are scarce. Following the opening of a new runway in London, it is assumed that Bristol Airport's share of the Southwest market returns to current levels due to increased London competition".

7.4. It is important to note that small changes in passenger catchment are unlikely to have a significant impact on the trip generation associated with the increase in passengers. The catchments have been segmented into 45 zones. **Figure 7.1** indicates the change in catchments under the assumption that the origin / destination of the 2mppa increase will exclusively be the South West and Wales.

Figure 7.1: Catchment Changes with Passenger Growth



7.5. It is evident from the above that even with 2mppa increase, the catchment percentage changes are almost negligible.

8. Forecast Passenger Mode Split

NSC Comment

Again, for Mode Split it is not clear whether Modal split varies throughout the day, and it has been assumed there is a uniform mode split throughout the day. Further clarification is requested. Furthermore, it has been assumed that car occupancy rates are the same for all time periods in the day. Should there be a lower car occupancy rate during the morning, for example, this would lead to a higher trip generation than if a high car occupancy was assumed.

PBA Response

8.1. The CAA data shows that the mode share fluctuates throughout the day, demonstrated by **Figure 8.1**. The CAA does not survey between the hours of 21:00 and 05:00.

8.2. As has been described previously, passengers are surveyed for the CAA in the gaterooms of the terminal. Therefore, the time the survey is recorded is not equal to the time the passenger arrives at the airport. The passenger dwell time analysis has been carried out within the TA.

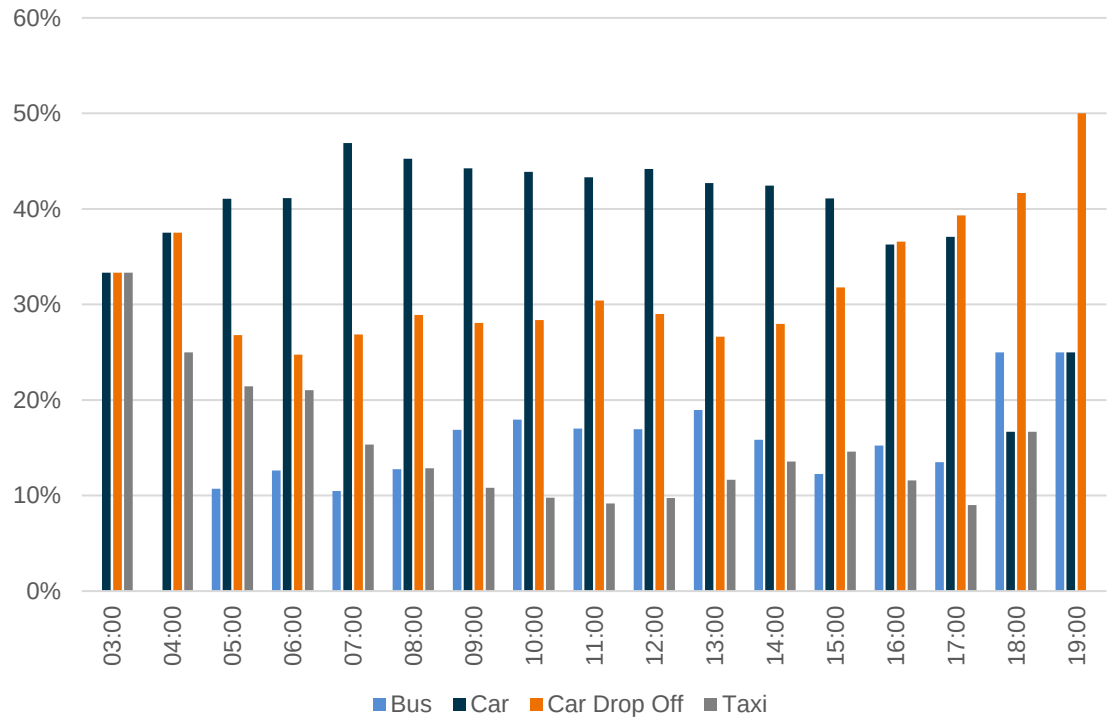
8.3. The recorded dwell time, summarised in Table 8.1, indicates that approximately 50% of passengers arrive less than one hour before a flight and 50% arrive more than one hour before a flight.

Table 8.1: Summarised Passenger Dwell Time

Minutes	Percentage of Passengers
0-30	17%
31-60	32%
61-90	28%
91-120	13%
120+	10%

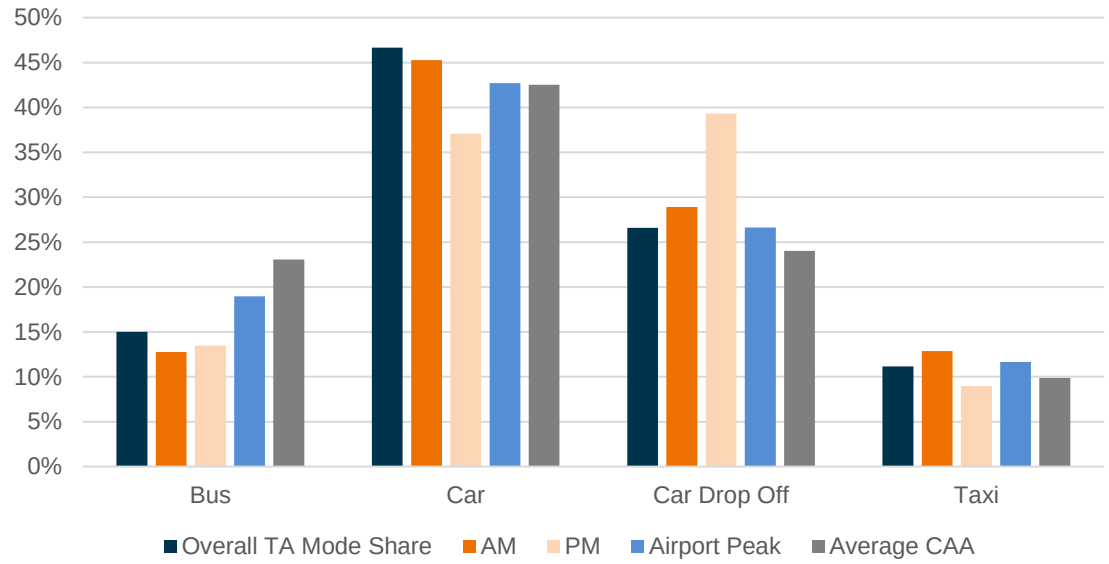
8.4. Therefore, this offset has been applied to the hourly mode share to produce a more realistic profile. This has been provided in **Figure 8.1**.

Figure 8.1: CAA Mode Share Daily Profile



8.5. **Figure 8.2** shows a comparison of the overall mode share utilised within the TA, that has been adjusted to reflect the recorded 15% bus patronage, the differing mode shares in each peak and the average over the day.

Figure 8.2: Comparison Between Mode Share used in TA



8.6. As presented in Table 4.2 car occupancy rates, which are calculated by catchment using the group size data from CAA, indicate that in the month of August there are more passengers per car than the annual averages.

8.7. The TA method therefore uses a lower car occupancy rate than that recorded for the month of August in 2015

9. Passenger Arrival and Departure Dwell Analysis

NSC Comment

The data on passenger dwell analysis is useful to determine likely passenger arrivals and departures on the roads in respect to their flight arrival and departure time. Please clarify whether the graphs presented within figure 3.8 and 3.9 show the actual time of the flight, or flight + 1 hour for arrivals and flight + 90 minutes for departures. It would be useful to be provided with the proposed flight schedule in order to check that the assumptions are correct. Also additional data should be provided which validates these arrivals and departure profiles. Cross checking against vehicular arrivals and departures at the airport will provide additional data here to validate this. Paragraph 3.5.2 states that departure dwell times have been provided by BAL, and it would be useful to understand over what period this data was collected, and the sample size used to determine these proportions.

PBA Response

9.1. The passenger boarding card scanning data has been used to understand the amount of time passengers spend in the terminal before their flight departs.

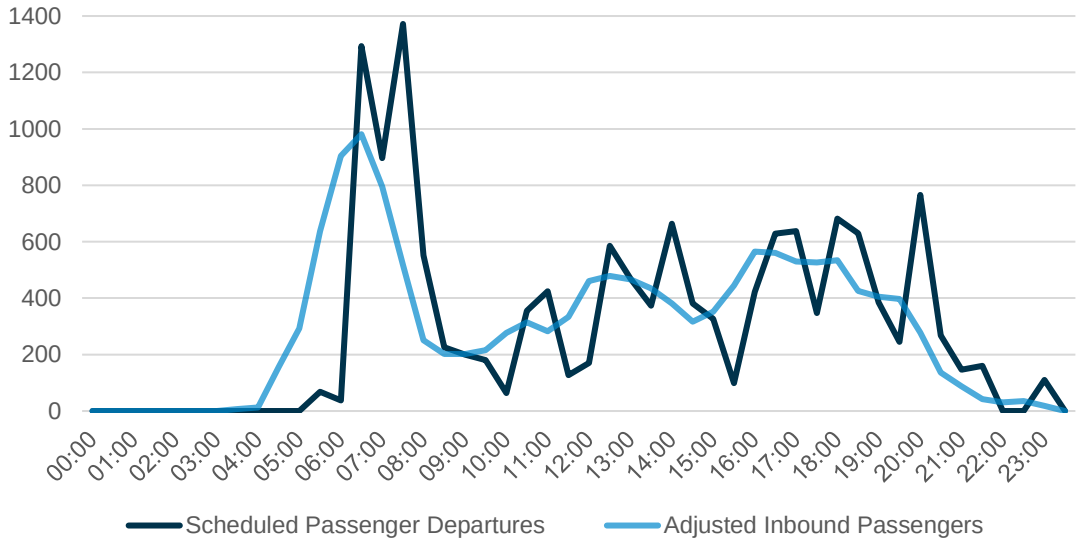
9.2. The boarding card scanning data used for this element of the assessment relates to every flight between 1st January 2017 until 18th June 2018 and is considered to be representative of passenger behaviour. This is a large enough data set to determine the amount of time spent inside the terminal before a flight departure. **Table 9.1** summarises the dwell time parameters.

Table 9.1: Departing Passengers Dwell Time Parameters

Minutes	Flight Type	
	Long Haul	Short Haul
0-30	11%	17%
31-60	25%	32%
61-90	24%	28%
91-120	19%	13%
120+	20%	10%

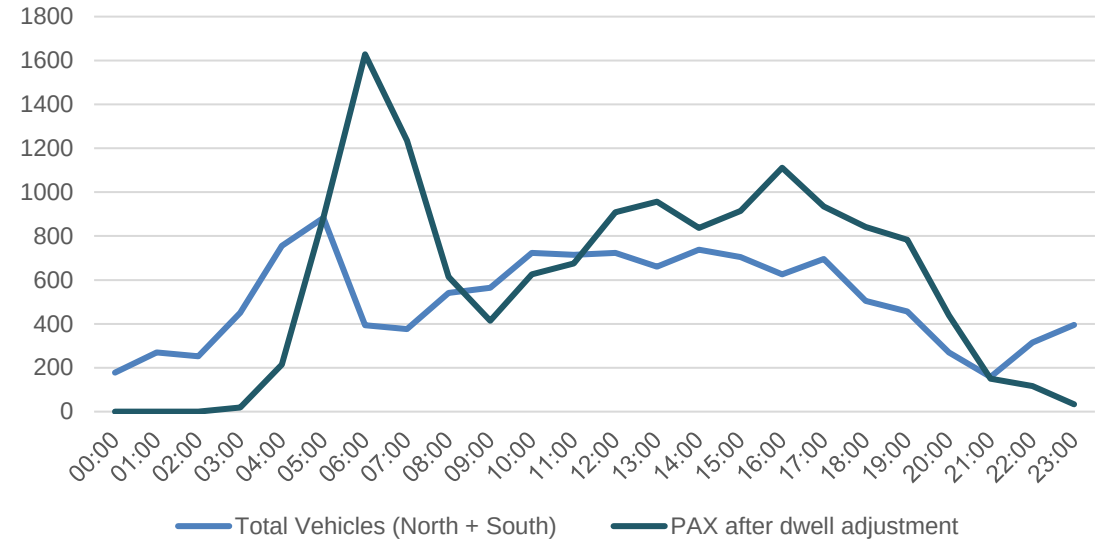
9.3. Based on this assumption of the above dwell time, the likely passenger entry time to the airport has been calculated. **Figure 9.1** illustrates the passenger entry profile to the terminal in relation to the departing flight schedule.

Figure 9.1: Passenger Entry Profile vs Departing Flight Schedule (Average Weekday)



9.4. To validate this dataset profile, the surveyed inbound traffic numbers from Thursday July 12th 2018 have been compared to the adjusted existing flight schedule (of departing flights) from Thursday 9th August 2018, based on the boarding card scanning data. The comparison is shown in **Figure 9.2**.

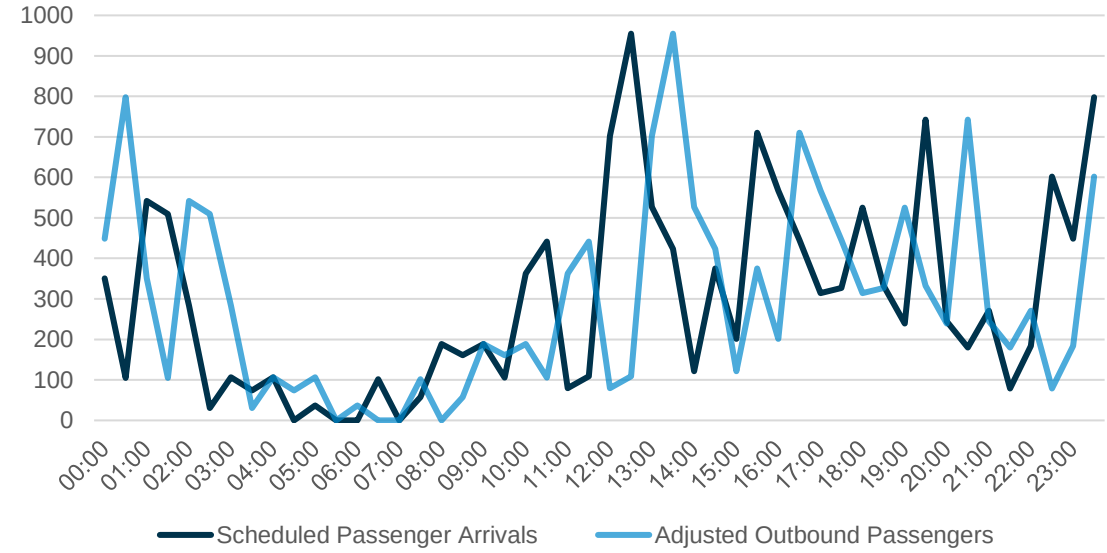
Figure 9.2: Surveyed Inbound Vehicle Numbers Compared with Calculated Passenger Numbers



9.5. It is evident that the profiles show a reasonable correlation. Based on the above, the Bristol Airport boarding card scanning data is considered to be a valid source of data to establish passenger dwell time.

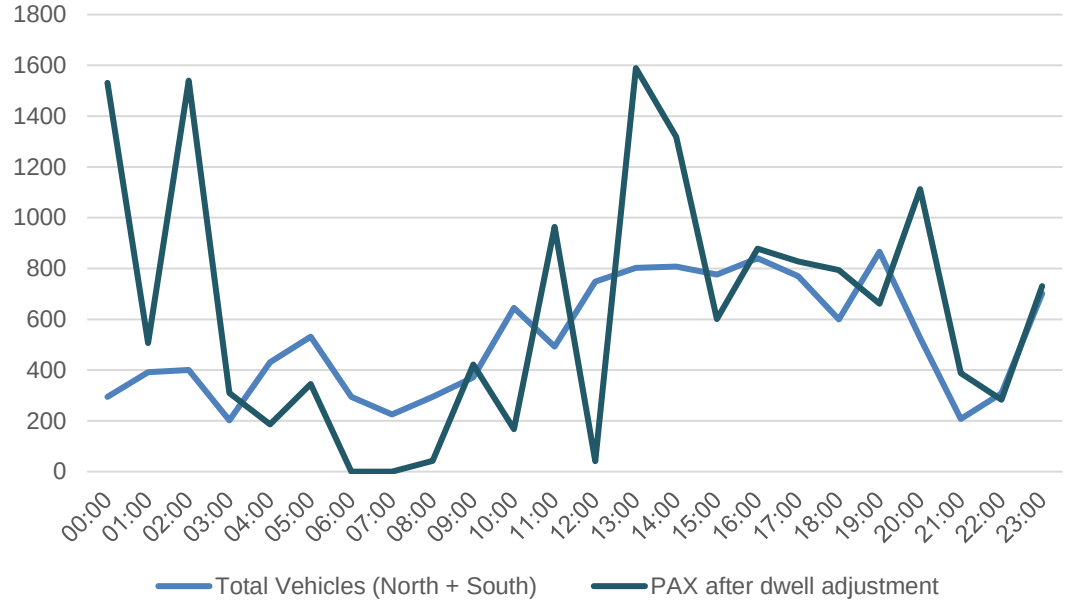
9.6. For flight arrivals, the available data is limited and therefore the dwell time is assumed to be one hour, based on operator knowledge. The passenger exit profile from the terminal has been shown in relation to the arriving flight schedule in the below figure. This acts as a worst case as the passenger exit times show sharp increases in correlation with the flight, as opposed to a flatter profile for passenger entry times, which can be corroborated using the boarding card scanning data.

Figure 9.3: Passenger Exit Profile vs Arriving Flight Schedule (Average Weekday in August 2018)



9.7. For further analysis, the surveyed outbound vehicle numbers from Thursday July 12th 2018 have been compared to the adjusted existing flight schedule (of arriving flights) on Thursday 9th August 2018, shown in **Figure 9.4.**

Figure 9.4 – Surveyed Outbound Vehicle Numbers Compared with Calculated Passenger Numbers



9.8. Once again, it is evident that the two datasets show a broad correlation.

9.9. If a suitable data source had been available for arriving (by air) passenger dwell time, the passenger exit profile would appear less peaky.

NSC Comment

The times that people arrive to catch their flight will be a key factor in determining vehicular impact on the network, and the Authority needs to be convinced that the data used is robust. It would be useful to understand whether in the future these dwell times are likely to reduce as there is a move towards checking in online etc, and if the Airport has any data to reflect this. A reduction in dwell time is likely to result in more passengers arriving at the same time instead of being stretched over several hours and this will require some further consideration.

PBA Response

9.10. As has been previously explained, the boarding card scanning data used for this element of the assessment relates to every flight between 1st January 2017 until 18th June 2018. During this time, online check-in has been a standard process in airports across the UK and Ryan Air has been charging passengers £50 for desk check-in.

9.11. It is possible that check-in times could be reduced but in the main passenger are expected to continue with similar dwell times due to certainty over catching flights and other food / drink and retail offers in the Airport.

9.12. The dataset therefore is representative of the current travel behaviours of passengers and is expected to continue until 2026.

9.13. As has been previously highlighted, the arriving (by air) passenger trip generation has been calculated based on the assumption that all passengers exit the terminal one hour after their flight arrives based on typical baggage collection, border control and access to onward travel times.

9.14. In addition, this methodology is applied exclusively to the passenger uplift between the existing 8.2mppa and the 12mppa. The existing passenger traffic movements are captured within the traffic surveys carried out in July 2018.

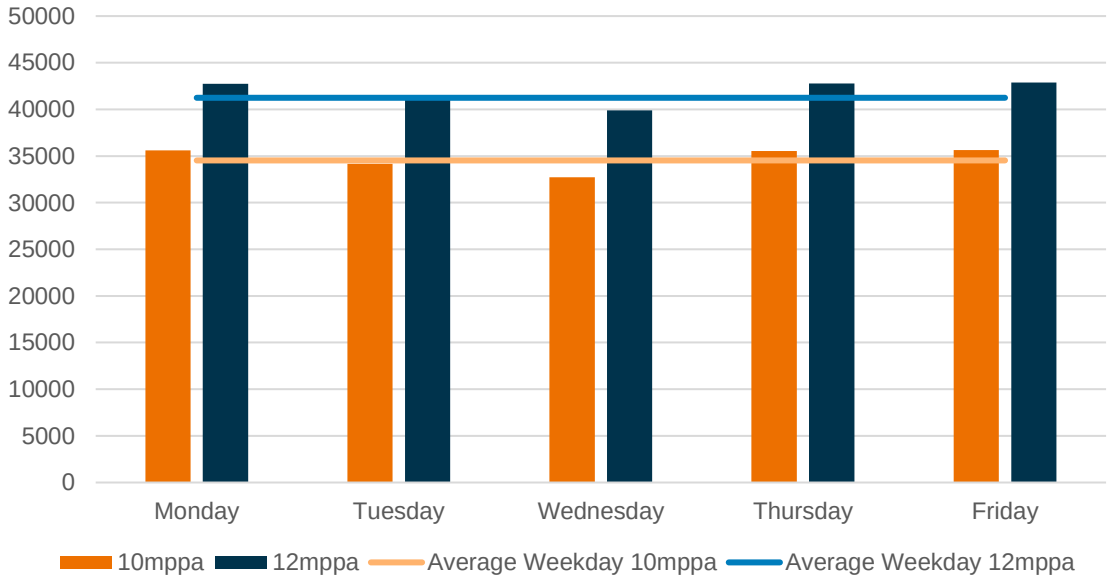
NSC Comment

Furthermore, the analysis assumes a uniform flight schedule for every day of the week, further clarification is required here as there may be days of the week which have a higher proportion of flights that are likely to impact peak periods.

PBA Response

9.15. The TA analysis is based on average week day for passenger numbers. This assumption is consistent with the TA for the 10mppa planning application submitted in 2009. **Figure 9.5** shows the variation of passenger numbers over the week for the 10mppa and 12mppa scenarios in comparison to the average weekday. The flight schedules provided by BAL vary each day and show differing peaks for each week day. The average weekday is considered to be an appropriate base on which to build a robust assessment.

Figure 9.5: Passenger Number Variation for Each Day of the Week



10. Vehicle Trip Assignment Methodology

NSC Comment

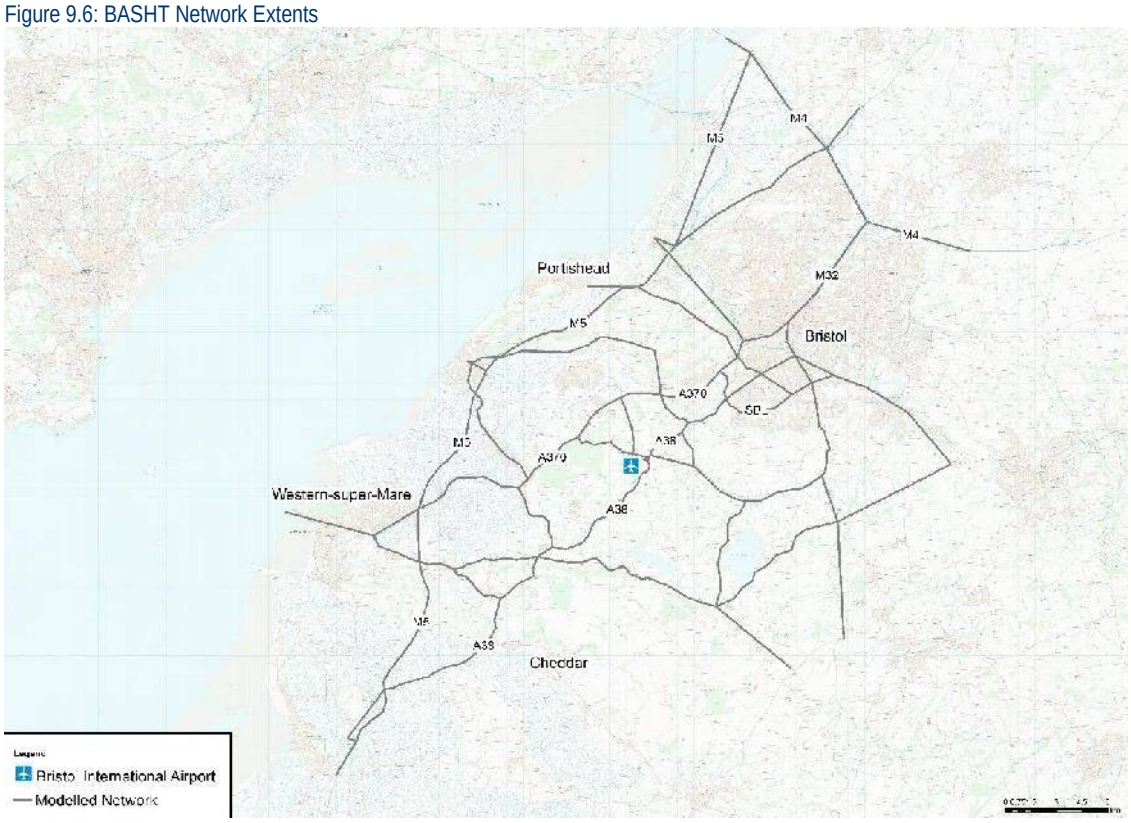
It is proposed to assign trips to the network using a SATURN model based on link speed and distance. This could over simplify the assessment and assign trips away from the current rat runs around the airport. For example, if the model is only considering link speed and distance, it is likely to assign the majority of traffic along the A38 and the SBL, whereas there are multiple route choices in that direction, including Downside Road / A370. Furthermore, the Airport is clearly signed from major strategic routes (such as the M5) and it is expected that trips further afield would follow these signs which may lead to a different assignment than proposed using SATURN alone.

PBA Response

10.1. To assess the impact of the increase in patronage to 10 and 12 mppa at Bristol Airport, a basic buffer network has been developed within SATURN to identify the traffic flow to test the impact on a number of junctions in the vicinity of the airport. The thirteen junctions surveyed have been coded as Dummy Simulation nodes within the network to enable the junction turning movements to be extracted.

10.2. The Bristol Airport Strategic Highway Tool (BASHT) has been built within SATURN, it uses an all or nothing assignment method on an unconstrained network, based on link distances between specific nodes and recorded HERE speed data. HERE data is extracted from the databases collected and used by in car satellite navigation systems, so is a good indication of actual journey times at specific times of day. The figure below illustrates the extents of the SATURN network.

Figure 9.6: BASHT Network Extents



10.3. We have also checked the routes used against sign posted routes and local logic checks. It is not intended to increase the use of rat-runs, so assigning traffic to these routes would be counter intuitive, as it might suggest a need for capacity improvements that could perpetuate rat-running.

10.4. The average speeds for the modelled time periods have been isolated per direction and have been assigned to each link within the model.

10.5. The tool has been developed for three time periods including;

AM peak – 08:00 to 09:00;

Airport Peak – 13:00 to 14:00; and

PM Peak – 17:00 to 18:00.

10.6. Two scenarios have been derived using the tool, which were a 10mppa (1.8mppa addition) and 12mppa (3.8mppa additional). The additional trips associated with these have been added on top of the TEMPRO growth 2018 junction counts (8.2mppa), this enabled the total 10mppa and subsequently the 12mppa junction turning flows readily derived within SATURN.

10.7. Assigned traffic network diagrams for each scenario have been provided in **Appendix A.**

NSC Comment

It is not clear how this model will be validated against vehicle assignments for vehicles currently using the airport, and further information will need to be provided in respect of this. The SATURN model will need to be provided for the Authority to review, and this will need to include details of the proposed zones used within the model. The assessment so far assumes that the majority of growth will come from the existing South West and Wales areas, and therefore it is logical to assume that current vehicular assignments will remain.

PBA Response

10.8. This model is purely a tool for extracting passenger flows by trip origin. It is not a validated assignment model.

NSC Comment

The modelling is proposed to consider the traditional network peak hours of 08:00-09:00 and 17:00-18:00. Traffic survey data will need to be provided which confirms that this is the network peak hour around the airport. It is recognised that traffic on a Friday afternoon is particularly busy around the airport, and this will need to be assessed with the TA.

PBA Response

10.9. The surveys undertaken in July 2018 have been interrogated to determine the total amount of traffic recorded through each surveyed junction throughout an average weekday. **Table 10.1** sets out the recorded hourly flow profile for each junction within the agreed study area for a 24-hour period.

Table 10.1: Recorded daily vehicle profile per junction (PCU's)

Time	J4: A38 / West Lane / Downside Road	J5: A38 / Hobbs Lane / Barrow Lane	J6: A38 / B3130 Barrow Street	J7: A4174 SBL / A38	J8: A370 / A4174 SBL	J9: A370 / Brockley Combe Road / Brockley Lane	J10: A370 / Station Road	J11: A370 / B3133 Smallway	J12: A370 / B3133 High Street	J13: A38 / A368
00:00	504	416	421	453	311	111	92	99	119	200
01:00	431	339	333	329	224	58	53	70	87	161
02:00	567	434	447	422	272	71	42	70	81	184

Time	J4: A38 / West Lane / Downside Road	J5: A38 / Hobbs Lane / Barrow Lane	J6: A38 / B3130 Barrow Street	J7: A4174 SBL / A38	J8: A370 / A4174 SBL	J9: A370 / Brockley Combe Road / Brockley Lane	J10: A370 / Station Road	J11: A370 / B3133 Smallway	J12: A370 / B3133 High Street	J13: A38 / A368
03:00	586	501	496	470	305	96	57	89	94	216
04:00	1,055	840	826	802	502	158	104	148	169	300
05:00	1,282	1,083	1,093	1,213	842	308	237	380	426	585
06:00	1,447	1,332	1,375	1,962	1,954	847	838	1,032	1,085	1,068
07:00	2,400	2,078	2,231	3,292	3,325	1,498	1,476	1,839	1,947	1,924
08:00	2,606	2,166	2,344	3,257	2,996	1,543	1,580	1,976	2,133	2,010
09:00	1,922	1,654	1,739	2,639	2,694	1,201	1,366	1,750	1,804	1,592
10:00	2,149	1,830	1,906	2,444	2,340	1,186	1,349	1,592	1,635	1,516
11:00	2,069	1,716	1,790	2,371	2,380	1,174	1,337	1,654	1,708	1,437
12:00	2,097	1,629	1,682	2,330	2,319	1,234	1,471	1,734	1,762	1,405
13:00	2,074	1,788	1,860	2,448	2,416	1,187	1,379	1,674	1,743	1,533
14:00	2,258	1,893	1,965	2,751	2,665	1,301	1,500	1,713	1,756	1,477
15:00	2,517	2,123	2,196	3,003	2,870	1,481	1,598	1,949	2,080	1,745
16:00	2,694	2,388	2,508	3,559	3,379	1,735	1,729	2,061	2,244	1,855
17:00	2,920	2,398	2,498	3,321	3,267	1,686	1,828	2,211	2,309	2,064
18:00	2,635	2,127	2,182	2,893	2,894	1,366	1,684	1,762	1,873	1,767
19:00	1,605	1,277	1,404	1,802	1,683	787	991	1,148	1,197	1,018
20:00	1,056	929	945	1,254	1,106	491	603	691	715	658
21:00	933	768	792	1,044	938	426	555	637	661	517
22:00	943	776	806	954	852	399	479	466	474	446
23:00	986	758	762	804	622	219	244	218	246	354

11. Assessment Study Area

NSC Comment

This was discussed at the recent scoping meeting. Whilst the area seems appropriate at this time, if the TA demonstrates that other junctions are likely to be severely impacted, additional analysis in these locations will be required. There are a number of smaller quieter roads which have not been picked up in the assessment. Such routes include West Lane / Felton Lane (Winford), as well as Portbury Lane which serves as a rat run from Junction 19 of the M5. There are additional routes from Junction 20 of the M5, including Nailsea Wall which should be included as part of the assessment. These routes are rural in nature, which are characterized with fast vehicular speeds and often impatient drivers. Whilst the absolute volume of traffic increase in these areas may not be substantial, the assessment should be mindful about increasing vehicles on routes which are not of the highest standard. Furthermore many of the quieter routes are popular walking and cycling routes, and increases in vehicles in this location will have an adverse impact on non-motorised users.

PBA Response

11.1. Airport traffic is encouraged to use signposted routes. Option to reduce speeds or restrict capacity could be considered if supported and promoted by NSC.

11.2. In addition, a Walking, Cycling and Horse Riding Assessment and Review (WCHAR) will be undertaken on the proposed junction improvements to ensure adverse impact on non-motorised users will be avoided.

11.3. NSC have requested that the traffic survey data collected for the purposes of the TA on the week commencing 9th July 2018 is validated against ATC data collected by NSC.

11.4. Table 11.1 summarises the total two-way traffic movements at each Bristol Airport Access

Table 11.1: Comparison between Traffic Data Collected by NSC and Data Collected by PBA

Source	Total Two-way Traffic
NSC ATC data	27,620
TA MCTC data	27,342
Difference	278
% Difference	1%

11.5. It is evident from the above that the data collected for the purpose of the TA is similar to NSC data.

12. Modelling Scenarios

NSC Comment

There are concerns about the proposed modelling scenarios within the TA. Whilst it is recognised that this is not a 'normal' development, which can identify opening year assessment, we are concerned that the proposed modelling scenarios may lead to scenario where there is an unacceptable impact on the highway network without mitigation. The Airport currently has a consent for 10mppa, and there is mitigation in place to ensure this does not have a severe impact on the road network, including Downside Road signals on the A38. From a planning perspective, this impact is 'accepted' and we are only considering the impact beyond this point. However, it is recognised that the network around Bristol Airport is incredibly busy, and the Downside Road signals particularly are reaching capacity. The proposed modelling scenarios only test a 2026 year for 12mppa and mitigation, however there will be an element of growth beyond the 10mppa before the full 12mppa is realised, and this will increase demand on the road network. It is not clear when 10mppa is expected to be achieved, but if the airport were to have a uniform 0.5mppa passenger growth a year it would lead to the following demand:

2018 – 8.2mppa

2019 – 9mppa

2020 – 9.5mppa

2021 – 10mppa (end of current consent)

2022 – 10.5mppa

2023 – 11mppa

2024 – 11.5mppa

2025 - 12mppa

Using the assessment methodology presented in the TA, this would lead to a gap in the assessment, where there would be no assessment (and no mitigation proposed) for any growth between 10 to 12mppa. In order to ensure adequate mitigation is proposed, there should be an assessment which effectively tests the operation of the network as soon as 10mppa is exceeded under any new consent.

PBA Response

12.1. PBA has noted this and this will be addressed in the TA submission by means of delivery timeline for any necessary improvements.

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Bristol Airport Expansion

Transport Assessment Scoping Report

On behalf of **Bristol Airport Limited**

Project Ref: 43321/5501 | Rev: V5 | Date: August 2018

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1 Introduction

1.1 Overview

1.1.1 Peter Brett Associates LLP (PBA) has been commissioned by Bristol Airport Limited (BAL) to provide transport and highway advice towards the delivery of the proposed 12 million passengers per annum (mppa) at Bristol Airport. This represents a proposed increase in annual passenger numbers of 2mppa, up from the currently permitted 10mppa.

1.1.2 This Scoping Report outlines the proposed scope and methodology of the assessment to be undertaken in the preparation of a future Transport Assessment (TA), which will be developed to accompany the future planning application.

1.1.3 We have used the information available from BAL and that available from the Civil Aviation Authority passenger survey (more than 18,000 responses in 2015), to inform the early stages of assessment. This report therefore sets out initial findings on catchment of future passengers, mode share and trip generation in order to provide the highway authorities with an early indication of the scale of transport demand arising from an application for a further 2mppa.

1.1.4 The methodology set out in this note will be followed to build upon the catchment, mode share and trip generation work in order to produce a full Transport Assessment (TA) in support of the application. This scoping report will therefore form part of the supporting information underpinning the TA, and for that reason it is intended to seek agreement with North Somerset Council (NSC), Bristol City Council (BCC), Bath and North East Somerset (BaNES) and Highways England as the transport authorities.

1.2 Background

1.2.1 Bristol Airport is the major airport serving the South West with more than 8 million passengers a year passing through the terminal. BAL were granted planning consent (Ref: 09/P/1020/OT2) in 2011 to increase passenger throughput from 6.2mppa to 10mppa. BAL forecast that the Airport will accommodate 10mppa by 2021 and with continued growth will reach 12mppa by 2026; it is therefore necessary to achieve planning permission to expand beyond 10mppa.

1.2.2 Bristol Airport is an important asset for the local economy, currently supporting an estimated 15,000 jobs and adds £1.3 billion to the local economy. Future expansion is therefore considered vital to the local economy.

1.2.3 While the Masterplan approaches a design freeze and for scoping the transport and wider environmental impact assessment at this stage the development proposals are assumed to be:

1.2.4 This may vary through consultation, but these thresholds are robust for the current purpose of forecasting the transport-related effects of the development.

1.3 Consented 10mppa

1.3.1 As discussed in the previous chapter, BAL have consented to increase passenger throughput to 10mppa. The TA will therefore focus on the forecast impacts of the proposed 12mppa application over and above the permitted 10mppa consent.

1.3.2 As part of the 10mppa consent, a public transport mode share of 15% was expected to be achieved at 10mppa. To reach this target, the following public transport strategy was agreed as part of the Section 106 agreement:

8 buses an hour to Bristol City Centre;

2 buses an hour to Weston Super Mare;

Develop proposals for services to Bath and Devon;

Develop proposals for services to South Wales; and

Set up a public transport fund to support local services.

1.3.3 BAL have been working towards the agreed public transport package as part of the consented 10mppa application. The following services are currently available from Bristol Airport:

6 buses an hour to Bristol;

1 bus an hour to Weston;

2 buses an hour to Bath;

1 bus an hour to Plymouth;

1 coach every 2 hours to Cardiff; and

Public transport fund financial supports the A5 (Yatton and Winscombe) local bus service.

1.3.4 Furthermore, the 'Bristol Flyer' buses have recently been upgraded to double decker models with leather seats, additional luggage space and free wi-fi.

1.3.5 BAL are currently constructing the consented multi-storey car park, which has an integrated Public Transport interchange hub and drop off / pick up facility on the top deck of the car park. This will be connected to the terminal building by a covered walk way.

1.3.6 With regards to car parking, the consented 10mppa scheme permits up to 21,109 car parking spaces and up to 550 spaces for hire cars on the Bristol Airport site.

1.4 Structure

1.4.1 As discussed with the relevant authorities, this scoping report focuses on the methodology associated with the potential trip generation of the proposed expansion and the trip distribution as an important component to agree ahead of the submission of the planning application. This is to encourage a focus on the scope of assessment and to demonstrate the methodology is fit for purpose.

1.4.2 The report therefore includes the following:

Chapter 2: Current Travel Demand - presents the current travel demand at Bristol Airport for passengers, employees and logistics. These trends represent a baseline case which shapes the forecast trip generation, modal share, distribution and assignment for the consented 10mppa and the proposed 12mppa.

Chapter 3: Forecast Travel Demand – describes the methodology undertaken to quantify travel demands associated with the increase in passenger numbers of 2mppa. This includes corresponding increases in employee and logistic travel demand.

Chapter 4: Assessment Scenarios – identifies the proposed assessment scenarios for consideration in the TA.

Chapter 5: **Assessment Methodology** – sets out the process previously discussed with the highway authorities in scoping meetings and which we will undertake to determine any impacts arising from the proposals and to inform a suitable mitigation strategy to be formalised through the Airport Surface Access Strategy and Staff Travel Plan.

Chapter 6: Summary and Conclusions – summarises the analysis presented in the report and confirms the proposed approach to taking the transport assessment forward to application.

2 Bristol Airport Current Travel Demand

2.1 Introduction

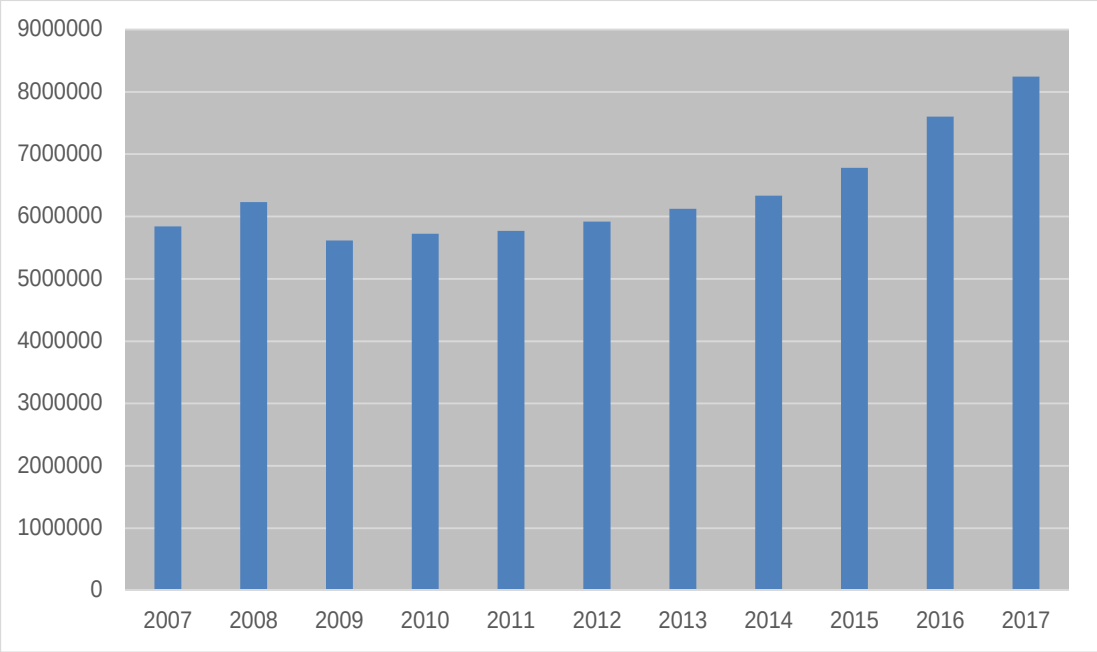
2.1.1 Bristol Airport is the major airport serving the South West of the United Kingdom (UK) with more than 8 million passengers a year passing through the terminal. Bristol Airport is the ninth busiest airport in the UK, and England's third largest regional airport.

2.1.2 A range of low-cost, full service and charter airlines fly from Bristol Airport to more than 120 destinations, including multiple daily services to hub airports with easy onward connections across the globe.

2.1.3 Bristol Airport serves as the operating bases for many of the Airlines (including Easy Jet and Thomas Cook). Flights, therefore are scheduled to take off early in the morning to their destinations and land at the airport late at night.

2.1.4 **Figure 2.1** sets out the annual passenger's numbers at Bristol Airport for the past decade.

Figure 2.1: Bristol Airport Annual Passengers (2007 – 2017)



2.2 Passenger Annual Profile

2.2.1 **Table 2.1** sets out the recorded number of passengers per month at Bristol Airport in 2017. These numbers have been extracted from the Civil Aviation Authority (CAA) monthly data reports for 2017.

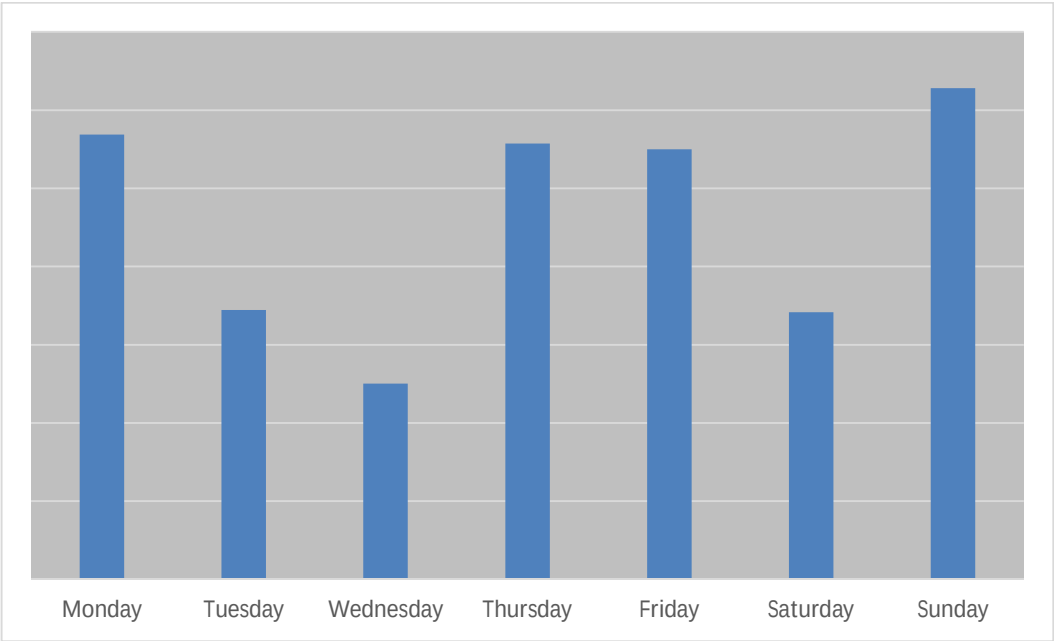
Table 2.1: 2017 Bristol Airport Passenger Profile

Month	Passenger per Month	Passenger % per Month	Average Day in Month
January	494,821	6%	15,962
February	512,018	6%	18,286
March	594,481	7%	19,177
April	680,200	8%	22,673
May	766,081	9%	24,712
June	825,952	10%	27,532
July	854,999	10%	27,581
August	**887,485**	**11%**	**28,629**
September	817,823	10%	27,261
October	754,998	9%	24,355
November	513,064	6%	17,102
December	530,708	6%	17,120
Year	**8,232,628**	**100%**	**22,555**

2.2.2 As can be seen in **Table 2.1** Bristol Airport has the highest passenger numbers during the summer months, peaking in August 2017 with 28,629 passengers per day.

2.2.3 Daily passenger demand varies across the year, although Friday generally represents the busiest weekday, Sunday represents the busies day in the weekend. **Figure 2.2** sets out the average daily variation through a peak summer week in August.

Figure 2.2: Daily passenger ariation !uring a pea" #ee" in August



2.3 Passenger Catchment

2.3.1 **Table 2.2** provides the breakdown of UK passengers origins (airport departures) and destinations (airport arrivals). This has been extracted from the latest CAA passenger survey (2015) at Bristol Airport.

2.3.2 BAL have confirmed that annual passenger growth at Bristol Airport has been achieved primarily from the South West and Wales. The overall catchment from the other regions, as an absolute number of passengers, has not substantially grown. Catchment of the other regions as a percentage has therefore reduced, whilst the catchment share from the South West and Wales has grown. This trend is predicted to remain for the consented 10mppa and the Proposed Development for 12mppa.

2.3.3 Based on these catchments, passenger numbers per region have been calculated for 2017 (8,232,628mppa). It is worth noting these are passenger numbers by origins and destinations across all modes of travel.

Table 2.2: 2017 Passenger $rigin ⅛ Destination (&.2 ' ppa)

Region	Passenger Percentage	Passenger per Annum
East Midlands	0.1%	10,994
East of England	0.1%	11,910
North East	0.0%	1,832
North West	0.2%	13,742
Scotland	0.2%	17,407
South East	1.3%	105,359
South West	77.2%	6,295,708
Wales	18.8%	1,604,012
West Midlands	2.0%	162,161
Yorkshire	0.1%	5,497
Total	**100%**	**8,232,628**

2.3.4 As set out in **Table 2.2**, 96% of passengers at Bristol Airport have an origin or destination in the South West or Wales.

2.3.5 **Table 2.3** presents the passenger catchment for an average day in the peak month of August 2017. This has been based on the information set out within **Table 2.1** and **Table 2.2**.

Table 2.(:) * Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August (&.2 ' ppa)

Region	Passenger Percentage	Passenger per Day in August
East Midlands	0.1%	38
East of England	0.1%	41
North East	0.0%	6
North West	0.2%	48
Scotland	0.2%	61
South East	1.3%	366

Region	Passenger Percentage	Passenger per Day in August
South West	77.2%	22,101
Wales	18.8%	5,368
West Midlands	2.0%	564
Yorkshire	0.1%	19
Total	**100%**	**28,613**

Note: 16 responses indicating Origin / Destination was Ireland or Northern Ireland have been removed to focus on surface access only.

2.3.6 It can be seen from **Table 2.3**, 27,469 (96%) of passengers at Bristol Airport have an origin or destination in the South West or Wales.

2.3.7 **Figure 2.3** shows the average UK daily passenger origin / destination for the peak month of August using 2017 data.

Figure 2.(:) * Daily Passenger $rigin \ Destination for t+e Pea" , ont+ of August

2.3.8 **Table 2.4** present the regional catchment for the South West based on the information contained in the CAA passenger survey. It is worth noting that the CAA survey initially reports the following Local Authorities as Somerset:

North Somerset;

Bath and North East Somerset;

Mendip District;

Sedgemoor District;

South Somerset;

Taunton Deane and

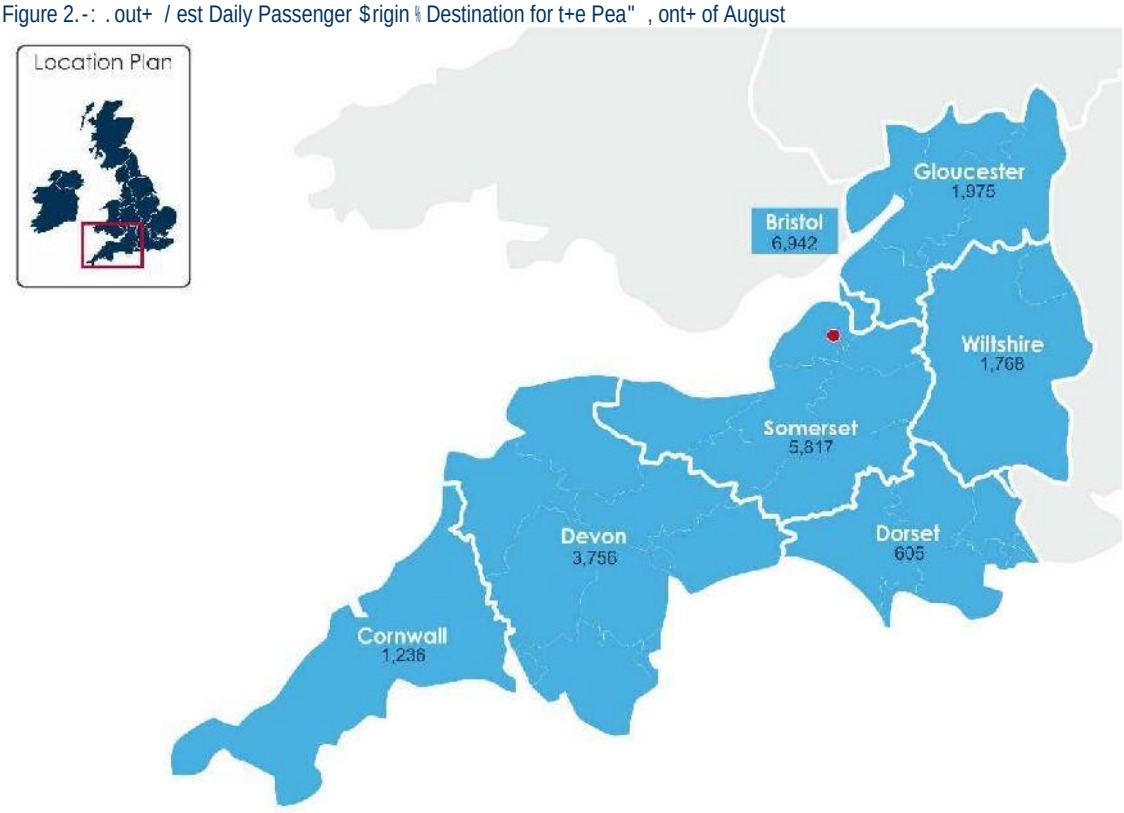
West Somerset.

Table 2.-: . out+ / est Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August (&.2 ' ppa)

South West Region	Passenger Percentage	Passenger per Day in August
City of Bristol	31.4%	6,942
Cornwall	5.6%	1,236
Devon	17.0%	3,756
Dorset	2.7%	605
Gloucestershire	8.9%	1,975
Somerset	**26.3%**	**5,817**
Wiltshire	8.0%	1,768
Total	**100%**	**22,101**

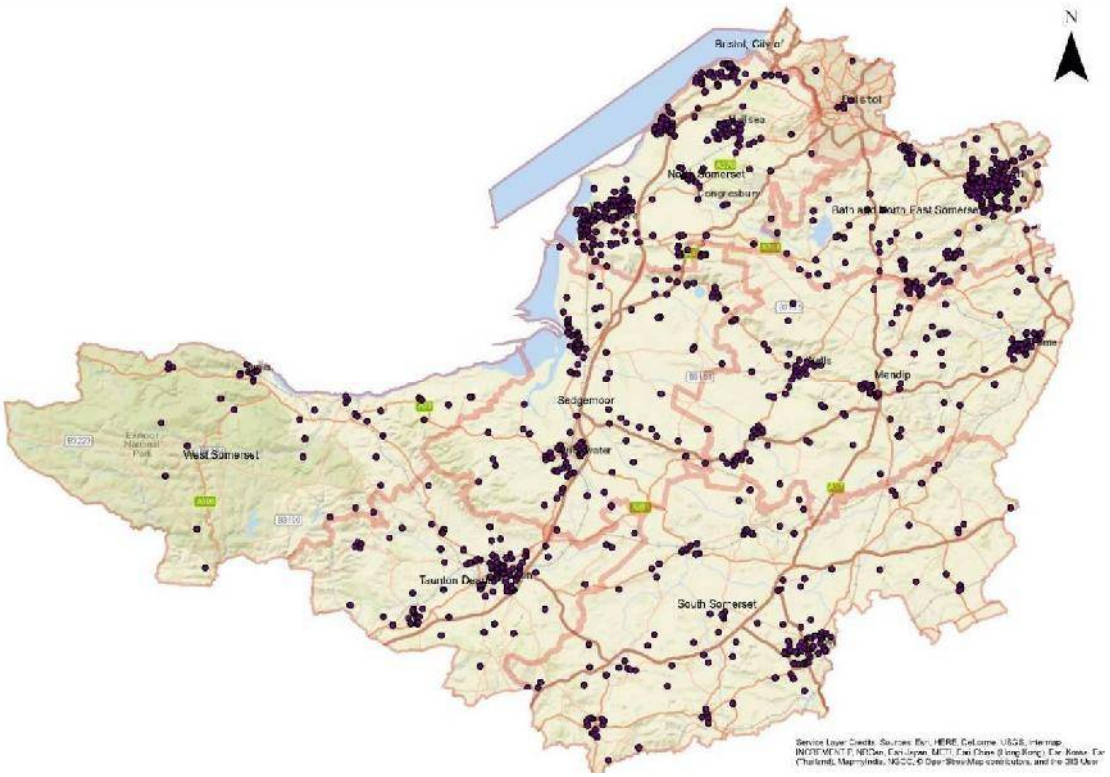
2.3.9 **Figure 2.4** shows the South West daily passenger origin / destination for the peak month of August 2017

Figure 2.-: . out+ / est Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August



2.3.10 As shown on **Figure 2.5** postcodes of passenger's origin and destination recorded in the CAA passenger report have been plotted within Somerset.

Figure 2.0: Passenger $rigin \ Destination #it+in . o ' erset 1ro#t+ Area



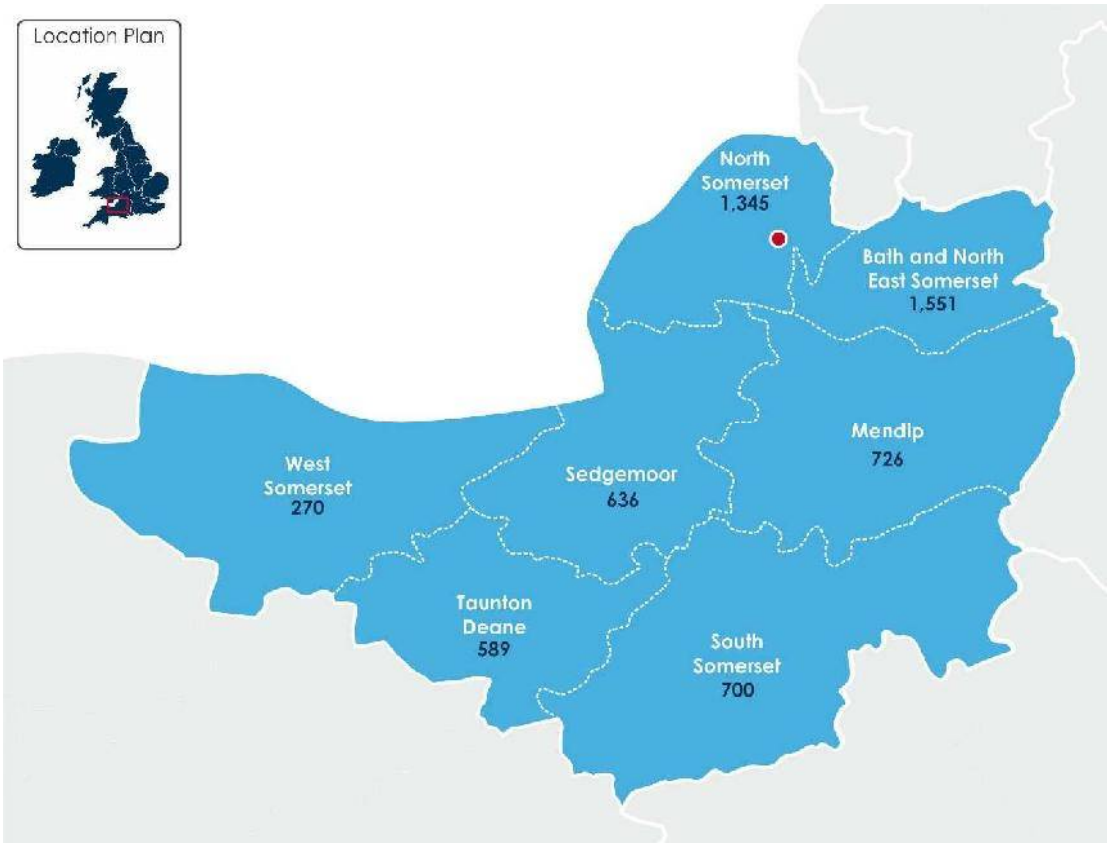
2.3.11 **Table 2.5** presents the passenger catchment within each Local Authority in the Somerset region for an average day in the peak month of August. This has been based on the information set out within **Table 2.4** and **Figure 2.3**.

Table 2.0: . o ' erset Daily Passenger $rigin \ Destination for t+e Pea" , ont+ of August (&.2 ' ppa)

Somerset Region	Passenger Percentage	Passenger per Day in August
North Somerset	23.1%	1,345
Bath & North East Somerset	26.7%	1,551
Mendip District	12.5%	726
Sedgemoor District	10.9%	636
South Somerset	12.0%	700
Taunton Deane	10.1%	589
West Somerset	4.6%	270
Total	**100%**	**5,817**

2.3.12 **Figure 2.6** shows the daily passenger numbers from each origin / destination within the Somerset Local Authorities for the peak month of August 2017.

Figure 2.2: . o ' erset Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August



2.3.13 **Table 2.6** shows the daily passenger numbers from each origin / destination within North Somerset for the peak month of August 2017.

Table 2.2: 3ort+ . o ' erset Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August

	Percentage	8.2mppa (FTE)
Weston-super-Mare	46%	619
Portishead	21%	282
Clevedon	16%	215
Nailsea	17%	229
Total	**100%**	**1345**

2.4 Passenger Mode Share

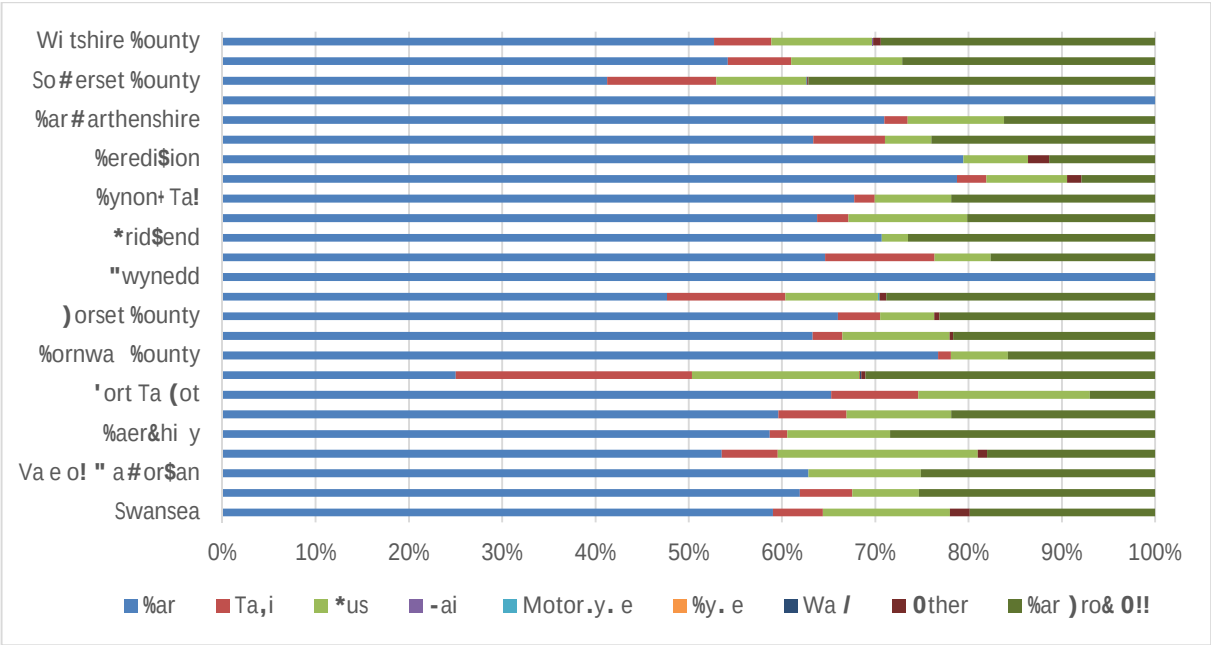
2.4.1 Bristol Airport passenger's mode share varies by catchment area and time of the year, which in turn reflects the nature of journey purpose and the transport options available.

2.4.2 The CAA passenger survey provides data on passenger's mode of travel to and from Bristol Airport as well as origin geographical area.

2.4.3 Bristol Airport has historically monitored public transport mode share using the ticket information for the Bristol Flyer bus service and several other third party providers. The 2017 ticket information indicates that the current passenger public transport mode share is 12.5%. Therefore, the CAA data has been used to understand how mode share varies by journey origin based on the overall public transport mode share of 12.5%.

2.4.4 **Figure 2.7** details the current mode share by catchment.

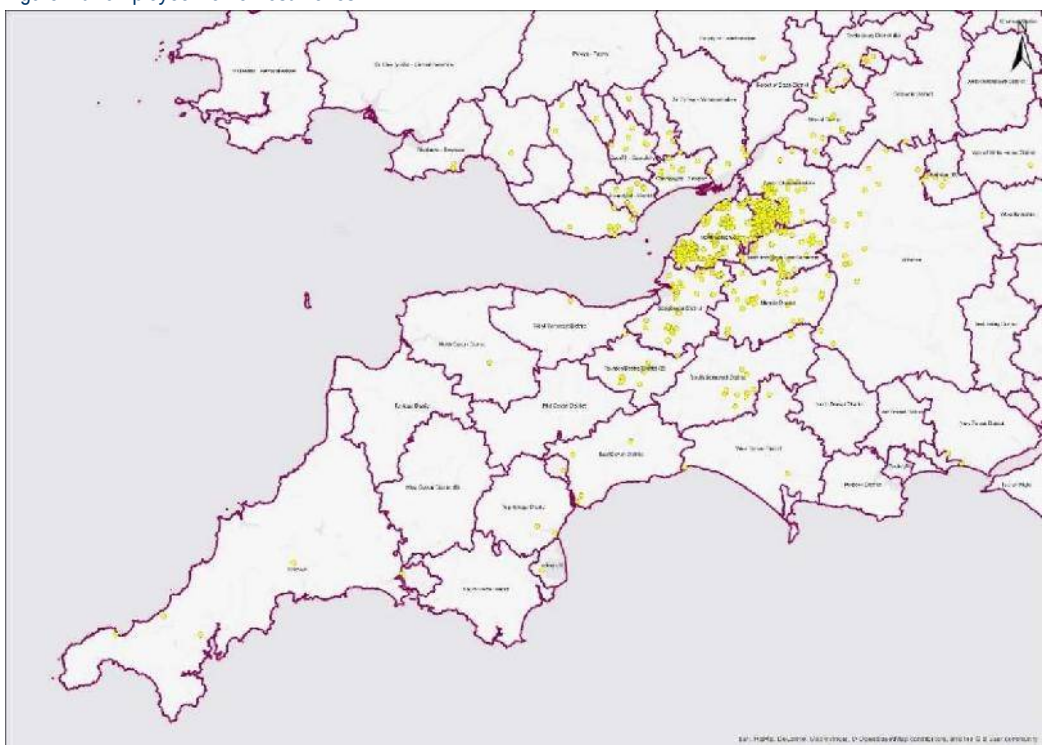
Figure 2.7: , o!e .+are by 4at5+ ' ent



2.5 Employee Catchment

2.5.1 Currently 3,459 Full Time Equivalents (FTE) are employed at the Bristol Airport site, the majority work shift patterns. BIA carried out a staff travel survey for the Staff Travel Plan for the Bristol Airport site in 2017 which had a response rate of 828 employees, representing 24%. **Figure 2.8** shows the home postcodes of staff at the Bristol Airport site.

Figure 2.&: 6 ' ployee 7o ' e Post 4o!es



2.5.2 **Table 2.7** presents the percentage of Bristol Airport employees home postcode per Local Authority.

Table 2.7: 6 ' ployee 4at5+ ' ent by 8o5al Aut+ority

Local Authority	Percentage
North Somerset	31%
City of Bristol	24%
South Gloucestershire	10%
Bath & North East Somerset	7%
Sedgemoor District	7%
Mendip District	4%
Wiltshire	2%
South Somerset District	1%
Caerdydd - Cardiff	1%
Casnewydd - Newport	1%
Stroud District	1%
Taunton Deane District	1%
Sir Fynwy - Monmouthshire	1%
Bro Morgannwg - the Vale of Glamorgan	1%
Caerffili - Caerphilly	1%
Swindon	1%
Others	6%
Total	**100%**

2.5.3 As shown in **Table 2.7**, 55% of employees have a home postcode in either North Somerset or the City of Bath.

2.5.4 Employees (319) with a home post code in North Somerset has been reviewed to identify percentage split per large residential catchments. This is presented in **Table 2.8.**

Table 2.&: 6 ' ployee $rigin\Destination

North Somerset	Percentage
Weston-super-Mare	54%
Portishead	16%
Clevedon	4%
Nailsea	14%
Winscombe	5%
Yatton	7%
Total	**100%**

2.5.5 Bristol Airport is operational 24 hours a day, 7 days a week, 52 weeks of the year. The number of staff present at the Bristol Airport site will therefore vary across the year. As with the passenger annual trends the number of staff present at the Bristol Airport site will peak in the

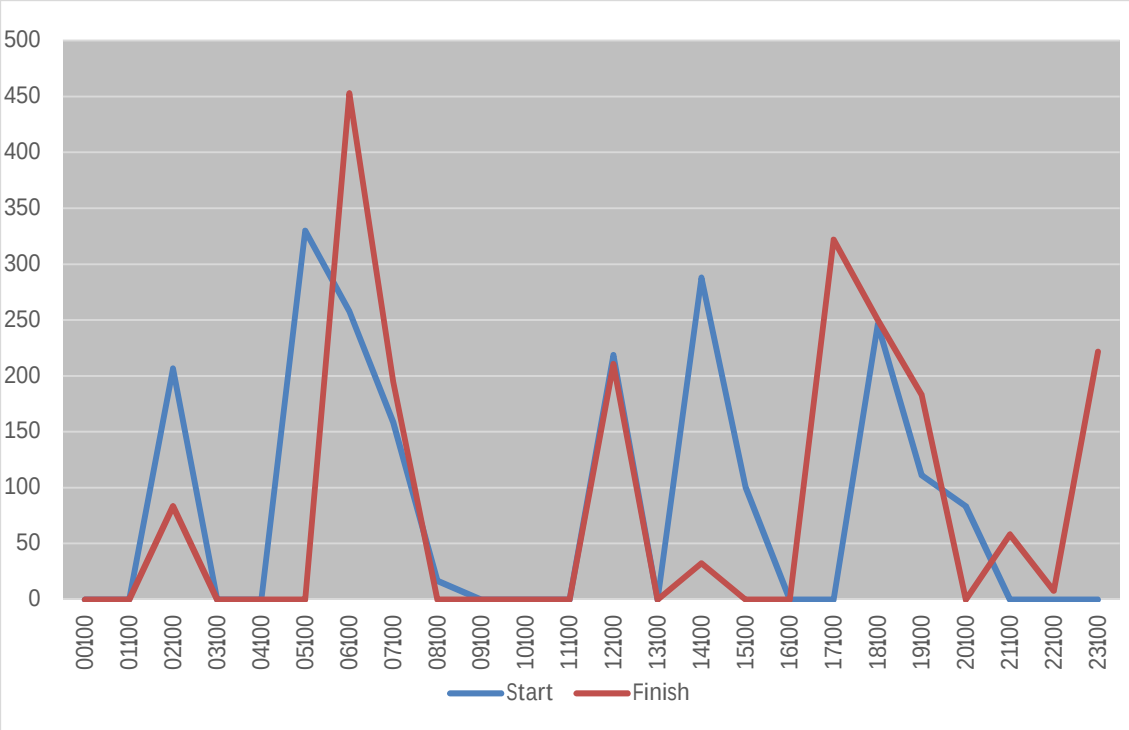
summer months. Similar, to the passenger trends the number of staff present per day will also vary. Friday would generally represent the busiest day for the number of staff present at the Bristol Airport site.

2.5.6 The staff travel survey indicates that 55% of staff work varied shift patterns. BAL have provided typical shift patterns which have been used to calculate staff start and finish times.

2.5.7 Many of the operators at the Bristol Airport site operate on rolling shifts with between three to five days on and three to five days off. BAL have confirmed that on an average day in the peak months 58% (2,108) of the FTE would be working at the Bristol Airport site at one time.

2.5.8 **Figure 2.9** presents the daily staff profile at the Bristol Airport site.

Figure 2.9: . taff . tart an ! Finis+ Profile



2.5.1 **Table 2.9** presents the current staff shift patterns. This has been calculated on the level of staff present (2,018 FTE's) on any given day during the peak summer months and the current shift patterns recorded in the 2017 staff travel survey.

Table 2.9: Daily 6 ' ployee Trip 1eneration Daily Profile in Pea" . u ' ' er , ont+s

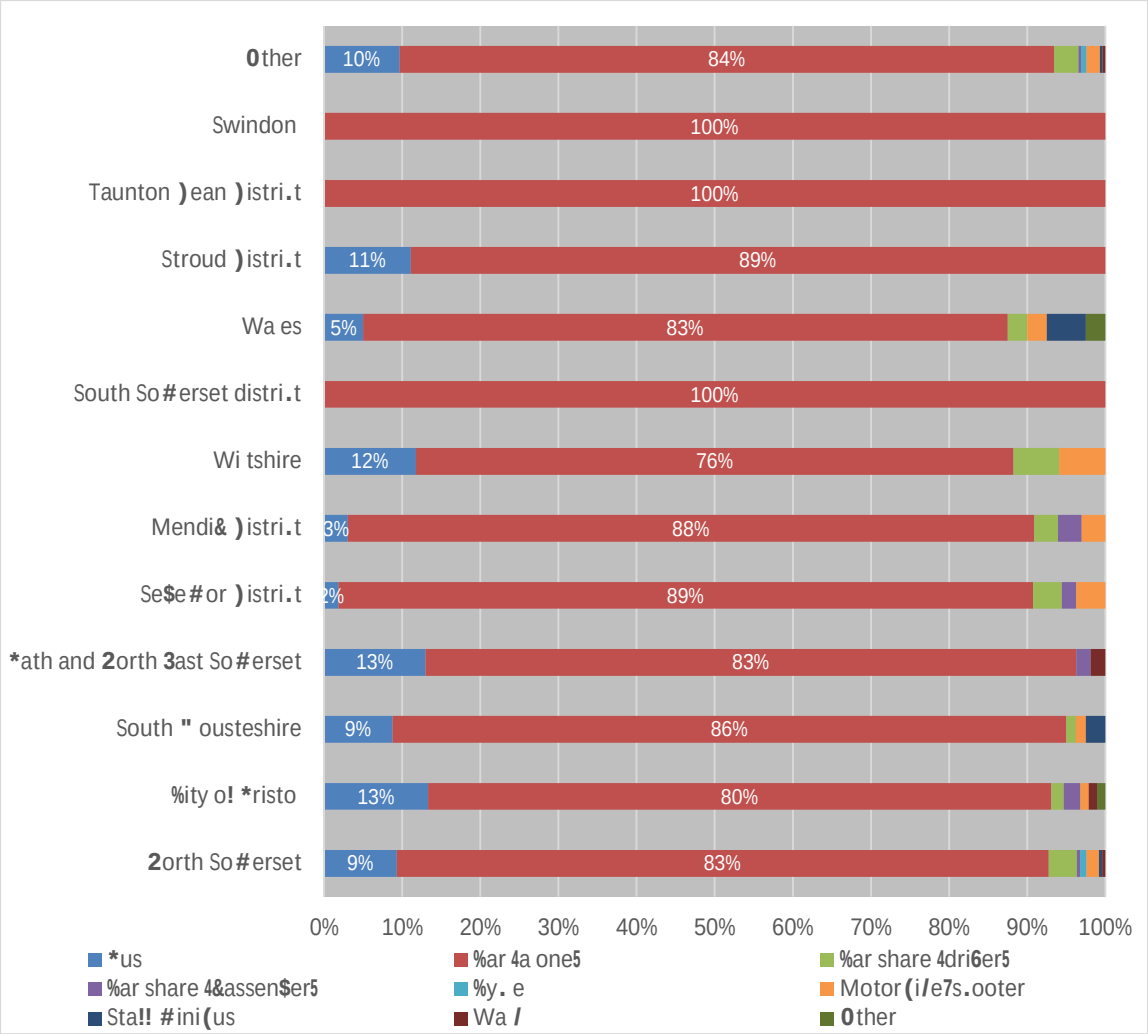
Time	Start	Finish	Total
00:00 - 01:00	0	0	0
01:00 – 02:00	0	0	0
02:00 – 03:00	207	84	290
03:00 – 04:00	0	0	0
04:00 – 05:00	0	0	0
05:00 – 06:00	330	0	330
06:00 – 07:00	258	453	711
07:00 – 08:00	**159**	**195**	**353**

Time	Start	Finish	Total
08:00 – 09:00	**17**	**0**	**17**
09:00 – 10:00	**0**	**0**	**0**
10:00 – 11:00	0	0	0
11:00 – 12:00	0	0	0
12:00 – 13:00	219	211	429
13:00 – 14:00	0	0	0
14:00 – 15:00	288	33	321
15:00 – 16:00	100	0	100
16:00 – 17:00	**0**	**0**	**0**
17:00 – 18:00	**0**	**322**	**322**
18:00 – 19:00	**246**	**250**	**496**
19:00 – 20:00	111	183	295
20:00 – 21:00	84	0	84
21:00 – 22:00	0	58	58
22:00 – 23:00	0	8	8
23:00 – 24:00	0	222	222
Daily	**2,018**	**2,018**	**4,036**

2.6 Employee Mode Share

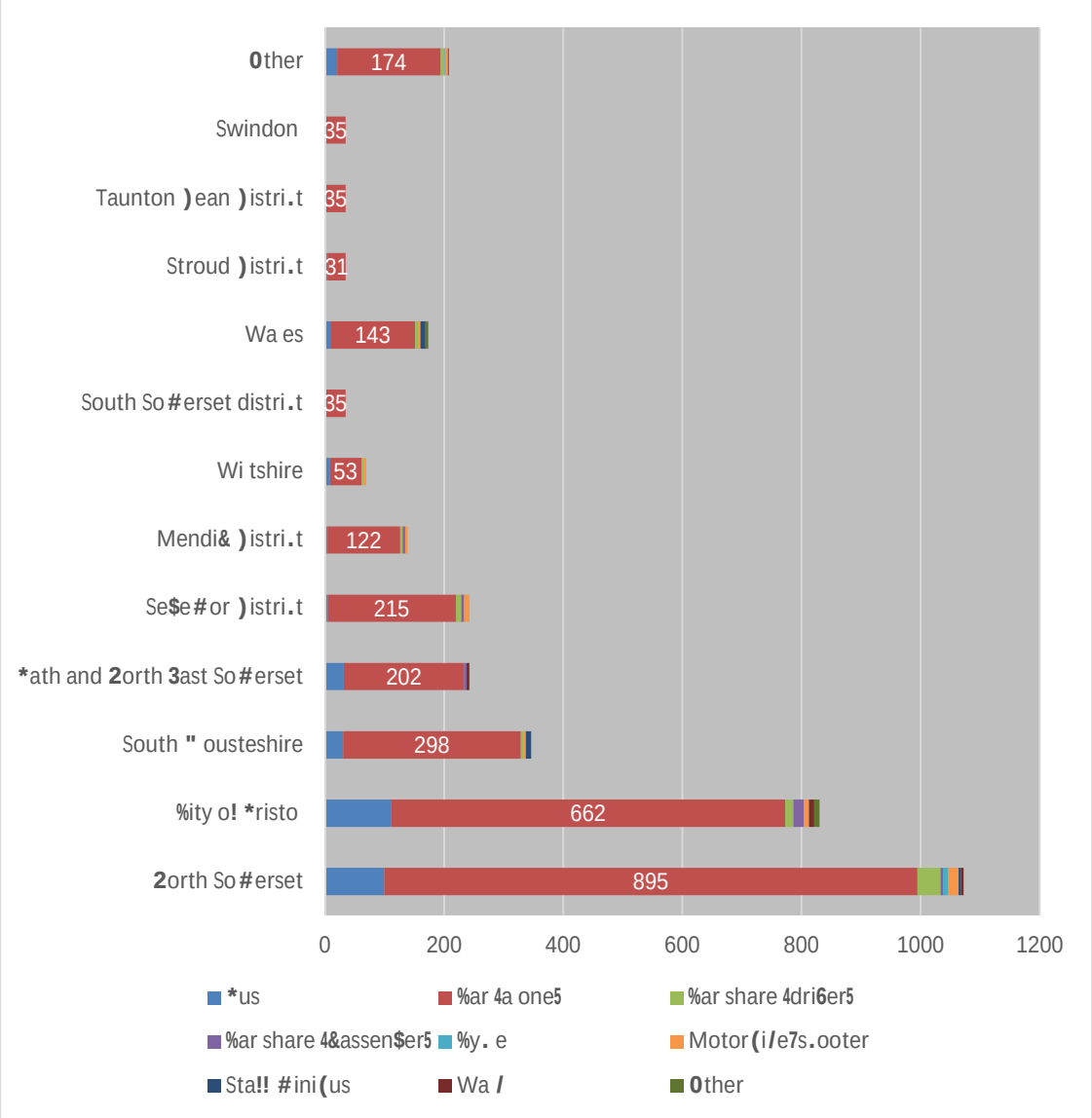
2.6.1 The 2017 staff travel survey also recorded how employees travel to the Bristol Airport site on an average workday. **Figure 2.10** presents the recorded employees modal split per Local Authority.

Table 2.10: . taff Tra el by , o!e (:)



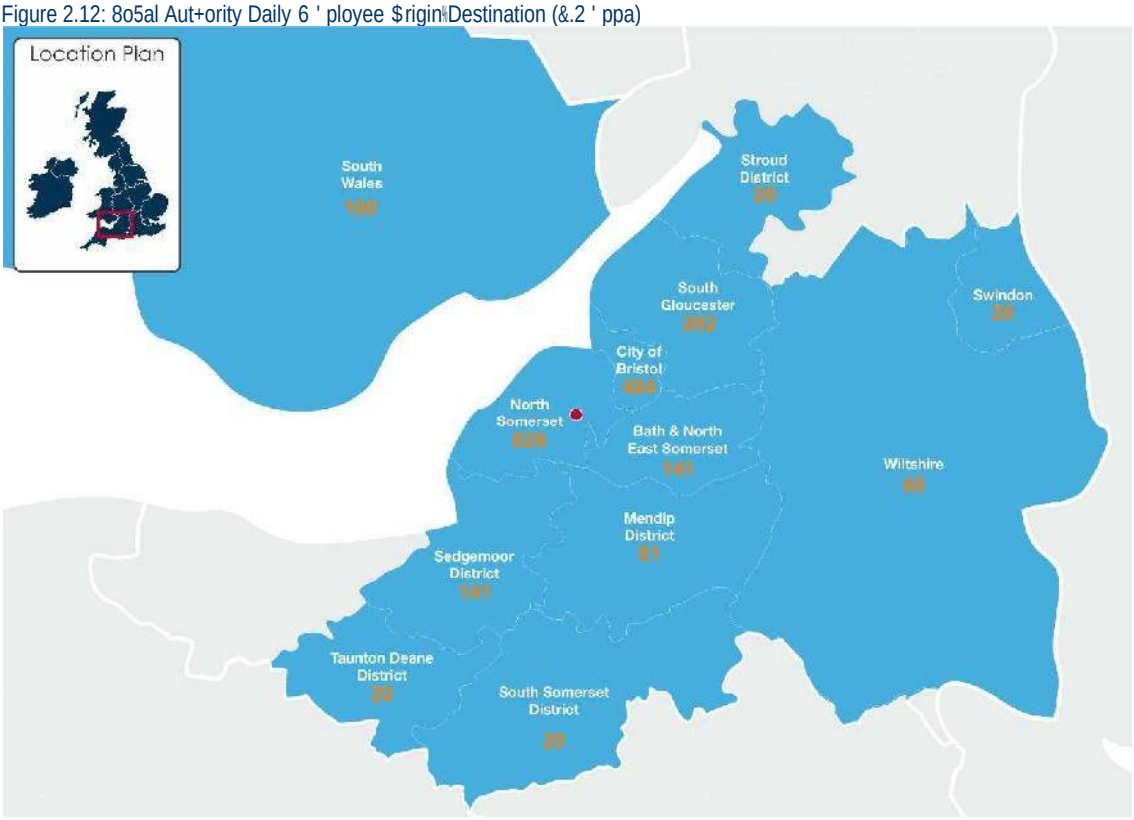
2.6.2 **Figure 2.11.** presents the employees daily modal split per Local Authority. This has been calculated based on **Table 2.6** and **Figure 2.10**.

Figure 2.11: Daily . taff , o ! al . plit per 8o5al Aut+ority



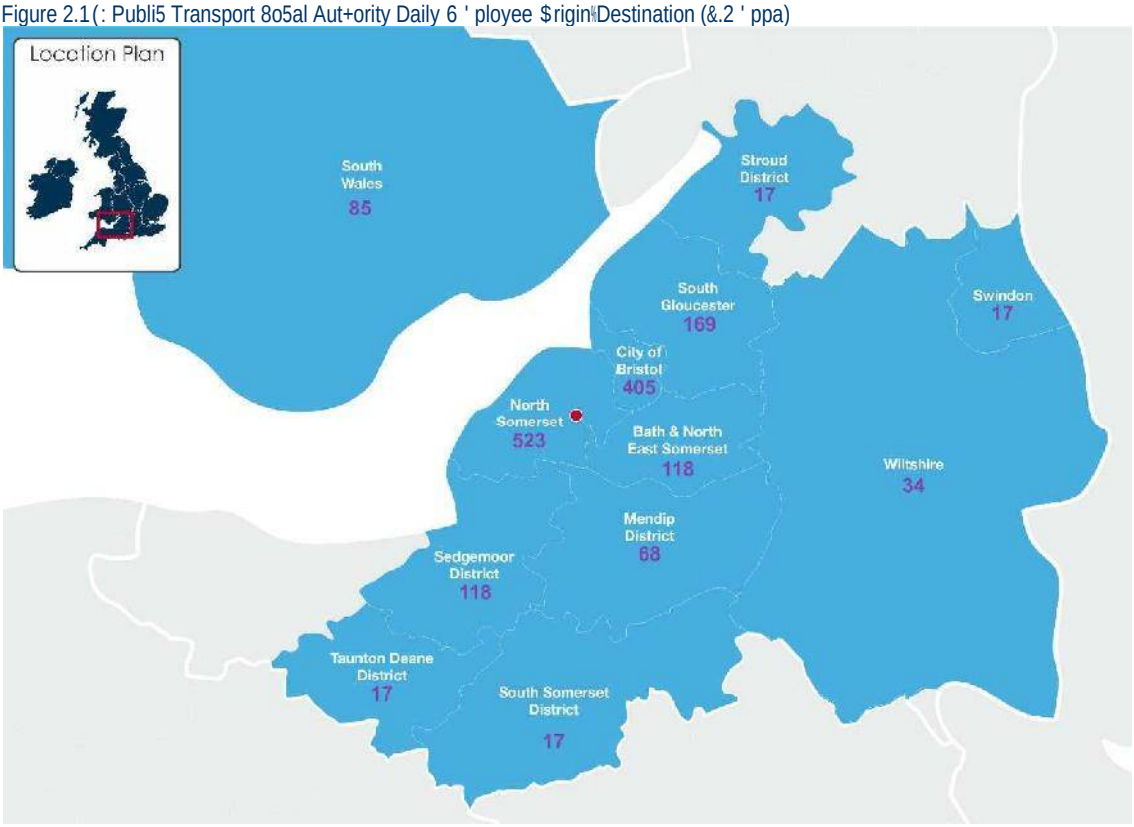
2.6.3 **Figure 2.12** shows the daily employee origin/destination for the peak month in August across local authorities based on 2017 survey data.

Figure 2.12: 8o5al Aut+ority Daily 6 ' ployee $rigin\Destination (&.2 ' ppa)



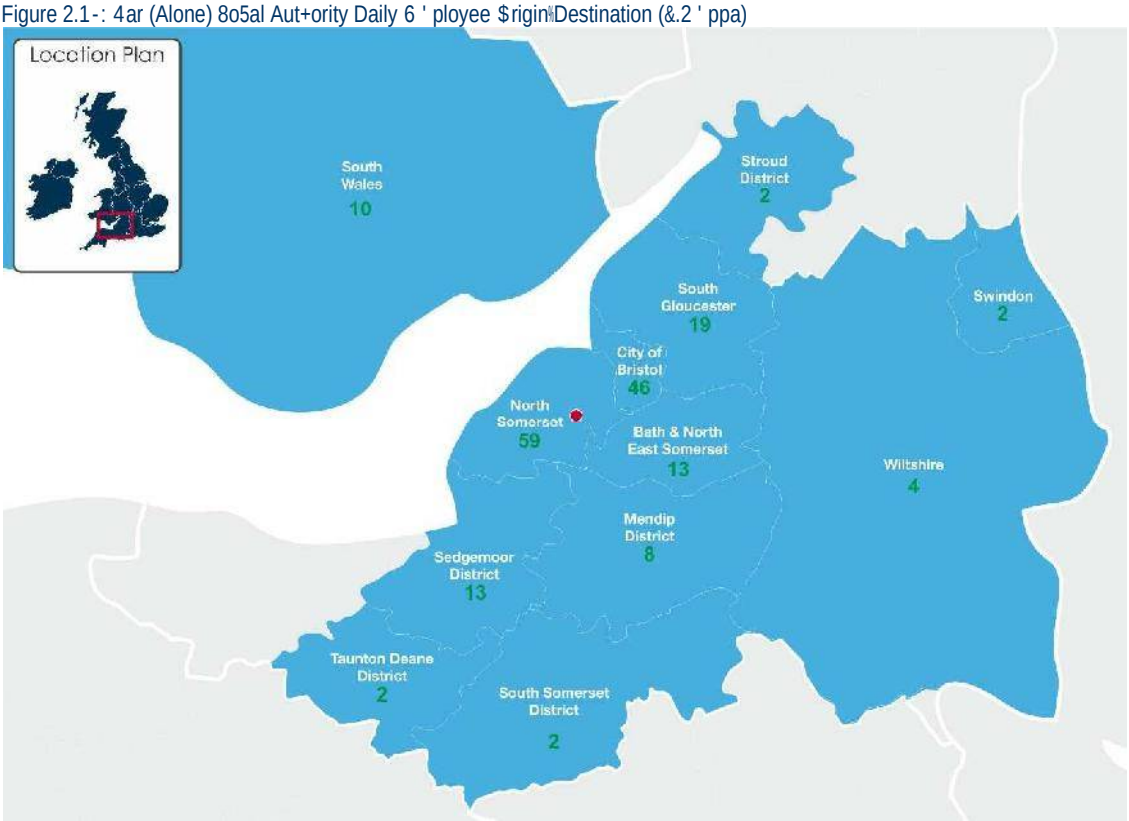
2.6.4 **Figure 2.13** shows the daily employee travelling to the Bristol Airport site via public transport.

Figure 2.1(: Publi5 Transport 8o5al Aut+ority Daily 6 ' ployee $rigin%Destination (&.2 ' ppa)



2.6.5 **Figure 2.14** shows the daily employee travelling to the Bristol Airport site via single occupancy vehicle.

Figure 2.1-: 4ar (Alone) 8o5al Aut+ority Daily 6 ' ployee $rigin%Destination (&.2 ' ppa)



2.6.6 **Table 2.10** presents the daily staff shift patterns for employees who travel to work by car (both car alone & car share driver). This has been calculated on the level of staff present on any given day in the peak months and the current shift patterns and mode share recorded in the 2017 staff travel survey.

Table 2.10: Daily 6 ' ployee ; e+i5le Trip Profile in Pea" . u ' ' er , ont+s

Time	Start	Finish	Total
00:00 - 01:00	0	0	0
01:00 – 02:00	0	0	0
02:00 – 03:00	173	70	243
03:00 – 04:00	0	0	0
04:00 – 05:00	0	0	0
05:00 – 06:00	276	0	276
06:00 – 07:00	216	379	595
07:00 – 08:00	**133**	**163**	**296**
08:00 – 09:00	**14**	**0**	**14**
09:00 – 10:00	**0**	**0**	**0**
10:00 – 11:00	0	0	0
11:00 – 12:00	0	0	0
12:00 – 13:00	183	176	359
13:00 – 14:00	0	0	0
14:00 – 15:00	241	27	268
15:00 – 16:00	84	0	84
16:00 – 17:00	**0**	**0**	**0**
17:00 – 18:00	**0**	**269**	**269**
18:00 – 19:00	**206**	**209**	**415**
19:00 – 20:00	93	153	246
20:00 – 21:00	70	0	70
21:00 – 22:00	0	49	49
22:00 – 23:00	0	7	7
23:00 – 24:00	0	185	185
Daily	**1,688**	**1,688**	**3,376**

2.7 Logistics Movements

2.7.1 With regards to the development proposals effects on logistics movements at the Bristol Airport site, BIA have stated that these can be classified in to the following categories:

a. Fuel Tankers

b. Car Rental Deliveries

c. Operational Deliveries

2.7.2 As with passenger trends, the number of logistics movements at the Bristol Airport site varies throughout the year and peaks in the summer months.

2.7.3 Based on the previous 12 months, the Bristol Airport site had 4,631 deliveries of aviation fuel. In the peak month of August approximately 11% of the 4,631 annual inbound logistics movements were deliveries. This relates to 16 deliveries per day.

2.7.4 Bristol Airport is open 24 hours and stores and catering is available between the hours of the first and last departing flight each day.

2.7.5 BIA have provided the delivery schedule for retailers who operate at the Bristol Airport site. In the peak month of August there are 23 deliveries per day associated with these operators.

2.7.6 There are currently eight national car hire companies based in Bristol Airport, all of which receive car rental deliveries daily. There are approximately 60 deliveries per week, 77% of which occur between Monday to Friday. This relates to an average of 10 deliveries per day.

2.7.7 **Table 2.11** sets out a typical week day delivery schedule for each classification of vehicle.

Table 2.11: 6<isting Deli ery .5+e!ule

Time	Fuel Deliveries	Car Rental Deliveries	Operational Deliveries	Total
00:00 - 01:00	0	0	0	0
01:00 – 02:00	0	0	0	0
02:00 – 03:00	0	0	0	0
03:00 – 04:00	0	0	0	0
04:00 – 05:00	0	0	2	2
05:00 – 06:00	0	1	2	3
06:00 – 07:00	0	1	1	2
07:00 – 08:00	0	1	2	3
08:00 – 09:00	1	1	4	6
09:00 – 10:00	0	1	4	5
10:00 – 11:00	2	1	2	4
11:00 – 12:00	0	2	1	3
12:00 – 13:00	3	0	0	3
13:00 – 14:00	0	0	1	1
14:00 – 15:00	2	0	2	4
15:00 – 16:00	0	1	2	3
16:00 – 17:00	1	1	0	2
17:00 – 18:00	0	1	0	1
18:00 – 19:00	0	0	0	0
19:00 – 20:00	2	1	0	3
20:00 – 21:00	0	1	0	1
21:00 – 22:00	0	1	0	1
22:00 – 23:00	0	1	0	1
23:00 – 24:00	0	1	0	1
Daily	**10**	**16**	**23**	**49**

2.7.8 The airport receives six deliveries during the AM peak and one delivery during the PM peak on a typical week day during the month of August.

2.7.9 The airport receives a total of 49 deliveries per day on a typical week day.

3 Bristol Airport Forecast Travel Demand

3.1 Introduction

3.1.1 This chapter sets out the approach and methodology adopted for deriving the multi-modal trip generation for the consented 10mppa and the proposed 12mppa scheme at Bristol Airport.

3.2 Passenger Annual Profile

3.2.1 BIA projections to 10mppa and 12mppa are based on the recorded monthly passenger profile from 2017. This is supported by historic annual trends at Bristol Airport for the past 5 years.

3.2.2 **Table 3.1** sets out the projected passenger profile for 10mppa and 12mppa per month and for an average (mean) day within the month. **Table 3.1** also provides a comparison between the consented 10mppa and the 12mppa proposals.

Table (.1: Passenger Profile 10 ' ppa an! 12 ' ppa

Month	Passenger % per Month	2021 (10mppa)		2026 (12mppa)		Difference (2mppa)	
		Month	Average Day	Month	Average Day	Month	Average Day
January	5.8%	579,019	18,678	69,4823	22,414	115,804	3,736
February	5.9%	594,475	21,231	71,3370	25,478	118,895	4,246
March	7.0%	695,106	22,423	83,4127	26,907	139,021	4,485
April	8.2%	817,698	27,257	98,1238	32,708	163,540	5,451
May	9.4%	942,090	30,390	1,130,508	36,468	188,418	6,078
June	10.3%	1,034,035	34,468	1,240,842	41,361	206,807	6,894
July	10.6%	1,061,809	34,252	1,274,171	41,102	212,362	6,850
August	**11.0%**	**1,098,181**	**35,425**	**1,317,817**	**42,510**	**219,636**	**7,085**
September	10.2%	1,021,950	34,065	1,226,340	40,878	204,390	6,813
October	9.3%	93,4502	30,145	1,121,403	36,174	186,900	6,029
November	5.9%	593,448	19,782	712,137	23,738	118,690	3,956
December	6.3%	627,687	20,248	753,224	24,298	125,537	4,050
Year	100%	**10,000,000**	**27,397**	**12,000,000**	**32,877**	**2,000,000**	**5,479**

3.2.3 As can be seen from **Table 3.1** the Development Proposals are predicted to result in a peak daily uplift of 7,085 passengers in the summer month of August.

3.3 Passenger Catchment

3.3.1 As set out within **Section 7.3** historically passenger growth at Bristol Airport has been primarily from the South West and Wales. Passenger growth for 10mppa and the 12mppa is predicted to continue in this trend by introducing new destinations. This will be more attractive to those from the South West and Wales, who would otherwise travel beyond Bristol Airport to make these journeys. For other regions, this is not the case.

3.3.2 Furthermore, strategic infrastructure being promoted as part of the West of England Joint Spatial Plan (JSP) is also unlikely to be delivered before the predicted 12 mppa year of 2026, and will not therefore materially alter passenger catchment before the 2026 horizon.

3.3.3 For these reasons, growth projections achieved from the South West and South Wales only. **Table 3.2** sets out the predicted 10mppa and 12mppa growth per area.

Table (.2: Passenger $rigin ⅛ Destination (10 ' ppa = 12 ' ppa)

Region	2021 10mppa	2026 12mppa	Difference 2mppa
East Midlands	9,067	9,067	0
East of England	9,067	9,067	0
North East	1,649	1,649	0
North West	11,540	11,540	0
Scotland	17,309	17,309	0
South East	121,166	121,166	0
South West	7,773,308	9,383,308	1,610,000
Wales	1,882,975	2,272,975	390,000
West Midlands	166,501	166,501	0
Yorkshire	7,418	7,418	0
Total	**10,000,000**	**12,000,000**	**2,000,000**

(.(.- **Table 3.3** presents the passenger catchment for an average day in the park month of August for both the 10mppa and 12mppa scenarios. This has been based on the information set out within **Table 3.1** and **Table 3.2**.

Table (.(:) * Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August (10 ' ppa = 12 ' ppa)

Region	Passenger per Day in August 10mppa	Passenger per Day in August 12mppa	Daily Difference in August
East Midlands	32	32	0
East of England	32	32	0
North East	6	6	0
North West	41	41	0
Scotland	61	61	0
South East	429	429	0
South West	27,262	32,909	+5,647
Wales	6,946	8,384	+1,438
West Midlands	590	590	0
Yorkshire	26	26	0
Total	**35,425**	**42,510**	**+7,085**

3.3.5 It can be seen from **Table 3.3**, on an average day in the peak month of August an additional 5,646 (80%) of passengers have an origin and destination in the South West because of the Development Proposals.

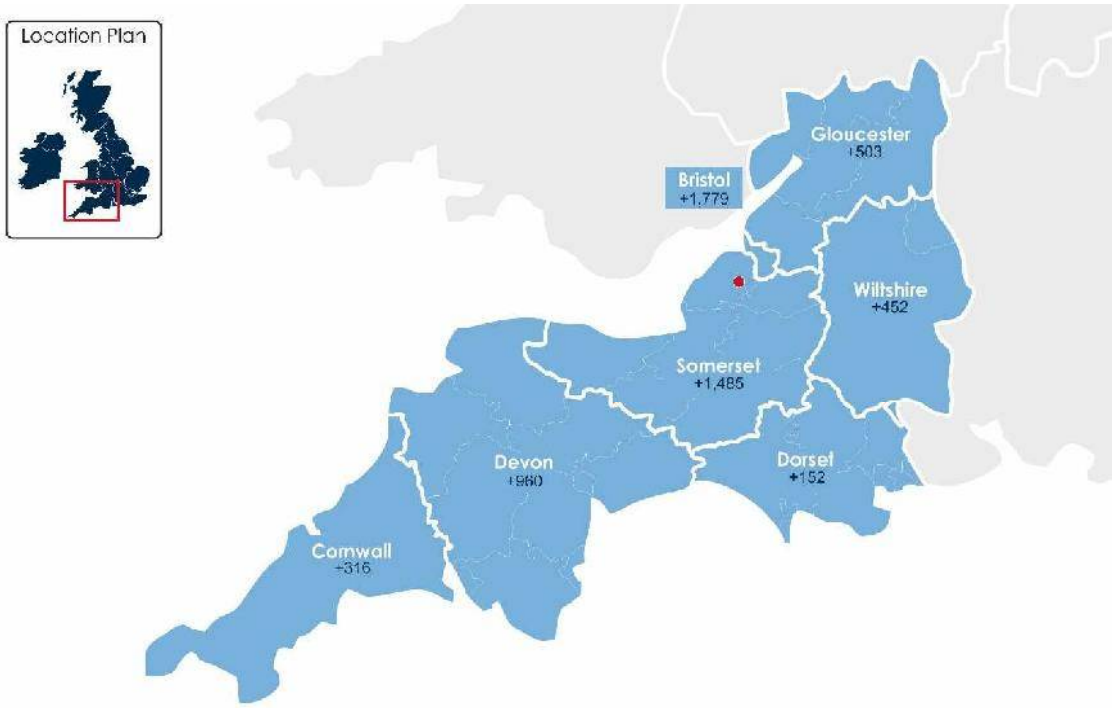
3.3.6 As set out in **Table 3.4** regional catchment for the South West has been determined for the 10mppa and 12mppa utilising the current South West percentages set out in **Table 2.4**.

Table (.-: . out+ / est Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August (10 ' ppa = 12 ' ppa)

South West	Passenger Percentage	Passenger per Day 10mppa	Passenger per Day 12mppa	Difference 2mppa
City of Bristol	31.5%	8,588	10,366	+1,779
Cornwall	5.6%	1,527	1,843	+316
Devon	17.0%	4,635	5,595	+960
Dorset	2.7%	736	889	+152
Gloucestershire	8.9%	2,426	2,929	+503
Somerset	**26.3%**	**7,170**	**8,655**	**+1,485**
Wiltshire	8.0%	2,181	2,633	+452
Total	**100.0%**	**27,262**	**32,909**	**+5,647**

3.3.7 **Figure 3.1** shows the South West and Wales daily passenger increase as a result of the Development Proposals for the peak month of August.

Figure (.1: . out+ / est an! / ales Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August



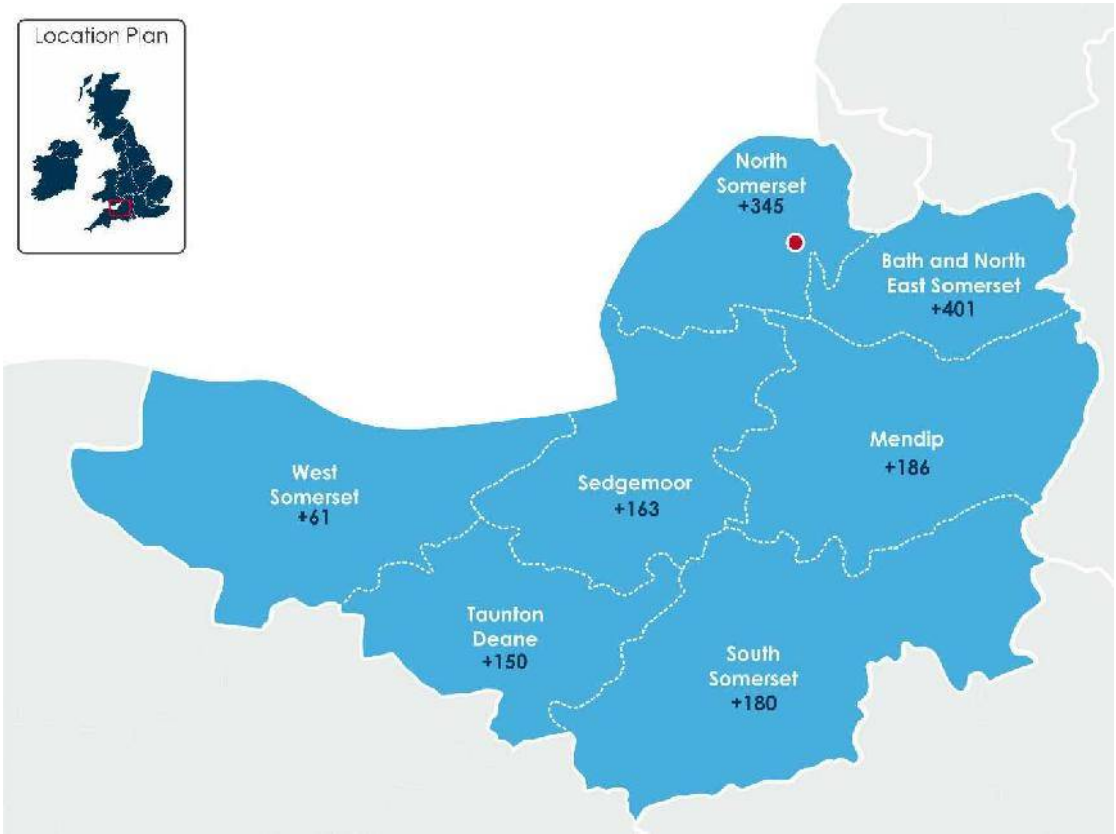
3.3.8 **Table 3.5** presents the passenger catchment within each Local Authority in the Somerset region for an average day in the peak month of August for the 10mppa and 12mppa scenario.

Table (.0: . o ' erset Daily Passenger $rigin ⅋ Destination for t+e Pea" , ont+ of August (10 ' ppa = 12 ' ppa)

Somerset	Passenger Percentage	Passenger per Day 10mppa	Passenger per Day 12mppa	Difference 2mppa
North Somerset	23.2%	1,663	2,008	345
Bath & North East Somerset	27.0%	1,936	2,337	401
Mendip District	12.5%	896	1,082	186
Sedgemoor District	11.0%	789	952	163
South Somerset	12.1%	868	1,047	180
Taunton Deane	10.1%	731	874	150
West Somerset	4.1%	301	355	61
Total	**100.0%**	**7,170**	**8,655**	**1,485**

3.3.9 **Figure 3.2** shows the Local Authorities within Somerset daily increase in passenger origin / destination for the peak month of August as a result of the Development Proposals.

Figure (.2: . o ' erset Daily Passenger $rigin ⅋ Destination for t+e Pea" , ont+ of August



3.3.10 **Table 3.6** shows the daily passenger numbers from each origin / destination within North Somerset for the peak month of August 2017.

Table (.2: 3ort+ .o ' erset Daily Passenger $rigin ⅛ Destination for t+e Pea" , ont+ of August

	Percentage	8.2mppa
Weston-super-Mare	46%	680
Portishead	21%	308
Clevedon	16%	243
Nailsea	17%	254
Total	**100%**	**1,485**

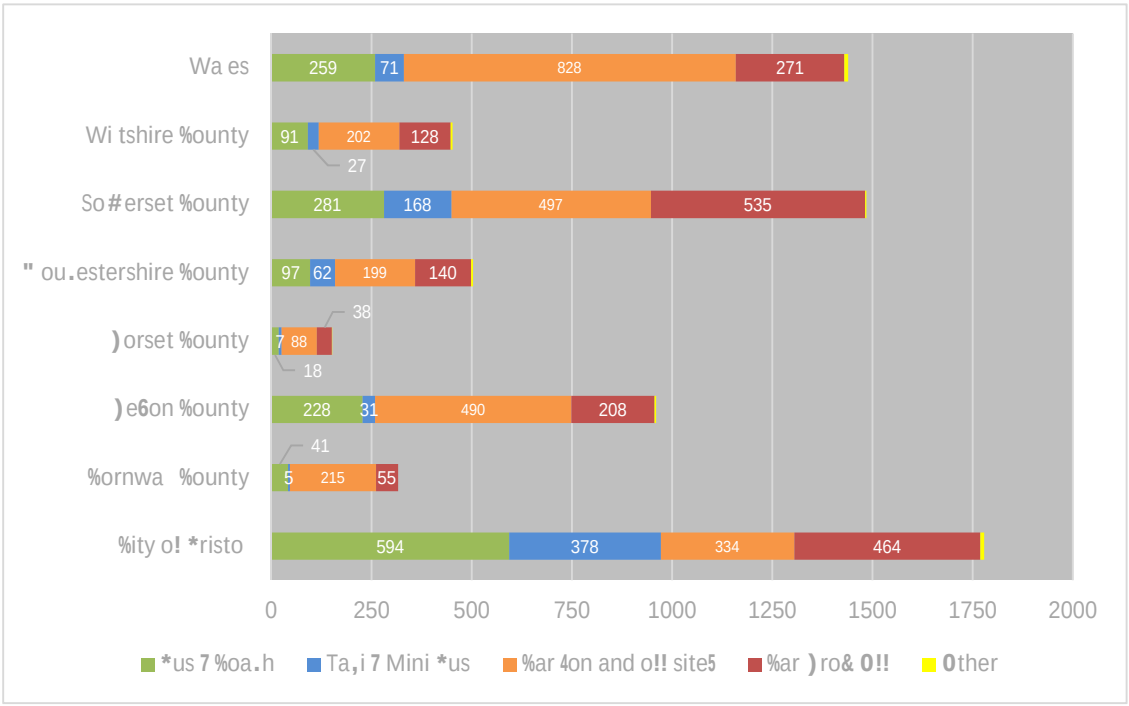
3.4 Forecast Passenger Mode Share

3.4.1 As set out in **Section 2.4**, CAA data has been used to understand mode share characteristics for each catchment.

3.4.2 The consented planning application for growth to 10mppa forecasts that the public transport mode share will reach 15% at 10mppa and therefore for the forecast mode share is based on CAA data to understand how mode share varies by journey origin based on the overall public transport mode share of 15%.

3.4.3 **Figure 3.3** presents the predicted daily passenger modal split for the peak month of August for each growth area. This has been calculated by additional passenger increase set out in **Table 3.3** and passenger modal split presented in **Figure 2.6**.

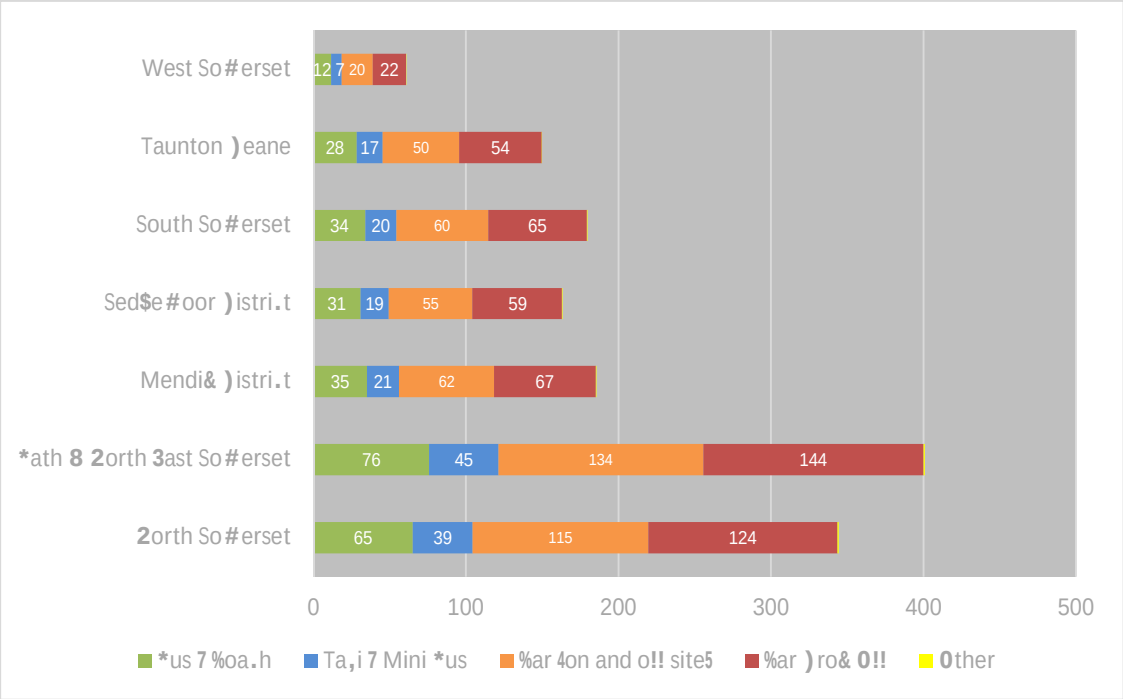
Figure (.(: >egional A!!itional 2 ' ppa Daily Passenger , o!al .plit in August



3.4.4 As presented in **Figure 3.3**, it is predicted that 23% (1,610) of the additional 7,085 daily passengers will travel to/from Bristol Airport via public transport in the peak month of August.

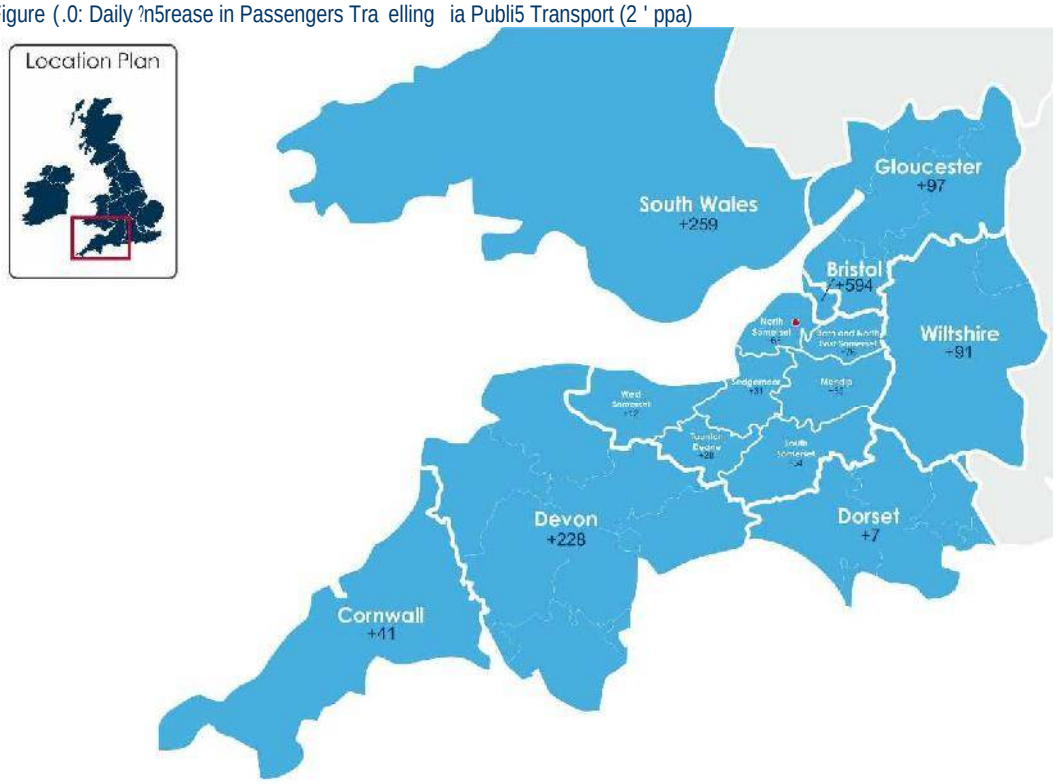
3.4.5 **Figure 3.4** shows the additional passenger modal split for Somerset per Local Authority. This has been calculated by additional passenger increase set out in **Table 3.5** and passenger modal split presented in **Figure 2.6**.

Figure (.-: .o ' erset A! !itional 2 ' ppa Daily Passenger , o!al . plit in August



3.4.6 **Figure 3.5** shows the additional daily passenger travelling via public transport per Local Authority in the peak month of August.

Figure (.0: Daily ?n5rease in Passengers Tra elling ia Publi5 Transport (2 ' ppa)



3.4.7 To establish car movements, it is necessary to quantify vehicle occupancy levels. **Table 3.7** presents vehicle occupancy for the South West and Wales for passenger who travel via Taxi /

Mini Bus and Car (both parked and dropped off), as recorded in the CAA annual passenger survey at Bristol Airport.

Table (.7: Passenger 1roup .i@e Analysis for t+e .out+ / est an! / ales

	City of Bristol	Cornwall	Devon	Dorset	Gloucestershire	Somerset	Wiltshire	South Wales
Taxi / Mini Bus	1.5	1.5	2.0	2.0	1.5	1.9	1.6	1.7
Car Parked	1.9	2.1	2.0	1.9	2.0	2.0	2.0	2.1
Car Drop Off	1.6	2.5	1.6	1.8	1.6	1.5	1.6	1.6

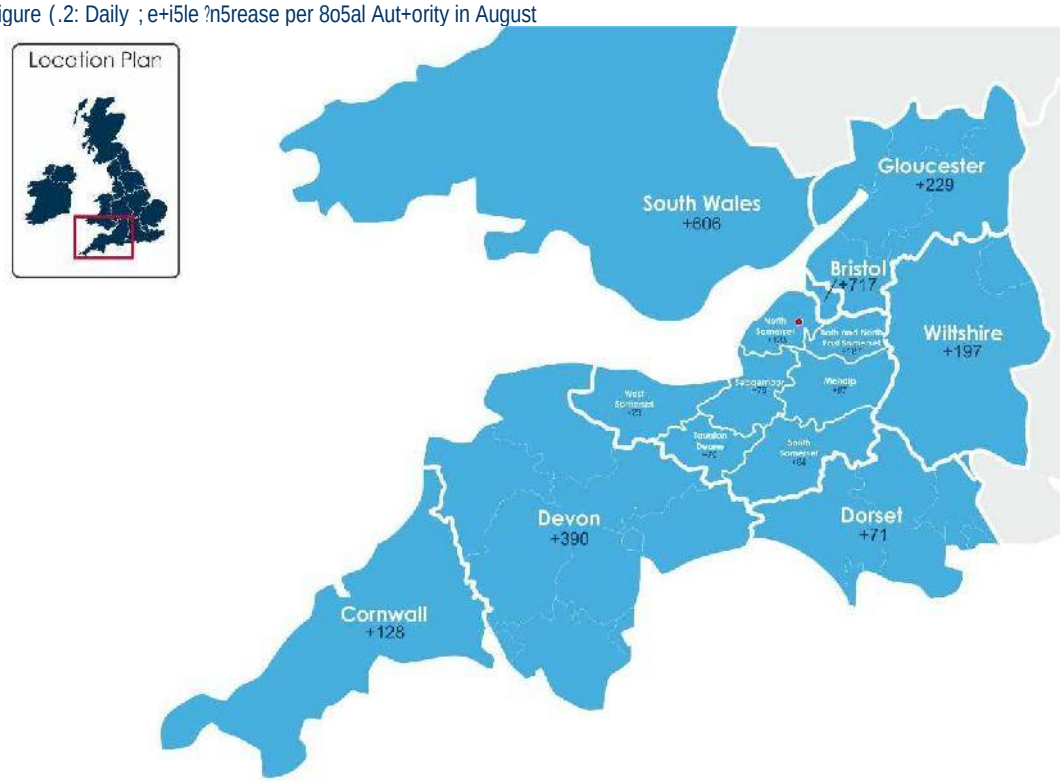
3.4.8 Passengers travelling by car (Taxi, Mini Bus and Car) highlighted within Figure 3.4 have been factored utilising the occupancy rates presented in Table 3.6 per growth area. **Table 3.8** presents the predicted daily vehicle increase during the peak month of August.

Table (.&: Daily ;e+i5le ?n5rease (2 ' ppa) per 1ro#t+ Area in Pea" ,ont+ of August

	Taxi / Mini Bus	Car Parked	Car Drop Off	Total
City of Bristol	252	176	290	717
Cornwall	3	102	22	128
Devon	15	245	130	390
Dorset	4	46	21	71
Gloucestershire	41	100	88	229
North Somerset	21	20	83	123
Bath & North East Somerset	24	67	96	187
Mendip District	11	31	45	87
Sedgemoor District	10	27	39	76
South Somerset	11	30	43	84
Taunton Deane	9	25	36	70
West Somerset	6	3	14	23
Wiltshire	17	101	80	197
Wales	42	395	169	606

3.4.9 **Figure 3.6** presents the predicted daily vehicle increase by local authority as set out in Table 3.7.

Figure (.2: Daily ; e+i5le ?n5rease per 8o5al Aut+ority in August



3.5 Passenger Arrival & Departure Dwell Analysis

3.5.1 As highlighted previously Bristol Airport serves as the operating bases for many of the Airlines (including Easy Jet and Thomas Cook). Flights are therefore scheduled to take off early in the morning to their destinations and land at the airport late at night.

3.5.2 The busiest times at Bristol Airport in terms of passenger surface access demand is prior to the typical morning network peak period. Passengers arrive to check in two to three hours before their flight is scheduled to take off. BIA have provided the average passenger dwell time for departures. This has been divided into short haul (under 6-hour flights) and long haul (over 6 hour flights) as set out in **Table 3.9**.

Table (.9: A erage Passenger D#ell Ti ' e – Departures

	0-30 Minutes	31-60 Minutes	61-90 Minutes	91-120 Minutes	120+ Minutes
Long Haul	11%	25%	24%	19%	20%
Short Haul	17%	32%	28%	13%	10%

3.5.3 BIA have also provided the passenger dwell time for arrivals, as set out within **Table 3.10**.

Table (.10: A erage Passenger D#ell Ti ' e – Arri als

	Time (Minutes)	Cumulative (Minute)
Land at Bristol Airport	-	
Taxi's to Gate	5 - 10	5 – 10
Passenger's Disembark	15 - 20	20 – 30
Passenger Walk to Immigration	5 - 10	25 – 40

	Time (Minutes)	Cumulative (Minute)
Dwell at Immigration	5 - 20	30 – 60
Baggage Reclaim	5 - 10	35 – 70
Exit Terminal	2 - 5	37 – 75

3.5.4 As can be seen from **Table 3.9** an average arrival dwell time (land to exit terminal) is approximately 1 hour.

3.5.5 Flight schedule for a week in the peak month of August for 10mppa and 12mppa scenarios have been provided by BIA. The difference between a busy day and a peak day typically is the load factor rather than the number of flights in the schedule.

3.5.6 **Figure 3.7** presents the hourly passenger arrival profile for a peak weekday in August. This has been based on the forecast flight schedule (10mppa and 12mppa) and the passenger dwell time summarised in Table 3.9.

3.5.7 **Figure 3.8** presents the hourly passenger arrival profile for a peak weekday in August. This has been based on the forecast flight schedule (10mppa and 12mppa) and the passenger dwell time summarised in Table 3.9.

Figure (.7: Daily Passenger 6<it Ter ' inal (Arri al) Profile in August

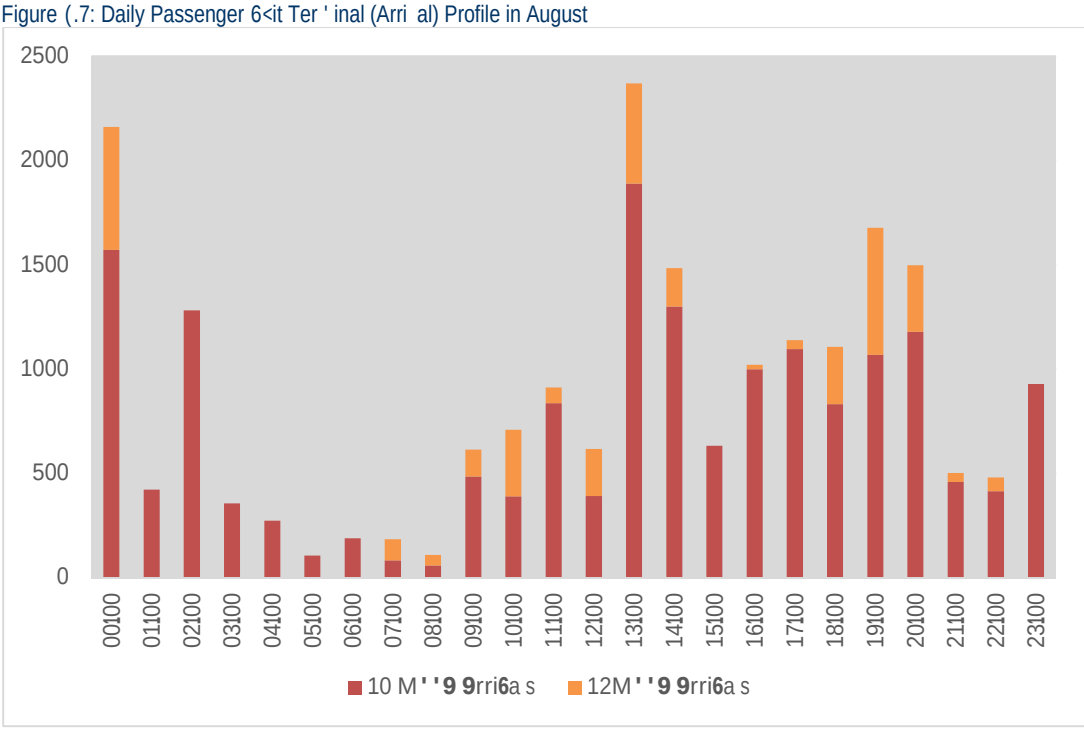
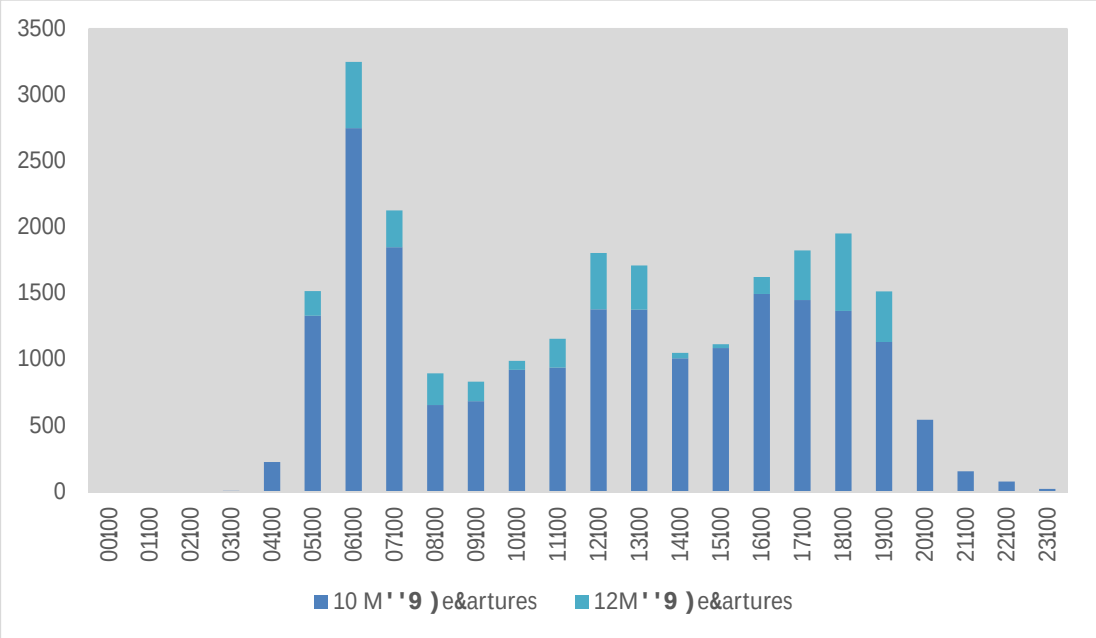


Figure (.&: Daily Passenger 4+e5" ?n (Departure) Profile in August



3.5.8 The exit terminal and check in profiles indicate that the passenger through-flow peaks at 13:00 for arrivals and 06:00 for departures.

3.5.9 **Table 3.11** present the daily arrival and departure passenger surface access demand profile for the peak month of August. This has been provided for both the 10mppa and 12mppa scenario.

Table (.11: Daily Passenger 7ourly 4+e5" ?n = 6<it Ter ' inal Profile in August

	10mppa		12mppa		Difference 2mppa	
	Exit Terminal - Arrival	Check in - Departure	Exit Terminal - Arrival	Check in - Departure	Exit Terminal - Arrival	Check in - Departure
00:00 - 01:00	1862	0	2335	0	473	0
01:00 – 02:00	499	0	874	0	375	0
02:00 – 03:00	1517	0	1517	0	0	0
03:00 – 04:00	421	8	421	8	0	0
04:00 – 05:00	324	225	510	244	186	19
05:00 – 06:00	126	1331	126	1602	0	271
06:00 – 07:00	224	2750	224	3390	0	640
07:00 – 08:00	98	1849	98	2168	**0**	**319**
08:00 – 09:00	68	656	68	748	**0**	**92**
09:00 – 10:00	573	685	727	711	**154**	**26**
10:00 – 11:00	461	923	461	965	0	42
11:00 – 12:00	991	941	1042	1178	51	237
12:00 – 13:00	464	1380	731	1833	267	453

	10mppa		12mppa		Difference 2mppa	
	Exit Terminal - Arrival	Check in - Departure	Exit Terminal - Arrival	Check in - Departure	Exit Terminal - Arrival	Check in - Departure
13:00 – 14:00	2237	1377	2758	1682	521	305
14:00 – 15:00	1540	1009	1726	1157	186	148
15:00 – 16:00	749	1089	938	1193	189	104
16:00 – 17:00	1182	1497	1209	1717	**27**	**220**
17:00 – 18:00	1298	1451	1535	1765	**237**	**313**
18:00 – 19:00	985	1368	1310	1794	**325**	**426**
19:00 – 20:00	1265	1133	1517	1452	252	320
20:00 – 21:00	1397	544	1961	544	564	0
21:00 – 22:00	543	155	594	155	51	0
22:00 – 23:00	490	77	568	77	78	0
23:00 – 24:00	1100	22	1100	22	0	0
Daily	20470	20412	24405	**24348**	**3936**	**3936**

3.6 Employee Catchment

3.6.1 BIA have provided the projected employee (FTE's) for the consented 10mppa and proposed 12mppa scheme, this is set out within **Table 3.12**.

Table (.12: 6 ' ployee 1ro#t+ (FT6)

10mppa (FTE)	12mppa (FTE)	Difference 2mppa (FTE)
3,875	4,575	700

3.6.2 BIA specifically target local area residential areas for staff recruitment. Recruitment growth will therefore be geographically weighted to the nearby residential areas. For robustness, the staff projection for the 10mppa and 12mppa has been based on the current catchment set out in Table 2.6. **Table 3.13** summarises the 10mppa and 12mppa staff levels per local authority.

Table (.1(: 6 ' ployee $rigin Destination (10 ' ppa = 12 ' ppa)

Local Authority	Employee Catchment	10mppa (FTE)	12mppa (FTE)	Difference 2mppa (FTE)
North Somerset	31%	1,201	1,418	217
City of Bristol	24%	930	1,098	168
South Gloucestershire	10%	388	458	70
Bath & North East Somerset	7%	271	320	49
Sedgemoor District	7%	271	320	49
Mendip District	4%	155	183	28
Wiltshire	2%	78	92	14

Local Authority	Employee Catchment	10mppa (FTE)	12mppa (FTE)	Difference 2mppa (FTE)
South Somerset District	1%	39	46	7
Caerdydd - Cardiff	1%	39	46	7
Casnewydd - Newport	1%	39	46	7
Stroud District	1%	39	46	7
Taunton Deane District	1%	39	46	7
Sir Fynwy - Monmouthshire	1%	39	46	7
Bro Morgannwg - the Vale of Glamorgan	1%	39	46	7
Caerffili - Caerphilly	1%	39	46	7
Swindon	1%	39	46	7
Others	6%	233	275	42
Total	**100%**	**3,875**	**4,575**	**700**

3.6.3 **Table 3.14** presents the 10mppa and 12mppa staff levels within North Somerset. This has been calculated from **Table 3.12** and the current North Somerset employee catchment profile.

Table (.1-: 6 ' ployee $rigin%Destination (10 ' ppa = 12 ' ppa)

	Percentage	2021 10mppa (FTE)	2026 12mppa (FTE)	Difference 2mppa (FTE)
Weston-super-Mare	54%	653	771	118
Portishead	16%	192	227	35
Clevedon	4%	52	62	9
Nailsea	14%	163	193	29
Winscombe	5%	58	69	11
Yatton	7%	82	96	15
Total	**100%**	**1,201**	**1,418**	**217**

3.6.4 As outlined in Section 7.5 the Bristol Airport site is operational 24 hours a day all year round. Reflecting passenger trends the level of staff also varies across the year, employee's present at the Bristol Airport site in any given day would peak in the summer months.

3.6.5 BIA have identified that the peak level of staff at the Bristol Airport site across a single day in the peak summer months would be 50% of the total FTE's.

3.6.6 **Table 3.15** presents the projected staff shift patterns for the consented 10mppa and the proposed 12mppa. This has been calculated on the level of staff present on any given day during the peak summer months and the shift patterns recorded in the 2017 staff travel survey.

Table (.10: Daily Profile of 6 ' ployee Trip 1eneration (10 ' ppa = 12 ' ppa) in Pea" .u ' ' er , ont+s

Time	10mppa			12mppa			Difference 2mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
00:00 - 01:00	8	33	40	9	39	48	1	6	8
01:00 – 02:00	0	24	24	0	29	29	0	5	5
02:00 – 03:00	148	41	189	175	48	223	27	7	34
03:00 – 04:00	156	33	189	184	39	223	28	6	34
04:00 – 05:00	164	24	188	194	29	222	30	5	34
05:00 – 06:00	141	82	222	166	96	262	25	14	40
06:00 – 07:00	398	73	471	470	87	557	72	14	86
07:00 – 08:00	343	106	449	405	125	531	**62**	**19**	**82**
08:00 – 09:00	119	0	119	141	0	141	**22**	**0**	**22**
09:00 – 10:00	150	0	150	177	0	177	**27**	**0**	**27**
10:00 – 11:00	8	24	32	9	29	38	1	5	6
11:00 – 12:00	31	24	56	37	29	66	6	5	10
12:00 – 13:00	78	196	274	92	231	323	14	35	49
13:00 – 14:00	8	122	130	9	144	154	1	22	24
14:00 – 15:00	31	41	72	37	48	85	6	7	13
15:00 – 16:00	8	139	146	9	164	173	1	25	27
16:00 – 17:00	16	155	171	18	183	201	**2**	**28**	**30**
17:00 – 18:00	9	148	157	11	174	185	**2**	**26**	**28**
18:00 – 19:00	12	127	138	14	149	163	**2**	**22**	**25**
19:00 – 20:00	86	318	404	101	375	477	15	57	73
20:00 – 21:00	0	57	57	0	67	67	0	10	10
21:00 – 22:00	16	73	89	18	87	105	2	14	16
22:00 – 23:00	8	98	106	9	116	125	1	18	19
23:00 – 24:00	0	0	0	0	0	0	0	0	0
Daily	1,938	*1*,938	3,875	2,288	2,288	4,575	**350**	**350**	**700**

3.6.7 **Figure 3.10** shows the difference in daily employee origin/destination for the peak month in August across Local Authorities between the 10mppa and 12mppa scenario.

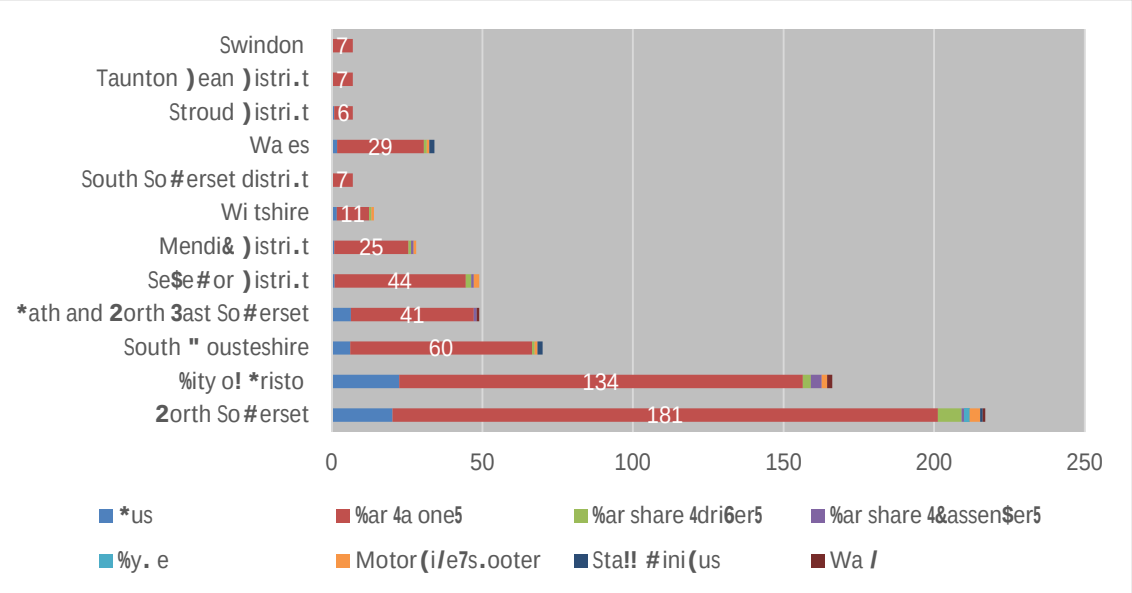
Figure (.10: 8o5al Aut+ority Daily Passenger $rigin‰Destination (2 ' ppa)

3.7 Employee Mode Share

3.7.1 To provide a robust assessment the employees catchment and shift patterns will remain as that recorded in the 2017 travel survey. This is considered appropriate as the focus is on the difference between the 10mppa consented scheme and the 12mppa proposals.

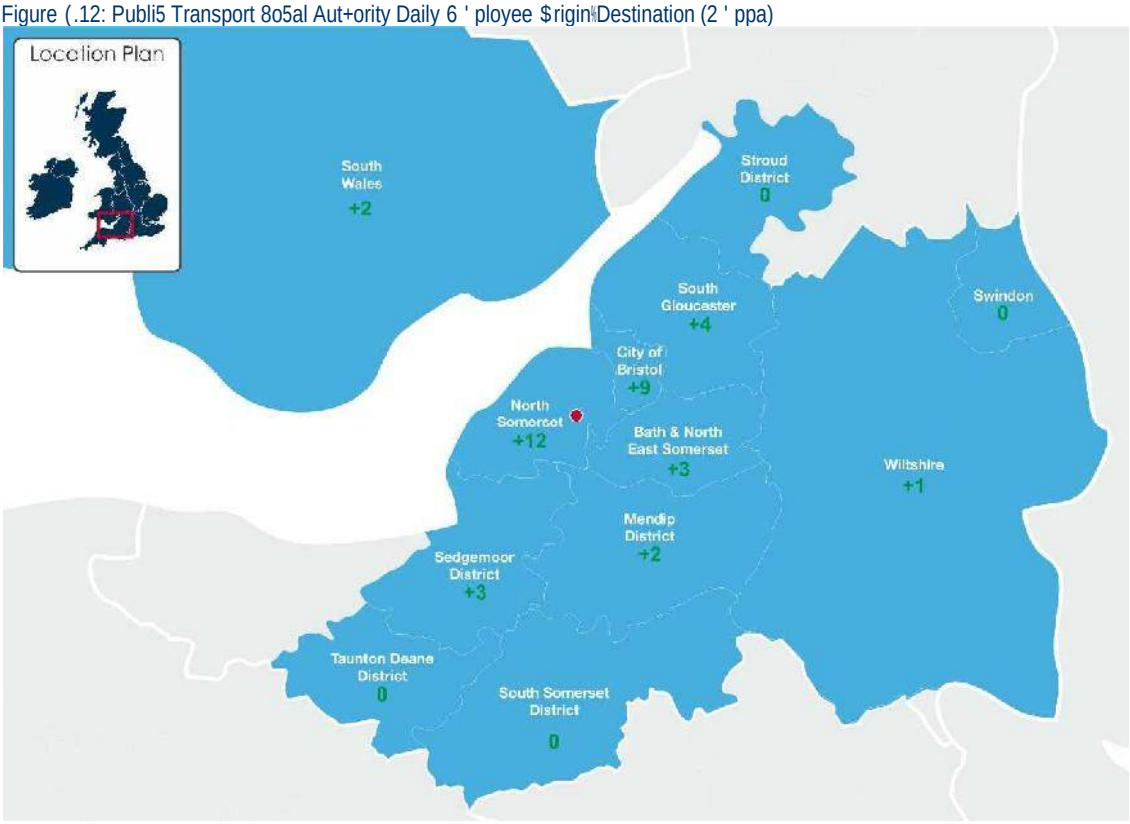
3.7.2 **Figure 3.11** presents the additional (2mppa) employee modal split in the peak summer months this has been based on **Table 2.6** and **Figure 2.11**.

Figure (.11: .taff Tra el by , o!e (:)



3.7.3 **Figure 3.12** shows the difference in daily employee travelling to the Bristol Airport site via public transport between the 10mppa consented scheme and the 12mppa scheme proposals.

Figure (.12: Publi5 Transport 8o5al Aut+ority Daily 6 ' ployee $rigin‰Destination (2 ' ppa)



3.7.4 **Table 3.16** sets out the daily staff shift patterns for employees who travel to work by public transport. This has been calculated on the level of staff present on any given day, the current shift patterns and mode share recorded in the 2017 staff travel survey. Importantly this also shows the difference between the consented 10mppa and the 12mppa scheme proposals.

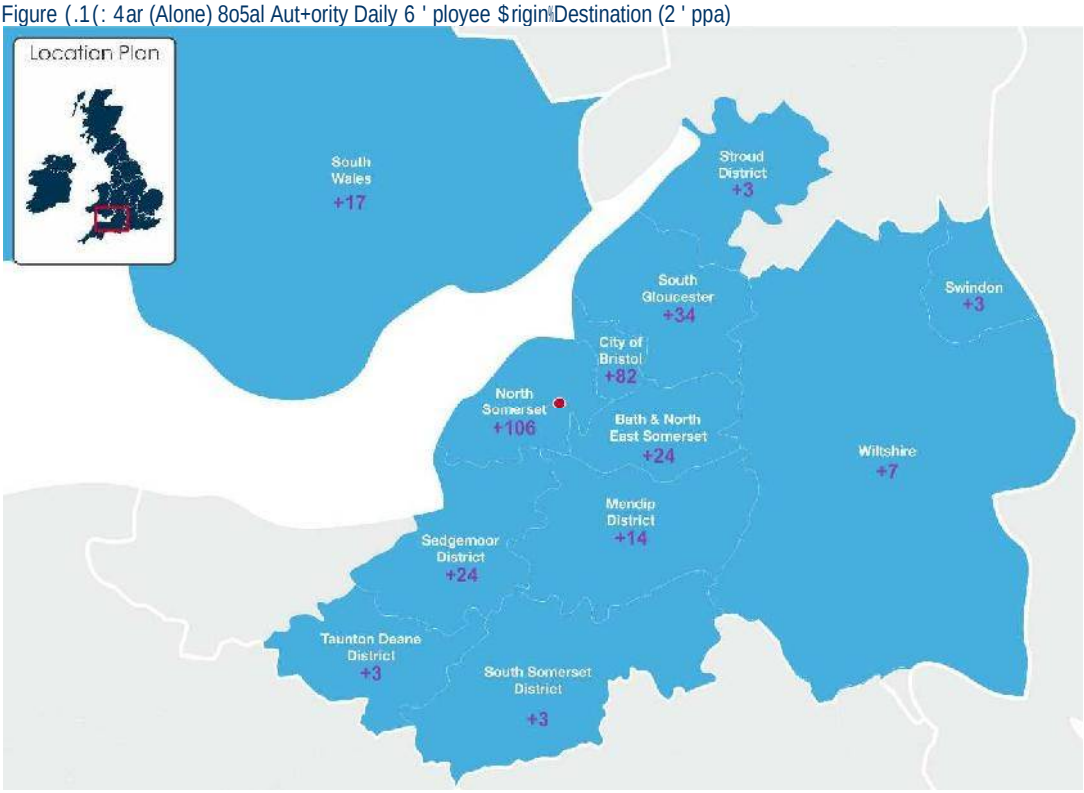
Table (.12: Daily 6 ' ployee Publi5 Transport Trip Profile in Pea" . u ' ' er , ont+s

Time	10mppa			12mppa			Difference 2mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
00:00 - 01:00	0	0	0	0	0	0	0	0	0
01:00 – 02:00	0	0	0	0	0	0	0	0	0
02:00 – 03:00	24	9	34	27	11	39	3	2	5
03:00 – 04:00	0	0	0	0	0	0	0	0	0
04:00 – 05:00	0	0	0	0	0	0	0	0	0
05:00 – 06:00	38	0	38	44	0	44	5	0	5
06:00 – 07:00	30	51	81	34	60	94	4	9	13

Time	10mppa			12mppa			Difference 2mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
07:00 – 08:00	18	22	40	21	26	47	3	4	7
08:00 – 09:00	2	0	2	2	0	2	0	0	0
09:00 – 10:00	0	0	0	0	0	0	0	0	0
10:00 – 11:00	0	0	0	0	0	0	0	0	0
11:00 – 12:00	0	0	0	0	0	0	0	0	0
12:00 – 13:00	25	24	49	29	28	57	4	4	8
13:00 – 14:00	0	0	0	0	0	0	0	0	0
14:00 – 15:00	34	4	37	38	4	43	5	1	5
15:00 – 16:00	12	0	12	13	0	13	2	0	2
16:00 – 17:00	0	0	0	0	0	0	0	0	0
17:00 – 18:00	0	36	36	0	43	43	0	7	7
18:00 – 19:00	29	28	57	33	33	66	4	5	9
19:00 – 20:00	13	21	34	15	24	39	2	4	6
20:00 – 21:00	10	0	10	11	0	11	1	0	1
21:00 – 22:00	0	7	7	0	8	8	0	1	1
22:00 – 23:00	0	1	1	0	1	1	0	0	0
23:00 – 24:00	0	25	25	0	29	29	0	5	5
Daily	**235**	**227**	**462**	**268**	**268**	**536**	**33**	**41**	**74**

3.7.5 **Figure 3.13** shows the difference in daily employee travelling to the Bristol Airport site via single occupancy vehicles between the 10mppa consented scheme and the 12mppa scheme proposals.

Figure (.1(: 4ar (Alone) 8o5al Aut+ority Daily 6 ' ployee $rigin%Destination (2 ' ppa)



3.7.6 **Table 3.17** sets out the daily staff shift patterns for employees who travel to work by car. This has been calculated on the level of staff present on any given day, the current shift patterns and mode share recorded in the 2017 staff travel survey. Importantly this also shows the difference between the consented 10mppa and the 12mppa scheme proposals.

Table (.17: Daily 6 ' ployee ; e+i5le Trip Profile in Pea" .u ' ' er , ont+s

Time	10mppa			12mppa			Difference 2mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
00:00 - 01:00	0	0	0	0	0	0	0	0	0
01:00 – 02:00	0	0	0	0	0	0	0	0	0
02:00 – 03:00	194	78	272	229	93	321	35	14	49
03:00 – 04:00	0	0	0	0	0	0	0	0	0
04:00 – 05:00	0	0	0	0	0	0	0	0	0
05:00 – 06:00	309	0	309	365	0	365	56	0	56
06:00 – 07:00	242	424	666	285	501	786	44	77	120
07:00 – 08:00	149	183	331	175	216	391	27	33	60
08:00 – 09:00	16	0	16	19	0	19	3	0	3
09:00 – 10:00	0	0	0	0	0	0	0	0	0
10:00 – 11:00	0	0	0	0	0	0	0	0	0
11:00 – 12:00	0	0	0	0	0	0	0	0	0

Time	10mppa			12mppa			Difference 2mppa		
	Start	Finish	Total	Start	Finish	Total	Start	Finish	Total
12:00 – 13:00	205	197	402	242	233	475	37	36	73
13:00 – 14:00	0	0	0	0	0	0	0	0	0
14:00 – 15:00	270	31	300	319	36	355	49	6	54
15:00 – 16:00	94	0	94	111	0	111	17	0	17
16:00 – 17:00	0	0	0	0	0	0	0	0	0
17:00 – 18:00	0	302	302	0	356	356	0	55	55
18:00 – 19:00	231	234	465	272	277	549	42	42	84
19:00 – 20:00	104	172	276	123	203	326	19	31	50
20:00 – 21:00	78	0	78	93	0	93	14	0	14
21:00 – 22:00	0	55	55	0	65	65	0	10	10
22:00 – 23:00	0	7	7	0	9	9	0	1	1
23:00 – 24:00	0	208	208	0	245	245	0	38	38
Daily	**1,891**	**1,891**	**3,782**	**2,233**	**2,233**	**4,465**	**342**	**342**	**683**

3.8 Logistics

3.8.1 As previously highlighted, the logistics trip generators have been classified into the following categories:

a. Fuel Tankers

b. Car Rental Deliveries

c. Operational Deliveries

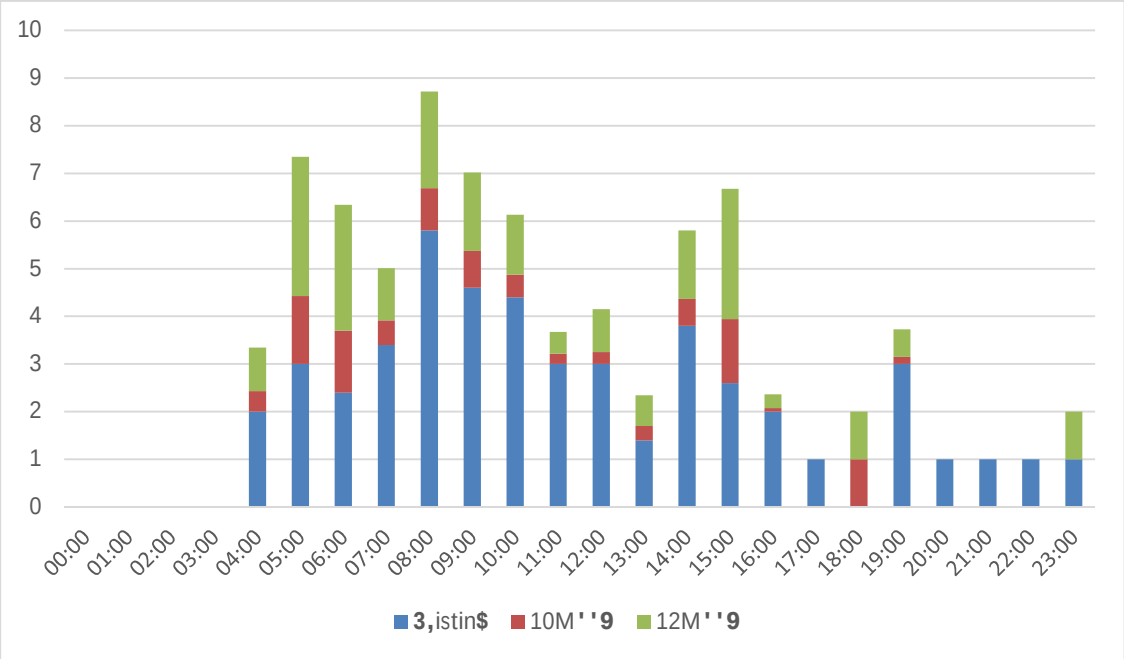
3.8.2 The vehicular trip generation calculated in **Section 7.7** has been scaled up using the passenger numbers to estimate a worst-case forecast. **Table 3.18** sets out the uplift in vehicles for each of the logistics categories.

Table (.1&: Total Daily ; e+i5les (10 ' ppa = 12 ' ppa)

	Consented 10MPPA			Proposed 12MPPA			Difference		
Time	Fuel	Car Rental	Operational	Fuel	Car Rental	Operational	Fuel	Car Rental	Operational
00:00 - 01:00	0	0	0	0	0	0	0	0	0
01:00 – 02:00	0	0	0	0	0	0	0	0	0
02:00 – 03:00	0	0	0	0	0	0	0	0	0
03:00 – 04:00	0	0	0	0	0	0	0	0	0
04:00 – 05:00	0	0	2	0	0	3	0	0	0
05:00 – 06:00	0	2	2	0	3	3	0	1	0
06:00 – 07:00	0	2	2	0	3	2	0	1	0
07:00 – 08:00	0	1	3	0	1	3	0	0	1
08:00 – 09:00	1	1	5	1	1	6	0	0	1
09:00 – 10:00	0	1	4	0	1	5	0	0	1
10:00 – 11:00	2	1	2	2	1	2	0	0	0
11:00 – 12:00	0	2	1	0	2	1	0	0	0
12:00 – 13:00	3	0	0	4	0	0	1	0	0
13:00 – 14:00	0	0	2	0	0	2	0	0	0
14:00 – 15:00	2	0	2	2	0	3	0	0	0
15:00 – 16:00	0	2	2	0	3	2	0	1	0
16:00 – 17:00	1	1	0	1	1	0	0	0	0
17:00 – 18:00	0	1	0	0	1	0	0	0	0
18:00 – 19:00	0	1	0	0	1	0	0	0	0
19:00 – 20:00	2	1	0	3	1	0	0	0	0
20:00 – 21:00	0	1	0	0	1	0	0	0	0
21:00 – 22:00	0	1	0	0	1	0	0	0	0
22:00 – 23:00	0	1	0	0	1	0	0	0	0
23:00 – 24:00	0	1	0	0	2	0	0	1	0
Daily	**11**	**20**	**28**	**13**	**24**	**34**	**2**	**4**	**6**

3.8.3 The greatest increase in any hour is one vehicle. In total, there is a daily increase of 12 vehicles between the consented 10mppa scheme and the proposed 12mppa. **Figure 3.14** demonstrates the total uplift in logistic vehicles for the consented 10mppa and the proposed 12mppa scenarios.

Figure (.1-: Daily ?n5rease in 8ogisti5 ; e+i5le , o e ' ents (2 ' ppa)



3.9 Total People Increase

3.9.1 **Table 3.19** sets out the predicted daily people increase (passengers and employees) the peak month of August.

Table (.19: Total Daily People ?n5rease (2 ' ppa) in Pea" , ont+ of August

Time	Passengers			Employees			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
00:00 - 01:00	0	473	473	1	6	7	1	478	480
01:00 – 02:00	0	375	375	0	5	5	0	379	380
02:00 – 03:00	0	0	0	27	7	34	22	6	34
03:00 – 04:00	0	0	0	28	6	34	24	5	34
04:00 – 05:00	19	186	205	30	5	35	44	190	240
05:00 – 06:00	271	0	271	25	14	39	292	12	310
06:00 – 07:00	640	0	640	72	14	86	700	11	726
07:00 – 08:00	319	0	319	62	19	81	371	16	400
08:00 – 09:00	92	0	92	22	0	22	110	0	114
09:00 – 10:00	26	154	180	27	0	27	49	154	207
10:00 – 11:00	42	0	42	1	5	6	43	4	48
11:00 – 12:00	237	51	288	6	5	11	242	55	299

Time	Passengers			Employees			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
12:00 – 13:00	453	267	720	14	35	49	465	297	769
13:00 – 14:00	305	521	826	1	22	23	306	539	849
14:00 – 15:00	148	186	334	6	7	13	153	192	347
15:00 – 16:00	104	189	293	1	25	26	105	210	319
16:00 – 17:00	220	27	247	2	28	30	222	50	277
17:00 – 18:00	313	237	550	2	26	28	314	259	578
18:00 – 19:00	426	325	751	2	22	24	428	344	775
19:00 – 20:00	320	252	572	15	57	72	333	300	644
20:00 – 21:00	0	564	564	0	10	10	0	573	574
21:00 – 22:00	0	51	51	2	14	16	2	62	67
22:00 – 23:00	0	78	78	1	18	19	1	93	97
23:00 – 24:00	0	0	0	0	0	0	0	0	0
Daily	3,936	3,936	7,872	347	350	697	4,228	4,229	8,569

3.10 Total Public Transport Increase

3.10.1 Table 3.20 sets out the predicted daily vehicle increase (passengers and employees) the peak month of August.

Table (.20: Total Daily PT ?n5rease (2p ' ' a) in Pea" , ont+ of August

Time	Passengers			Employees			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
00:00 - 01:00	0	131	131	1	5	6	1	136	137
01:00 – 02:00	0	11	11	0	4	4	0	15	15
02:00 – 03:00	0	33	33	22	6	28	22	39	61
03:00 – 04:00	0	9	9	24	5	29	24	14	38
04:00 – 05:00	6	7	13	25	4	29	31	11	42
05:00 – 06:00	62	3	64	21	12	33	83	15	97
06:00 – 07:00	144	-18	126	60	11	71	204	-7	197

Time	Passengers			Employees			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
07:00 – 08:00	88	18	106	52	16	68	140	34	174
08:00 – 09:00	52	9	62	18	0	18	70	9	80
09:00 – 10:00	39	32	72	23	0	23	62	32	95
10:00 – 11:00	33	59	92	1	4	5	34	63	97
11:00 – 12:00	56	33	89	5	4	9	61	37	98
12:00 – 13:00	99	45	143	12	30	42	111	75	185
13:00 – 14:00	85	122	207	1	18	19	86	140	226
14:00 – 15:00	32	61	93	5	6	11	37	67	104
15:00 – 16:00	32	16	48	1	21	22	33	37	70
16:00 – 17:00	57	29	86	2	23	25	59	52	111
17:00 – 18:00	92	35	127	1	22	23	93	57	150
18:00 – 19:00	122	63	186	2	19	21	124	82	207
19:00 – 20:00	86	121	207	13	48	61	99	169	268
20:00 – 21:00	14	79	93	0	9	9	14	88	102
21:00 – 22:00	4	18	22	2	11	13	6	29	35
22:00 – 23:00	2	21	23	1	15	16	3	36	39
23:00 – 24:00	1	24	24	0	0	0	1	24	24
Daily	**1106**	**959**	**2065**	**292**	**293**	**585**	**1398**	**1252**	**2650**

3.11 Total Vehicle Increase

3.11.1 **Table 3.21** sets out the predicted daily vehicle increase (passengers and employees) the peak month of August.

Table (.21: Total Daily ; e+i5le ?n5rease (2 ' ppa) in Pea" , ont+ of August

Time	Passengers			Employees			Logistics			Total		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
00:00 - 01:00	148	260	407	1	5	6	0	0	0	149	265	413
01:00 – 02:00	-3	-6	-9	0	4	4	0	0	0	-3	-2	-5
02:00 – 03:00	-10	-18	-29	22	6	28	0	0	0	12	-12	-1
03:00 – 04:00	-3	-5	-8	24	5	29	0	0	0	21	0	21
04:00 – 05:00	-5	-6	-11	25	4	29	0	0	1	20	-1	19
05:00 – 06:00	69	38	106	21	12	33	1	1	3	91	51	142
06:00 – 07:00	154	36	190	60	11	71	1	1	3	215	48	264
07:00 – 08:00	132	107	239	52	16	68	1	1	1	184	123	308
08:00 – 09:00	117	82	199	18	0	18	1	1	2	136	83	219
09:00 – 10:00	92	89	181	23	0	23	1	1	2	115	90	206
10:00 – 11:00	102	158	260	1	4	5	1	1	2	104	163	267
11:00 – 12:00	102	74	177	5	4	9	0	0	0	108	79	186
12:00 – 13:00	240	205	445	12	30	42	1	1	1	252	236	488
13:00 – 14:00	254	282	536	1	18	19	0	0	1	255	300	556
14:00 – 15:00	45	72	117	5	6	11	1	1	2	51	79	130
15:00 – 16:00	-7	-10	-17	1	21	22	1	1	3	-5	12	8
16:00 – 17:00	38	19	57	2	23	25	0	0	0	40	42	82
17:00 – 18:00	158	93	251	1	22	23	0	0	0	159	115	274
18:00 – 19:00	324	265	589	2	19	21	0	0	0	326	284	610
19:00 – 20:00	321	370	691	13	48	61	0	0	1	335	418	753
20:00 – 21:00	70	132	201	0	9	9	0	0	0	70	141	210
21:00 – 22:00	6	13	19	2	11	13	0	0	0	8	24	32
22:00 – 23:00	13	25	38	1	15	16	0	0	0	14	40	54
23:00 – 24:00	-8	-13	-21	0	0	0	1	1	2	-7	-12	-19
Daily	**2346**	**2262**	**4607**	**292**	**293**	**585**	**12**	**12**	**24**	**2649**	**2567**	**5216**

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4 Assessment Scenarios

4.1.1 Having established the trip generation associated with increasing the Airport from a 10mppa to 12mppa operation, and having identified the catchment of the additional staff and passengers, it is then necessary to assign these trips onto the surrounding network and identify areas for further more detailed consideration.

4.1.2 This section therefore details the methodology for assigning traffic, establishing where impacts require further consideration and the modelling scenarios where capacity testing is required.

4.2 Vehicle Trip Assignment Methodology

4.2.1 Airport traffic will be assigned to the network using traffic modelling software SATURN (Simulation and Assignment of Traffic to Urban Road Networks). At this stage a simple model has been produced which is being used to assign the development traffic, which will then be added to observed traffic at a junction modelling level where necessary. The model is developed in buffer network, with no junction detail included, therefore assignment is based solely on link speed and distances.

4.2.2 The tool will incorporate HERE traffic speed data to create an assignment of external vehicle trips. Link Distances are extracted from GIS.

4.2.3 This method provides the following benefits:

Utilising a road network ensures a full route choice is available, highlighting impact on all roads (determining appropriate study area for detailed assessments)

Traffic calming features can be assessed by lowering traffic speeds on links

There is flexibility to increase detail within the model in the future, it is possible to validate against journey time surveys.

4.2.4 The following time periods will be considered using the HERE traffic speed data.

Traditional Peak Times:	08:00 – 09:00 and 17:00 – 18:00
Off Peak Free Flowing Network Time:	00:00 – 01:00

4.3 Assessment Study Area

4.3.1 Through engagement with NSC a study area has been identified for initial consideration, traffic surveys that have therefore been commissioned to develop the baseline situation in 2018 throughout this study area.

4.3.2 The independent traffic survey specialties Intelligent Data (ID) were commissioned to undertake the following traffic surveys:

24 hour Classified Turning Counts (CTC) & Queue Lengths

- A38 signal junction with A368;
- A370 signal junction with Brockley Combe Road and Brockley Lane;
- A370 roundabout with A4174 Colliters Way;
- A38 roundabout with A4174 Colliters Way;
- A38 signal junction with Barrow Street;
- Downside Road junction with Bristol Airport;
- A38 junction with West Lane;
- A38 junction with Downside Road;
- A38 roundabout with Bristol Airport; and
- A38 roundabout with Silver Zone Parking.

Weeklong Automatic Traffic Counts (ATC)

- A368 Dinghurst Road;
- A38 (North of Dinghurst Road);
- A368 Bath Road;
- A38 New Road;
- Brockley Lane;
- A370 Main Road (N);
- A370 Main Road (S);
- A370 (North of Colliters Way);
- A4174 Colliters Way;
- A38 Bridgewater Road (N);
- A4174 Colliters Way;
- A38 (North of West Lane);

- Barrow Street;
- West Lane;
- Downside Road; and
- A38 (South of Silver Zone).

4.3.3 The effects of Airport growth from 10mppa to 12mppa on this transport network will be assessed to determine the level of impact across this network. This will include consideration of absolute levels of vehicular impact, in the context of percentage impact and current junction operation. This exercise will be used to identify any junctions where capacity testing should be undertaken to determine whether Airport impact requires highway mitigation.

4.3.4 This analysis will also take into consideration the non-network peak hours, where a comparison will be made between the Airport peak hour impact on junctions to determine whether the influence of Airport traffic is anticipated to bring the level of overall traffic demand above traditional network peak hours. Where this is the case, the Airport peak hour would be assessed if the current operation of the junction indicates a need.

4.4 Modelling Scenarios

4.4.1 Where modelling of junctions is required, we propose assessing the following scenarios:

a.	Baseline Case:	Current airport travel demand of 8.2MPPA Year 2018
b.	10MPPA Reference Case:	Forecast airport travel demand of 10MPPA Year 2026
c.	12MPPA Reference Case:	Forecast airport travel demand of 12MPPA Year 2026
d.	12MPPA Reference Case with Mitigation	Forecast airport travel demand of 12MPPA Year 2026 Mitigation will include PT strategy, junction designs and PT mode share adjustments

5 Summary

5.1.1 PBA has been commissioned to provide transport planning support to Bristol Airport Ltd's application to grow from 10mppa to 12mppa by 2026.

5.1.2 It should be noted that the transport assessment is therefore concerned with the impact of the growth, i.e. that associated with the additional 2mppa, as the impact of growth to 10mppa has already been considered and permitted, with a corresponding transport mitigation package.

5.1.3 This note sets out the methodology undertaken to establish the trip generation of the proposals and is based on Civil Aviation Authority data, which has a sample size of circa 18,000 respondents in 2015, and other data provided directly by the Airport, including responses to the most recent Travel Plan survey.

5.1.4 The growth in passenger and staff numbers, recorded catchments and mode share are all fact based. The future growth, catchment, flight schedules, dwell times etc. have been provided by the Airport.

5.1.5 As a result of the above, we do not anticipate any of the work undertaken to date providing the highway authorities with any points of difference, however we would welcome your input on the methodology and would welcome a discussion on any areas which might be unclear or to which you may wish to suggest alternative approaches.

5.1.6 We would also welcome your input on the proposed approach to taking the assessment forward, with regards to assignment and identification of areas for more detailed consideration.

Appendix C Policy Review Note

TECHNICAL NOTE

Job Name: Bristol Airport Expansion

Job No: 43321

Note No: TN001

Date: August 2018

Prepared By: Ritika Kothari

Subject: **Policy Review**

1. Introduction

1.1. This Technical Note (TN) has been prepared by Peter Brett Associates LLP (PBA) to provide a review of transport policies at national, regional and local government levels.

2. National Policy

National Planning Policy Framework (Ministry of Housing, Communities and Local Government, July 2018)

2.1. The revised National Planning Policy Framework (NPPF) was adopted in July 2018 and replaced the 2012 version of the NPPF. This policy document forms a key part of the Governments' approach to make the planning system less complex and more accessible to protect the environment and to promote sustainable development, which remains a core objective of the NPPF.

2.2. Paragraph 8 of the NPPF states the following objectives to achieve sustainable development:

> ***"Economic objective*** *– to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;*
>
> ***Social objective*** *– to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and*
>
> ***Environmental objective*** *– to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy".*

2.3. The transport related policies within the NPPF, set out within Chapter 9 'Promoting Sustainable Transport', paragraph 102 states that *"Transport issues should be considered from the earliest stages of plan making and development proposals, so that:*

> *The potential impacts of development on transport networks can be addressed;*
>
> *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*

Opportunities to promote walking, cycling and public transport use are identified and pursued;

The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and

Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places".

2.4. Paragraph 104 states that planning policies should:

"Be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned; and

Provide for any large-scale transport facilities that need to be located in the area, and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. In doing so they should take into account whether such development is likely to be a nationally significant infrastructure project and any relevant national policy statements".

2.5. Finally, paragraph 110 of the NPPF states the following:

"Create places that are safe, secure and attractive;

Allow for the efficient delivery of goods, and access by service and emergency vehicles; and

Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations".

2.6. The Transport Assessment has been prepared to support the sustainable objectives set out in the NPPF.

Surface Transport to Airports (Transport Committee, February 2016)

2.7. The 'Surface Transport to Airports' report was published in February 2016 by the Transport Committee, highlighting the importance for the need of good surface access to airports, by which positive economic and environmental impacts can be seen. The report also sets out a number of recommendations, particularly in developing a *"coherent strategy to improve road and rail access to the UK's major airports, and stressed the need for greater connectivity between airports outside South East England".*

2.8. Additionally, paragraph 6 of the report, as stated by the Chartered Institute of Logistics and Transport, *"Poor surface access inhibits an airport's ability to compete"*, citing Bristol and Leeds Bradford as examples.

2.9. Furthermore, Chapter 66 of the 'Surface Transport to Airports' report asserts Bristol Airport with poor connectivity, stating that *"some airports remain completely disconnected from major road and rail infrastructure. Bristol Airport, for example, remains the only top ten UK airport without access to a road of at least dual carriageway standard or a direct rail link. The Airport points to "the absence of a firm commitment in Government policy to improving transport links to regional airports".*

2.10. The proposals will seek to improve the accessibility to the airport and increase the competitiveness.

The Future of Air Transport White Paper (2003)

2.11. The Department for Transport (DfT) published the national policy on aviation in December 2003, set out in the Government's White Paper, titled 'The Future of Air Transport', provides a strategic framework for the growth in airport capacity over the next 30 years. It is noted within the report that *"increased capacity is needed at a number of regional airports across the country, including some new runway capacity, more terminal capacity and support facilities"*.

2.12. It is expected, that air travel demand is projected to be between two and three times current levels by 2030, with air travel having increased five-fold over the past 30 years.

2.13. The Government have identified the following measures to ensure that airport expansion is sustainable:

> *"Recognises the importance of air travel to our national and regional economic prosperity, and that not providing additional capacity where it is needed would significantly damage the economy and national prosperity;*
>
> *Reflects people's desire to travel further and more often by air, and to take advantage of the affordability of air travel and the opportunities this brings;*
>
> *Seeks to reduce and minimise the impacts of airports on those who live nearby, and on the natural environment;*
>
> *Ensures that, over time, aviation pays the external costs its activities impose on society at large – in other words, that the price of air travel reflects its environmental and social impacts;*
>
> *Minimises the need for airport development in new locations by making best use of existing capacity where possible;*
>
> *Respects the rights and interests of those affected by airport development;*
>
> *Provides greater certainty for all concerned in the planning of future airport capacity, but at the same time is sufficiently flexible to recognise and adapt to the uncertainties inherent in long-term planning."*

2.14. The report also provides specific policies and conclusions for Bristol Airport which are as follows:

> *"Bristol International Airport is by far the largest airport in the South West of England. Like several other regional airports in the UK, it has seen substantial growth recently, with passenger throughput nearly doubling between 2000 and 2003. The airport is now handling almost 4mppa. The forecasts suggest that by 2030 it could attract between 10mppa and 12mppa, taking account of our proposals in Chapter 11 for new runways in the South East;*
>
> *The airport faces some complex constraints. The existing terminal site should be able to cope with up to 8mppa, provided additional aircraft stands can be accommodated. Beyond about 8mppa, a second terminal south of the runway would be required, together with a runway extension to the east and extended parallel taxiway;*

The number of people living within the 57dBA noise contour in 1999 was only about 1,000, and we expect only a very small increase in this number by 2015, even at the higher end of our growth forecasts. With a runway extension, and our highest levels of forecast throughput, estimates suggest that by 2030 there would be no more than around 3,500 people within the 57dBA noise contour. The airport operator is invited to bring forward as soon as possible a long term master plan setting out these proposals, to be accompanied by a voluntary purchase scheme for any properties that would be adversely affected;

The runway extension would also require some common land to be taken, and we would expect this to be replaced elsewhere. There would also be some loss of green belt as a result of a runway extension and new terminal development. However, we do not believe this would fundamentally affect the integrity of the green belt within the area and consider it would, on balance, be justified by the importance of the airport's growth to the region's economy;

Strategic surface access links to Bristol are not as good as at many other airports of a similar size in the UK. Links to the motorway network, which is some distance away, are via 'A' and 'B' roads that pass through villages and other built-up areas. These are not heavily congested, except to the north of the airport where the A38 enters Bristol itself. Away from the immediate vicinity of the airport, the proportion of airport-related traffic is small. The express bus service from Bristol Temple Meads to the airport, which is the main public transport link, is proving increasingly successful; but public transport mode share is low at four per cent and the provision of a direct rail service is not a realistic prospect; and

The Greater Bristol Strategic Transport Study will consider what might be done to improve both road and public transport access to Bristol Airport, and we encourage the airport operator to participate fully in this process. Access to the airport could be significantly improved by routing traffic away from congested urban areas within Bristol and by bringing forward bus priority proposals which would help provide speedy and reliable journey times for the airport express coach service operating from Bristol Temple Meads station."

2.15. The proposed expansion at Bristol Airport will meet the capacity as outlined in the Future of Air Transport White Paper, and will provide the desired increase in regional airport capacity.

3. Regional Policy

Joint Spatial Plan (West of England, November 2017)

3.1. The Joint Spatial Plan (JSP), published in November 2017, is a statutory Development Plan Document, to provide the strategic development framework for the West of England up to 2036. The JSP has been prepared by the local authorities of Bath and North East Somerset Council, Bristol City Council, North Somerset Council and South Gloucestershire Council.

3.2. In conjunction with the JSP, a Joint Transport Study has been prepared, which identified future strategic transport proposals for delivery up to 2036, which is discussed further below. Both these documents aim to ensure future growth decisions are made with understanding of necessary transport investments.

3.3. The JSP is focused on addressing the following issues:

"Identifying the number of new market and affordable homes and amount of employment land that is needed across West of England 2016 – 2036;

Identifying the most appropriate spatial strategy and strategic locations for this growth; and

Outlining the strategic transport and other infrastructure that needs to be provided in the right place and at the right time to support sustainable growth and to provide certainty for our communities and those that want to invest in our area".

Joint Transport Study (West of England, October 2017)

3.4. The Joint Transport Study (JTS), published in October 2017, is a technical report, to provide a clear, long-term development strategy for the transport system in the West of England up to 2036 and beyond. The JTS has been prepared by the local authorities of Bath and North East Somerset Council, Bristol City Council, North Somerset Council and South Gloucestershire Council. The JTS has been prepared in conjunction with the Joint Spatial Plan (JSP).

3.5. The Transport Vision has been *"designed to address existing transport problems and respond to the challenges associated with the high levels of forecast growth in the West of England".*

3.6. Chapter 4.4.3 suggests for a Mass Transit transport scheme, the ambition for a new form of mass transit (light rail or light metro). It is discussed that for major transport corridors, a rail-based mass transit would be the preferred option, as it is able to accommodate future demand, through higher operational capacity than bus-based options, and providing service to maximise mode shift from car-based trips to using public transport.

3.7. The Mass Transit scheme would connect Bristol City Centre to the East Fringe, North West Bristol and Bristol Airport. It is anticipated that a mass transit network would *"form an integral part of the future public transport system and it will be critical to plan for effective interchange with the bus network, MetroBus, rail network and Park & Ride".*

3.8. Chapter 5 of the JTS discusses various improvements to strategic connectivity corridors, in particular to Bristol Airport. It is noted that Bristol Airport has a large catchment area, extending across the South West region and South Wales; therefore, it is proposed to improve access to the airport both by public transport and by road.

3.9. Chapter 5.2 'Access to Bristol Airport and A38 Corridor' discusses the public transport access to the airport, the A38 network and potential improvements to increase connectivity. Currently, the A38 is the primary route connecting Bristol City Centre to the airport. However, a lack of motorway junction on the A371 crossing the M5 has resulted in increased traffic flows on the A370 to access the M5 and increased traffic using country lanes. To address the issues on this corridor, the South Bristol Link has significantly improved connections between these routes, and has helped to accommodate traffic growth anticipated with the expansion of Bristol Airport. Additional issues on corridors include that Bristol Airport has no direct access to the Strategic Road Network (SRN) and no direct rail links. The report states that *"to meet future needs of the airport it will be necessary to both improve road capacity on the A38 and transport the quality of public transport connections to the Airport".*

3.10. During the design stage of the proposed expansion at Bristol Airport the West of England's Joint Transport Study was reviewed, as such as part of the proposals the capacity on the A38 will increase.

Joint Local Transport Plan 3: 2011 - 2026 (West of England Partnership, March 2011)

3.11. The Joint Local Transport Plan (JLTP3), published in March 2011, covers the period from 2011 to 2026, which sets out the transport improvements to be delivered in the West of England region. The JLTP3 is jointly delivered between four councils (Bath and North East Somerset, Bristol City, North Somerset and South Gloucestershire), making up the West of England Partnership. The vision for the region is to provide *"affordable, low carbon, accessible, integrated, efficient and reliable transport network".*

4. Local Policy

North Somerset Core Strategy (North Somerset Council, January 2017)

4.1. The North Somerset Core Strategy, adopted in January 2017 sets out the broad long-term vision, objectives and strategic planning policies for North Somerset up to 2026, which provides details on allocated strategic sites.

4.2. The policies set out in the Core Strategy document, provide the framework for implementing visions and objectives for the North Somerset region, and to guide investment and development proposals. The policies have been divided into the four following sections, reflecting the Sustainable Community Strategy:

> *"Living with environmental limits (CS1 – CS11);*
>
> *Delivering strong and inclusive communities (CS12 – CS19);*
>
> *Delivering a prosperous economy (CS20 – CS24); and*
>
> *Ensuring safe and healthy communities (CS25 – CS27)".*

4.3. A further two policy sections are *'Area Policies (CS28 – CS33)'* and *'Delivery (CS34)'*, which discusses specific locations and the implementation strategies.

4.4. CS10 addresses transportation and movement related policies for the region, stating *"integrated transport networks allow for a wide choice of modes of transport as a means of access to jobs, homes, services and facilities".* The transport schemes should be capable of the following:

> Enhance the facilities for pedestrians, including those with reduced mobility, and other users such as cyclists;
>
> Deliver better local bus, rail and rapid transit services in partnership with operators;
>
> Develop innovative and adaptable approaches to public transport in the rural areas of the district;
>
> Improve road and personal safety and environmental conditions;
>
> Reduce the adverse environmental impacts of transport and contribute towards carbon reduction;
>
> Mitigate against increased traffic congestion;

Improve connectivity within and between major towns both within and beyond North Somerset; and

Support the movement of freight by rail.

4.5. The following are part of the West of England major transport schemes, set out in the Joint Local Transport Plan:

Weston Package (Phase 1 low cost option);

Ashton Vale to Temple Meads and Bristol City Centre Rapid Transit;

South Bristol Link;

Junction 21 Bypass or Relief Road;

Bristol Rail Metro;

Barrow Gurney Bypass;

M5 Junction 19 improvements; and

Expansion of the Park and Ride at Long Ashton.

4.6. Development of Bristol Airport is discussed within Policy CS23. It is noted that proposals for the development are required to demonstrate satisfactory resolution to surface access infrastructure. Monitoring and review of public transport usage, particularly of the proportion of passengers using the Flyer bus link will aid in surface access improvements.

4.7. Paragraph 1.18 confirms the importance of Bristol Airport as a regional facility, playing an important role in fulfilling the needs of the area, in terms of employment, holiday and business air travel. However, recognises that the airport would benefit from measures to improve the accessibility from Bristol and Weston-Super-Mare.

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Appendix D Proposed A38 / Downside Road Junction Layout & Associated Documents

Bristol Airport
A38 Junction Improvements
Walking, Cycling and Horse Riding Assessment and Review (WCHAR)

October 2018

Document Number: C1124-BD-002
Version:1.0

Document Version Status

Date	Purpose	Document Version	Author	Reviewer
30.10.18	Initial issue	1.0	Graham Smith	Chris Cowle

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1 Introduction

1.1. This report has been prepared by C-TAS on behalf of Bristol Airport (the applicant) to support the planning application for the expansion of the airport from the consented 10 Million Passengers Per Annum (MPPA) to 12 MPPA by 2026. As part of this application, Bristol Airport has submitted a Hybrid Planning Application that consists of a number of elements for the proposal.

1.2. An element of this application is for an Outline Planning Application for an improvement scheme to the A38, in order to better access the airport by all modes, and mitigate the vehicle impact of the overall proposals. This improvement scheme covers the section of the A38 between West Lane and Bristol Airport, including the approach arms on the associated junction's in-between. A copy of the emerging improvement scheme (Drawing C1124-SK-A38-010 rev 9.0) is contained within **Appendix A**.

1.3. As part of the pre-application process, discussion where had with North Somerset Council (NSC) over the proposed design and required documentation to support the planning application. On 18th September 2018, NSC formally issued pre-application comments to the design team, a copy of is enclosed within **Appendix B**. One of the comments within in this response was as follows,

"Design will need to be subject to a Stage 1/2 road safety audit & non-motorised user audit."

1.4. In May 2017, the Department for Transport has updated HD42/05 following the introduction of the Highways England Strategic Business Plan and Roads Investment Strategy as well as the Infrastructure Act 2015 coming into force. HD42/17 Walking, Cycling & Horse-Riding Assessment and Review (WCHAR) replace the process set out in HD42/05 Non-Motorised User Audit and the subsequent Interim Advice Note 143/11.

1.5. As the A38 is not a trunk road, the standards within the DMRB are not mandatory at this location. However, given the 'A' classification of the A38, and that it provides a strategic link between Bristol and Bristol Airport, the road is a considered a critical part of the local network. As such, the designer considers it appropriate to refer to (where appropriate) the DMRB as a design guide document for the proposed highway arrangements.

1.6. Therefore, with the reference to NSC response, this technical note has been prepared summarised the WCHAR in support of the new planning application in accordance with the current HD42/17.

1.7. This WCHAR should be read in conjunction with the submitted Transport Assessment and other supporting planning application documents. It is noted, that some of the requirements of the WCHAR have been referenced to the TA.

1.8. Paragraph 1.1 of HD42/17 sets out the scope and purpose of a WCHAR, this states:

"This Requirement and Advice Document (RAD) sets out the procedures required to implement Walking, Cycling & Horse-Riding Assessment and Review (WCHAR) for highway schemes on motorways and all- purpose trunk roads."

1.9. Paragraph 2.7 of HD42/17 states:

"The lead assessor shall take into account the size and complexity of a highway scheme to determine the level of detail required for the WCHAR process."

1.10. Based on the details set out within HD42/17 would suggest that the WCHAR would be subject to a large scale scheme, if the A38 was classified as a motorway or trunk road. As the proposals for the A38 improvements include creation of a shared use scheme with improved crossing facilities, addition of new traffic lanes, and implementation of new traffic signals.

1.11. However, as the A38 is not classified as a motorway or trunk road it is considered that a large scale approach would be excessive. Therefore, it is considered that a small scale WCHAR is sufficient.

1.12. As all the proposals comprises of changes to an existing all-purpose strategic road, maintained by the local highway authority, and not classified as a Motorway or Trunk road maintained by Highways England.

1.13. As this WCHAR is being submitted as part of an Outline Planning Application where the detailed designed aspect of the site access will be conditioned, therefore a Review report is not necessary as part of this WCHAR. However, initial reference a Highway Design Audit for the proposed site access junction has been appended to the TA.

2 Walking, Cycling & Horse Riding Assessment

Overview

2.1. Guidance with respect to WCHAR is contained within HD42/17 of the Design Manual for Roads and Bridges (DMRB). The purpose of HD42/17 is to facilitate the inclusion of all walking, cycling & horse-riding modes in the highway scheme design process for the earliest stage, enabling the design team to identify opportunities for improved facilities and integration with the local and national networks.

2.2. The completion of the WCHAR process is made up of two distinct parts. The first part is an assessment of the current or existing situation (Walking, Cycling & Horse-Riding Assessment); whilst the second part relates to an ongoing review of user opportunities throughout the design process (Walking, Cycling & Horse Riding Review).

2.3. Based on the justification set out above it is considered appropriate undertake this WCHAR following the requirements for a small scaled scheme.

2.4. As this WCHAR is being submitted as part of an outline planning application where the detailed designed aspect of the site access will be conditioned, therefore a Review report is not necessary as part of this WCHAR. However, initial reference a Highway Design Audit for the proposed site access junction has been appended to the TA.

2.5. The aims of the WCHAR Assessment are:

"…

a) To gain an appropriate understanding of all relevant existing facilities for pedestrians, cyclists and equestrians (users) in the local area.

b) To provide background user information that can be referred to throughout the design process.

c) To identify opportunities for improvements for users."

2.6. The requirements for the Assessment of a small scaled scheme are set out within paragraph 4.4 of HD42, and are as follows:

Review of walking, cycling & horse-riding policies and strategies relevant to the scheme area.

Collision data – analysis of all collisions in the study area.

Description of local public transport services and interchange information.

Description of key trip generators and local amenities;

Evidence of site visit;

Evidence of consultation with key stakeholders; and

Description and review of existing walking, cycling and horse-riding network facilities within the local area.

2.7. The following text summarises the WCHAR Assessment phase.

Policy Review

2.8. For details please refer to the submitted Transport Assessment, which details the principles of the key national, regional and local policy documents relating to transport and air travel for Bristol Airport.

Collision Data

2.9. For full details please refer to the submitted Transport Assessment. However, during 2017 (the last full year of data) just 3 collisions took place on the immediately adjacent highway, one on Downside Road, one on Bridgwater Road at the junction with the Airport Tavern, and one at the Airports southern access onto the A38, all only involving slight injury.

Local Public Transport Service

2.10. Full details of local public transport facilities are set out in the Transport Assessment. However, the main bus stops are located directly outside the terminal building, with 6 services available covering Chew Stoke, Western-super-Mare, Bristol, Bedminster, Bath, Hengrove, Winford, Yatton, and Winscombe.

Local Amenities

2.11. For full details please refer to the submitted Transport Assessment. However, in addition to the passenger services available within the terminal building and Airport Hotel, a Motel and Public House is located on the adjacent section of the A38.

Evidence of Site Visit

2.12. The site visit was undertaken by C-TAS on 18th October 2018 between 11:00 and 14:00 during daylight hours. The site visit took the form of walking along the available pedestrian, cyclist and equestrian facilities within the vicinity of the scheme. The condition of the existing footway / cycleway was recorded and potential improvement and connections were noted. The weather during the site visit was dry and clear. The road and path surfaces were all noted to be dry.

2.13. The primary findings of the site visit were:

The zebra crossing over the Bristol Airport access road was well used with passengers travelling between the airport and the informal parking areas in Lulsgate Bottom.

The available width for the shared footway / cycleway on the eastern side of the A38, south of Well Lane was reduced (to approximately 0.7 metres) from its actual width (from approximately 3.0m) due to overgrown vegetation. It is worth noting at this stage that the maintenance responsibility of this vegetation is that of the NSC, as local highway authority.

The shared cycle route along A38 starts on Well Lane adjacent to the give way line, however, the available width on the footway and visibility to both pedestrians and cyclists is reduced due to overgrown vegetation.

The tactile paving and dropped kerb provision across Downside Road is covered by overgrown vegetation. This will have a detrimental impact on visually impaired users.

Along the A38 there are double yellow lines that restrict on-street parking. On the eastern side of the carriageway, south of Downside road there is a 20 metre long stretch of parallel parking bay adjacent to the Forge Motel.

Under the double yellow line parking restrictions, vehicles are not allowed to park on the full width of the highway unless within designated parking areas.

During the site visit it was observed that drivers are not positioning their vehicle correctly within these spaces, and are therefore using up vital space within the shared footway / cycleway. As such these vehicles are reducing the available footway width and are causing an obstruction to pedestrians and cyclists.

3 Evidence of Consultation

3.1. A copy of the formal response from the Local Highway Authority following the pre-application process is included within **Appendix B** of this report. This pre-application response included the request for the following pedestrian, cycle and horse riding elements to be added to the proposed design:

The proposed scheme should provide details of pedestrian and cycle crossing facilities such as dropped kerbs and tactile paving; and
The design needs to accommodate cycle route NCN 410 Avon Cycleway.

4 Existing Walking, Cycling & Horse Riding Network Facilities

4.1. The section of the A38 within the study area is subject to a 40 mile per hour speed limit. This section of the A38 is reasonably straight with clear visibility along the main road. The topography of the road dips within the middle at the A38 / Downside Road junction.

4.2. The A38 is fronted by a number of residential properties along the eastern side of the carriageway, and the Airport Tavern (public house) on the west. The Airport Tavern has circa 10 parking spaces that are directly accessed off the A38 and a small access point just north of Downside Road.

4.3. There are pedestrian footways facilities on both sides of the A38 within the study area. On the east side of the carriageway there is a shared footway / cycleway between West Lane and Bristol Airport, the available width varies between 2.5 metres and 0.7 metres. As mention above the actual width of this is reduced due to unmaintained vegetation encroaching over the footway. North of West Lane there is a pedestrian footway that continues north to Potters Hill that is approximately 1.2 metres wide.

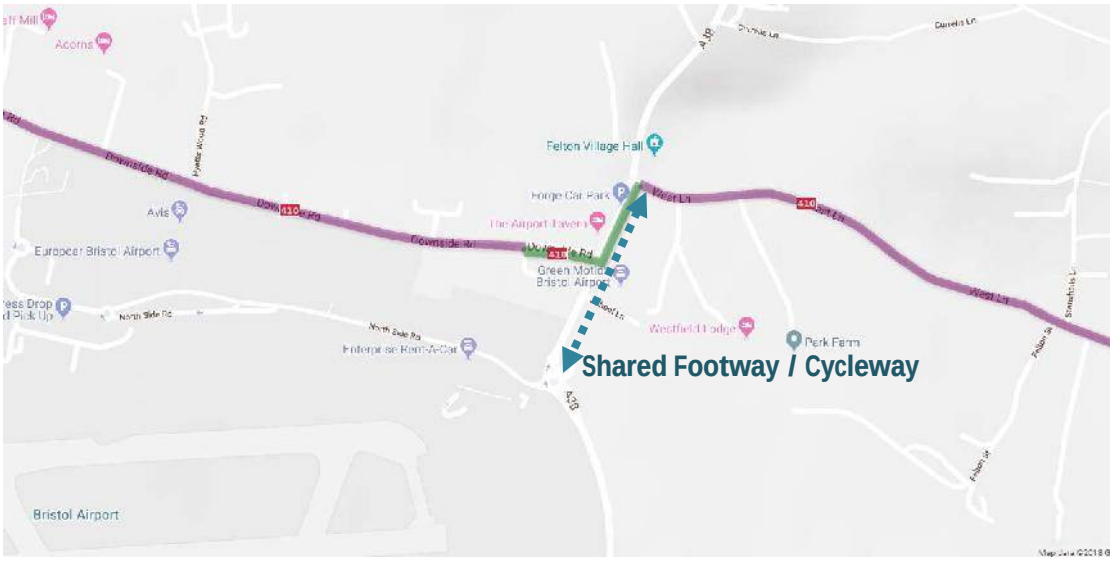
4.4. On the western side of the carriageway there is a pedestrian footway that starts/ends opposite West Lane and runs alongside the carriageway to Downside Road that is approximately 3.0 metres and 1.4 metres wide. Along the southern edge of Downside Road there is a pedestrian footway that runs from the Former Quarry site access to and along A38 to Bristol Airport.

4.5. This footway is approximately 2.0 metres wide up to the approach of the Bristol Airport Roundabout, where the footway then converts into a shared footway/cycleway for the remaining 50 metres up to Bristol Airport Roundabout.

4.6. This shared footway/cycleway connects into the shared facility on the opposite side of the road through an informal dropped kerb crossing point with tactile paving, over the northern splitter island on the roundabout.

4.7. There is a formal signal controlled pedestrian crossing over the A38 within the traffic signals at Downside Road. Due to the operation set of these signals pedestrians are provide with a separate pedestrian red stage.

4.8. The shared footway/cycleway provide a traffic free route from West Lane to Bristol Airport, as shown below.

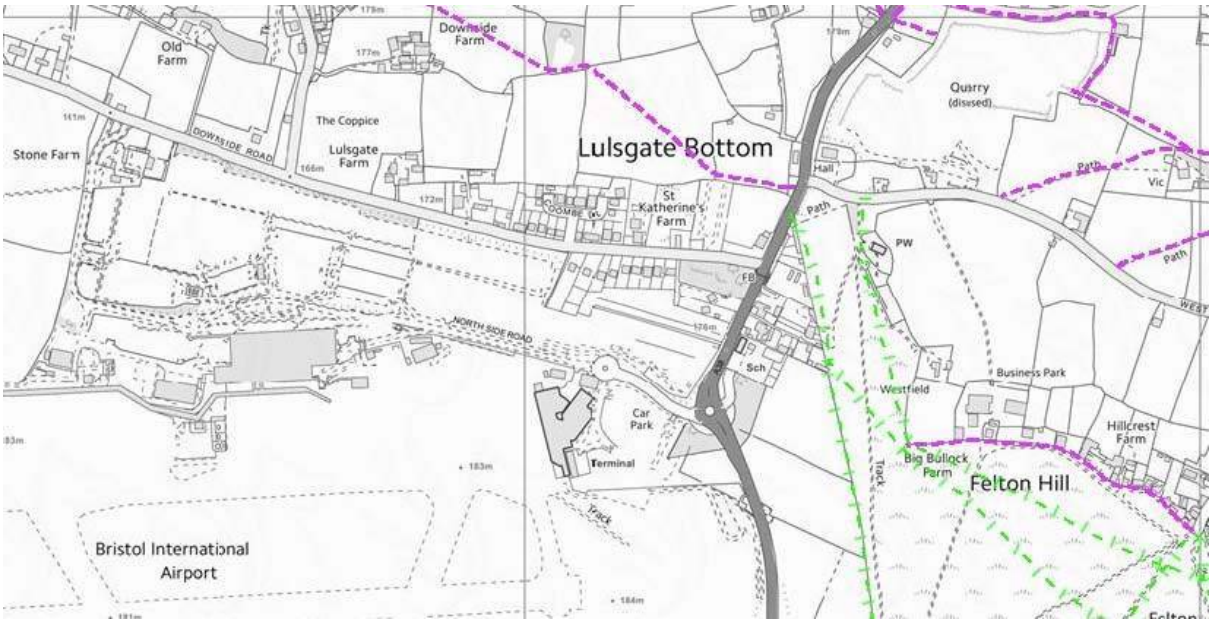


Sustrans National Cycle Network Route 410

4.9. The route between West Lane and Downside Road is designated as Route 410 of the National Cycle Network. The route is an large circuit round the City of Bristol, taking in several towns and villages, and conveniently linking to Route 4, the Bristol & Bath Cycle Path, Route 41, and other local routes into the city centre.

4.10. There is a public footpath to the west of the A38 that connects to the local highway network, north of the Airport Tavern site boundary. That connects to Downside in the west. To the east of the A38, there is a bridleway that connects to the A38 north the Lilac Cottages and another that connect to West Lane, approximately 80 metres to the east of the A38 / West Lane junction. These bridleways cross Felton Common and the common land.

4.11. An extract from the North Somerset Council Interactive Planning Map illustrates the location of these public footpaths (shown in purple) and bridleways (shown in green) in relation to the A38.



North Somerset Council – Interactive Planning Map – Public Rights of Way

4.12. At present there is a bus stop on both sides of the road that are provided within lay-bys. The northbound bus stop is accompanied by a bus shelter with bench, whilst the southbound bus flag only stop.

4.13. There are no dedicated provisions for horse riding along or across the A38. This is reflective of the lack of horses seen in the area. Due to the volume of traffic travelling along the A38, the limited highway space, and lack of on-ward connections it is unlikely that the area would see an increase in equestrian users. As such, it is considered unnecessary to provide any additional horse riding facilities over the existing provision.

5 Future Walking, Cycling & Horse Riding Network Facilities

5.1. A copy of the emerging improvement scheme (Drawing C1124-SK-A38-010) is contained within **Appendix A**.

5.2. The proposals for the A38 improvement scheme increases and enhances the provision for both pedestrians and cyclists through the following proposals.

5.3. Clearing vegetation on the existing shared footway / cycleway in order to re-instate the full width of the shared facility, and to improve the existing visibility issues for pedestrians / cyclists walking around the corner between the A38 and West Lane.

5.4. The proposed improvements to the A38 / Downside Road junction will add additional traffic lanes alongside the A38. As such, addition toucan crossings will be provided to improve pedestrian and cycle access across the A38.

5.5. These crossings will be provided in a staggered arrangement with dropped kerbs and tactile paving. It is proposed that the central islands of these crossings will guide and protect pedestrians through the use of guard railing. The inclusion of pedestrian refuge islands, allows for pedestrians to cross with traffic within the signal control staging.

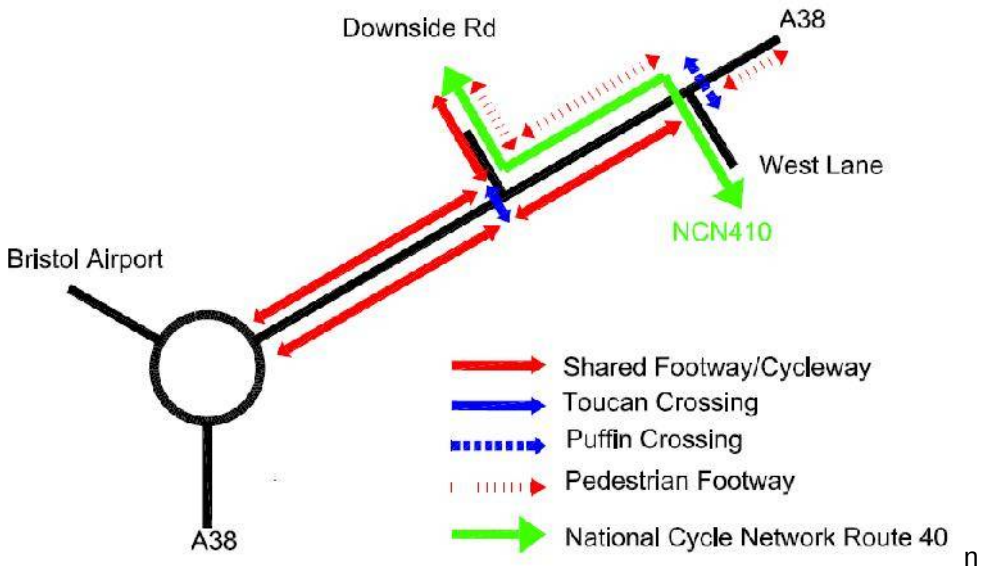
5.6. A new 3.0 metre wide shared pedestrian / cycleway with a 0.5 metre wide protection strip will be provided along the western side of the A38 south of Downside Road. This will provide an alternative route for cyclists to access the airport via a traffic free route using the signal controlled crossing point over the A38.

5.7. Due to the inclusion of a new left turn filter out of the Airport on the A38 / Bristol Airport roundabout. There will be a need to close the existing informal pedestrian crossing on the northern splitter island. Therefore, it is proposed that a replacement informal crossing point is provided 85 metres north of its current position. It is proposed that this crossing will consist of a new pedestrian refuge island with associated dropped kerbs and tactile paving.

5.8. It is proposed that at each end of the shared pedestrian / cycle facilities adequate ladder and tramline tactile paving will be provided to indicate to visually impaired users the commencement of the shared provision.

5.9. An additional new signalised pedestrian crossing will be provided across the A38 north West Lane. It is proposed that this crossing will be incorporated within the signal design for the new traffic signals at the junction. This crossing will provide an additional location for pedestrians to cross, especially those that walk to the bus stops from West Lane.

5.10. The figure below illustrates the proposed pedestrian / cycle facilities.



n

5.11. As mentioned, there are no additional proposals provided for equestrian users.

6 Summary and Conclusion

6.1. This report has been prepared as the Walking, Cycling and Horse-Riding Assessment Report undertaken as part of the WCHAR process. In response to NSC's request for a non-motorised user audit to support the A38 improvement scheme.

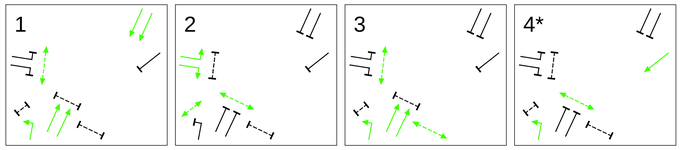
6.2. Walking, Cycling and Horse-Riding Assessment Report has summarised the existing facilities for pedestrians, cyclist and equestrian in the local area, provided background information that can be referred to throughout the design process, and has identified opportunities for improvements to users.

Appendix A

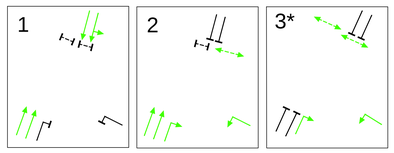
Proposed A38 Improvement Scheme

DO NOT SCALE FROM THIS DRAWING

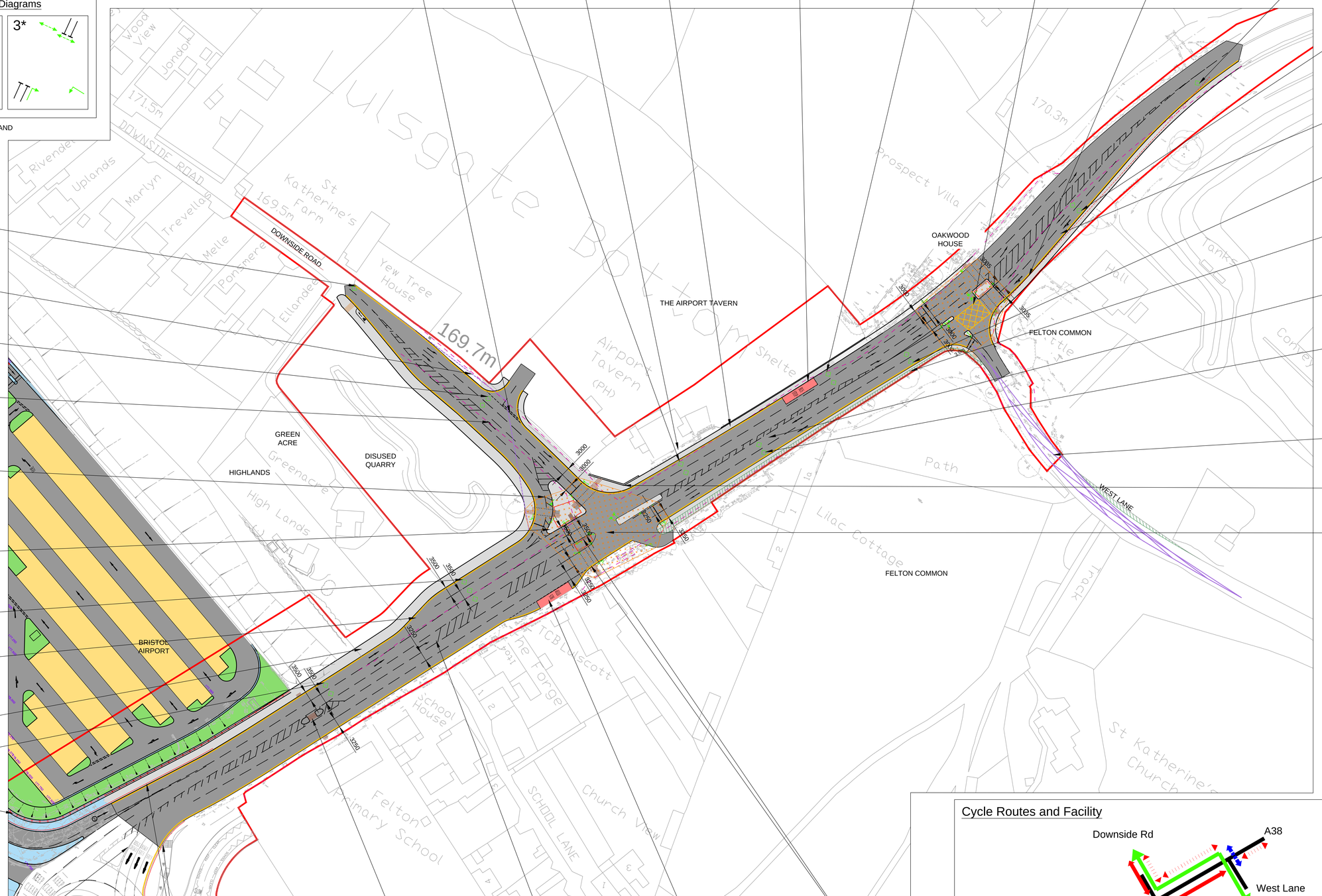
Downside Road - A38 Junction - Phasing Diagrams



West Lane - A38 Junction - Phasing Diagrams



*JUNCTION STAGE TO ONLY BE CALLED ON DEMAND

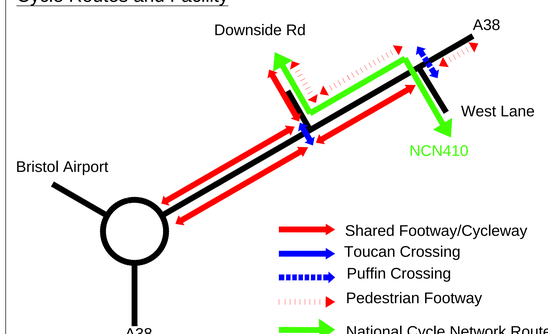


LEGEND

- RED LINE BOUNDARY
- HIGHWAY BOUNDARY
- INTERVISIBILITY ZONE
- VISIBILITY SPLAYS BASED ON SSD SET OUT WITH MFS
- VISIBILITY SPLAYS BASED ON SSD SET OUT WITH DMRB
- VEGETATION TO BE CLEARED

Rev	Description	Drawn	DATE	Auth
9.0	AMENDMENTS FOLLOWING RSA	JP	25/10/18	CC
8.0	AMENDMENTS TO PROPOSED LAYOUT	GS	16/10/18	CC
7.0	ADDED RED LINE BOUNDARY	GS	15/10/18	CC
6.0	AMENDMENTS TO PROPOSED LAYOUT	GS	12/10/18	CC
5.0	OAKWOOD HOUSE CARAVAN ADDED	DR	18/09/18	CC
4.0	LAND OWNERSHIP ADDED	AW	03/09/18	CC
3.0	REMOVED HIGHWAY BOUNDARIES	MW	23/08/18	CC
2.0	FUTURE HOTEL ACCESS AMENDED	MW	13/04/18	CC
1.0	FIRST ISSUE	MW	13/04/18	CC

Cycle Routes and Facility



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Client: Bristol Airport

Project: Bristol Airport 12MPPA Masterplan

Title: A38 Junction Improvements Option 10

Original Scale 1:500@A0	Drawn By	Date	Checked By		Auth	
	TO	24/10/18	DR		CC	

Drawing Number: C1124-SK-A38-010 REF. Rev 9.0

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Appendix B

NSC Highways and Transport - Pre-application Comments

INTERNAL MEMORANDUM

FROM: D&E HIGHWAYS & TRANSPORT

Date: 18/09/2018
Development Control Case Officer: Neil Underhay

Application No: Pre-application advice on Bristol Airport expansion to 12mppa
Location: A38 / Downside Road / West Lane junction
Proposal: A38 junction improvements

Pre-application comments from Highways Development Management

Note: we would normally expect a mitigation scheme after we reach agreement on the impact so whilst we are happy to provide early comments on the design of the scheme this is on the understanding that we will need to agree the impacts before reaching any conclusion on this scheme.

These comments have been produced based on plan titled A38 Junction Improvements Option 10 Drawing No.C1124-SK-A38-010 Rev 2.0

The Site
A38 / Downside Road / West Lane junction subject to a 40 mph speed limit. Downside Road and West Lane are C class highway.

Highway considerations

- The green line does not match with North Somerset Council (NSC) records for the adopted highway. For example, NSC records indicate the adopted highway only extends to the back of the footway on the east side of the A38 opposite the Downside Road junction.

- We would wish to see further details of the proposed access to the existing Airport Tavern public house. The new access may require alterations to the internal layout of the car park, and details such as this will need to be submitted to ensure vehicles can easily enter and exit the premises and not create a new road safety issue on Downside Road. Furthermore, tracking plots should be provided which show delivery vehicles can make use of this access. We would like to see clarification on whether the A38 access for the pub will be stopped up.

- The proposals also seem to be removing car parking from the front of the pub – we will need to be satisfied that adequate parking will remain across the site and will not lead to any parking on the public highway.

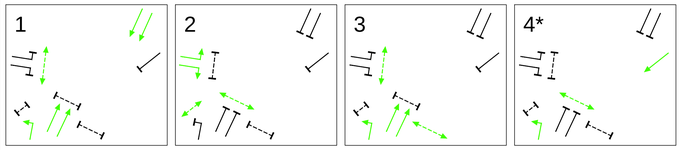
- All private access points need to be shown on plan. Vehicle tracking is needed for private accesses. How will servicing of premises along route be achieved?

- The proposed scheme does not provide any details of pedestrian and cycle crossing facilities such as dropped kerbs and tactile paving.
- The design needs to accommodate cycle route NCN 410 Avon Cycleway. New sections of shared path on west side of A38 appears to be under 3.5m wide. It would be useful to clarify which parts are shared use and what entry and exit points are. Consider providing advance stop lines and feeder lanes. Sustrans should be consulted by the designers.
- The gap in hatching on Downside Road is approx. 2m wide. Not wide enough for a ghost right turn lane this may result in rear end shunt type collisions.
- Swept path analysis needed for all highway movements. Right turn out of Downside Road looks very tight as does right turn into West Lane.
- On A38 north-bound and Downside Road there are 2no. lanes approx. 3m wide. Actual lane widths should be provided across the scheme together with swept path analysis to enable us to judge whether these are sufficient.
- Lane marking will need to be reviewed and may need changes on roundabout. Consideration of how lane marking will affect road safety and capacity.
- North bound bus stop near the Airport Tavern is not in a lay by. The operation of this stop will need to be considered (i.e. frequency of services layover) and we will need to understand the impact this has on safety and capacity.
- We will need confidence that the scheme is deliverable in respect of:
  - Use of third party land
  - Engineering challenges
  - Utilities – has conflict with utilities been checked?
- Plan is option 10 - can we see other options? Signalised junction at West Lane will need to be justified.

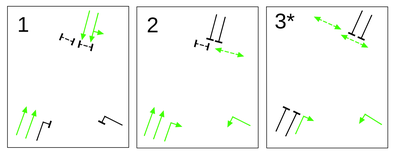
Design will need to be subject to a Stage 1/2 road safety audit & non-motorised user audit.

DO NOT SCALE FROM THIS DRAWING

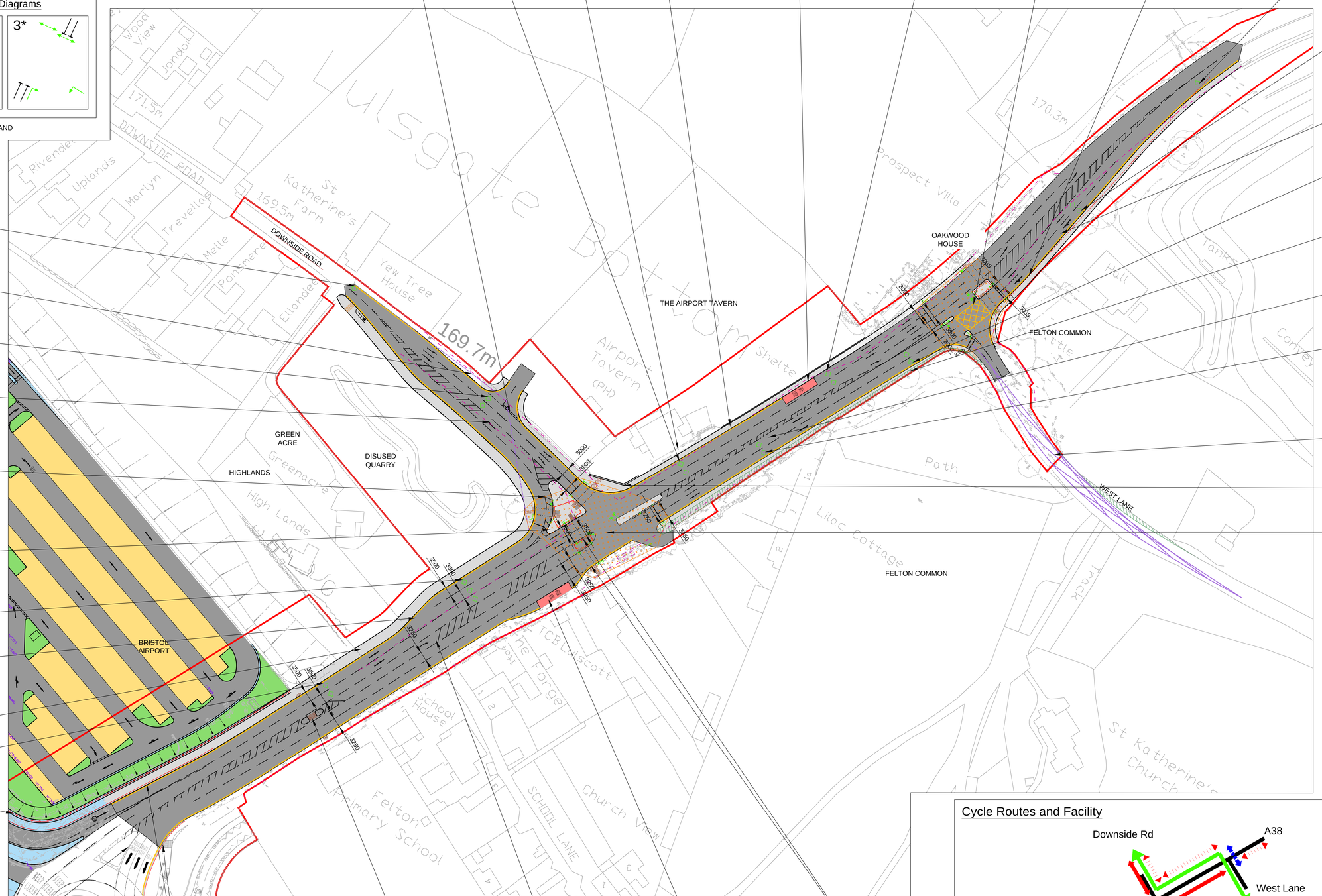
Downside Road - A38 Junction - Phasing Diagrams



West Lane - A38 Junction - Phasing Diagrams



*JUNCTION STAGE TO ONLY BE CALLED ON DEMAND

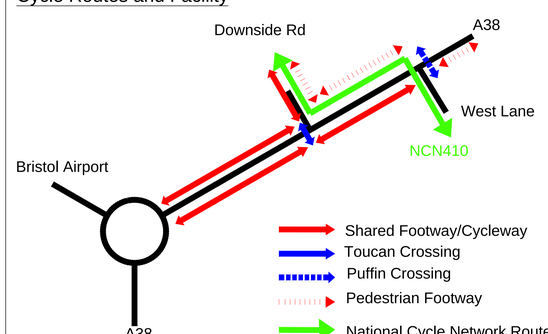


LEGEND

- RED LINE BOUNDARY
- HIGHWAY BOUNDARY
- INTERVISIBILITY ZONE
- VISIBILITY SPLAYS BASED ON SSD SET OUT WITH MFS
- VISIBILITY SPLAYS BASED ON SSD SET OUT WITH DMRB
- VEGETATION TO BE CLEARED

Rev	Description	Drawn	DATE	Auth
9.0	AMENDMENTS FOLLOWING RSA	JP	25/10/18	CC
8.0	AMENDMENTS TO PROPOSED LAYOUT	GS	16/10/18	CC
7.0	ADDED RED LINE BOUNDARY	GS	15/10/18	CC
6.0	AMENDMENTS TO PROPOSED LAYOUT	GS	12/10/18	CC
5.0	OAKWOOD HOUSE CARAVAN ADDED	DR	18/09/18	CC
4.0	LAND OWNERSHIP ADDED	AW	03/09/18	CC
3.0	REMOVED HIGHWAY BOUNDARIES	MW	23/08/18	CC
2.0	FUTURE HOTEL ACCESS AMENDED	MW	13/04/18	CC
1.0	FIRST ISSUE	MW	13/04/18	CC

Cycle Routes and Facility



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Client: Bristol Airport

Project: Bristol Airport 12MPPA Masterplan

Title: A38 Junction Improvements Option 10

Original Scale 1:500@A0	Drawn By	Date	Checked By		Auth	
	TO	24/10/18	DR		CC	

Drawing Number: C1124-SK-A38-010 REF. Rev 9.0

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Sterling Road Safety

A38 Junctions with Downside Road and West Lane, Lulsgate Bottom, North Somerset

Proposed Widening, Signalisation and Modification of Existing Signals

Stage 1 Road Safety Audit

SRS/TJS/2018/023

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ROAD SAFETY AUDIT REPORT

SRS/TJS/2018/023

Stage 1 Road Safety Audit of Proposed Widening, Signalisation and Modification of Existing Signals at Lulsgate Bottom in North Somerset

Prepared by:

Sterling Road Safety LLP

Prepared for: c-tas, First Floor Unit 2, Woodlands Business Village, Basingstoke, Hampshire, RG21 4JX.

(Contact: Graham Smith)

This report has been prepared for c-tas for the sole purpose of reviewing the road safety of highways works associated with proposed widening and traffic signals works on the A38 in Lulsgate Bottom in North Somerset. The views expressed are those of the author(s) and not necessarily those of c-tas.

Revision Status	Prepared by (name):	Checked by (name):	Approved by (signature):	Date approved:
Original	Tim Sterling	Martin Morley		23rd October 2018

Contents

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2	Items Considered	6
3	Matters Arising From This Stage 1 Audit	9
4	Auditor Statement	16

1 Introduction

1.1 This report concerns a Stage 1 Road Safety Audit (RSA) carried out on proposed highways works associated with the signalisation of the A38 junction with West Lane, improvements to the signalised junction of the A38 with Downside Road in Lulsgate Bottom and changes to A38 / Airport Roundabout in North Somerset.

1.2 The A38 at Lulsgate Bottom runs alongside Bristol International Airport and the south-western extent of the site is at the junction with a roundabout that provides access to the airport (the 'airport roundabout'). The A38 is subject to a 40mph speed limit.

1.3 The junction with Downside Road is about 220m to the north-east of the airport roundabout and is currently signalised. Widening of the carriageway on the northern side will allow for an extra lane south-west bound (towards the airport) along with a new left-turn lane for north-east bound traffic and an additional lane for through traffic. An extra lane would also be provided for traffic leaving Downside Road along with various changes to pedestrian crossing provision. These works would also involve the closure of the existing access from the A38 to Airport Tavern public house and a new access from Downside Road.

1.4 The junction of the A38 with West Lane is not currently signalised and comprises a simple give-way T-junction with a right-turn lane from the A38 and a single through lane in each direction. The proposal is to signalise the junction and add a through lane in each direction.

1.5 This Stage 1 RSA was carried out at the request of c-tas and a brief and emailed instructions were provided by Graham Smith.

1.6 The Audit Team was established by Sterling Road Safety LLP and a site inspection was undertaken on Friday 22nd October 2018 between 11:00am and 12:00 noon. The weather was dry and sunny and the road surface was dry. Traffic conditions were moderately heavy.

1.7 The Audit Team was independent of the project design team and none of the Team Members has had any involvement with the project.

1.8 The Auditors were:

Team Leader : Tim Sterling BEng MCIHT MSoRSA

Team Member : Martin Morley BSc (Hons), MCIHT, MSoRSA (Certificate of Competency in Road Safety Audit gained in February 2013)

1.9 The report has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive (HD) 19/15.

1.10 Issues relating to the health & safety of operatives constructing, operating or maintaining the highway are not covered by Road Safety Audit. Only issues relating to the design and construction of facilities for highway maintenance that may potentially contribute to a Road Safety Matter are considered by the Road Safety Audit process.

1.11 Road Safety Audit is not a technical check that the design conforms to Standards and/or best practice guidance. Design Organisations are responsible for ensuring that their designs have been subjected to the appropriate design reviews (including, where applicable, Walking, Cycling, Horse-Riding Assessment and Reviews) prior to Road Safety Audit.

1.12 Road Safety Audit is also not a check that the scheme has been constructed in accordance with the design.

1.13 Whilst reference may be made to certain design standards where safety is considered to be compromised by non-compliance, this report is not intended to assess compliance with standards or provide a design check. The Auditors have only reported on matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme or the appropriateness of the design. Consequently, the Auditors accept no responsibility for the design or construction of the scheme.

1.14 The recommendations in this report are aimed at addressing identified road safety problems; however there may be other alternative acceptable ways to overcome a specific problem, when local knowledge or other practical issues are considered. The recommendations in this report do not absolve the Designer of his/her responsibilities.

1.15 The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit and would encourage the Designer to consult them on this matter.

1.16 The response to the RSA should be formally recorded so that a record of the Audit process is contained in the As Built design pack on final completion.

1.17 All problems identified in this Road Safety Audit Report are indicated on a location plan in Appendix A.

2 Items Considered

2.1 The Auditors were provided with the following information and documentation:

- Emailed instructions and brief to undertake the road safety audit (received 8th October 2018);
- Stats 19 personal injury accident/collision data for an extensive area that includes the vicinity of the audit site and covering the period from the start of 2014 to the end of June 2018;
- Peak hour and off-peak traffic flow data;
- Drawing ref: C1124-SK-A38-010 Revisions: 5.0, 6.0 and 8.0 (all dated 13/04/18 and titled 'A38 Junction Improvements Option 10'). Revision 8.0 is understood to be the most recent and has been relied upon during this audit.

2.2 It is not clear when the signals at the junction with Downside Road were installed or whether any other significant changes have occurred during the period from January 2014 to June 2018. Nevertheless, personal injury collision/accident data for the length of the A38 between the airport roundabout and the scheme boundary to the north of West Lane plus the immediate approaches from the two side roads (Downside Road and West Lane) shows the following.

2.3 During 2014 there were three collisions, refs: 141409086 (at the airport roundabout), 141403139 (near Downside Road) and 141409980 (some way to the north).

- 141409086 involved a collision between southbound vehicles entering the airport roundabout. The proposed layout is not significantly different to the existing layout at this point.
- 141403139 involved a car exiting Downside Road and turning left being in collision with a northbound pedal cycle on the A38. It was daylight, the road was dry and slight injuries resulted.
- 141409980 occurred some way to the north and is of note because it involved a southbound vehicle colliding with the rear of queuing traffic.

2.4 During 2015, two accidents occurred at the airport roundabout, two near the Downside Road junction and three near the West Lane junction.

- 151505060 involved a collision between southbound vehicles entering the airport roundabout. The proposed layout is not significantly different to the existing layout at this point.

- 151506892 involved falling within a bus at the airport roundabout.

- Both 151505406 and 151504786 involved a car emerging and turning right from Downside Road being in collision with a northbound car on the A38. It was daylight, a dry road and slight injuries resulted.

- 151502129 involved a nose-to-tail collision between two cars at a queue associated with an access to airport parking near West Lane. It was daylight, a dry road and slight injuries resulted.

- 151503414 was a fatal accident that involved a southbound motorcyclist striking the kerb and losing control near the junction with West Lane. It was daylight and the road was dry.

- 151505909 involved a collision between a car turning right into West Lane and an oncoming car. It was daylight, a dry road and slight injuries resulted.

2.5 During 2016, there were two slight injury accidents.

- 161603632 involved a collision between two northbound vehicles, associated with a manoeuvre into and out of a bus stop near West Lane. It was daylight, a dry road and slight injuries resulted.

- 161608616 involved a van emerging from Downside Road and colliding with a northbound car on the A38. It was dark and wet and slight injuries resulted.

2.6 During 2017, there was one slight injury accident, reference 171703864. This involved a car turning right into the airport tavern and colliding with an oncoming car. It was dark, the road was dry and slight injuries resulted.

2.7 During the first six months of 2018, there was one recorded injury accident. This occurred at the junction of Downside Road with Combe Dale and being about 290m from the A38 is considered to be beyond the scope of this investigation.

2.8 Traffic flow data did not include speed measurements and it is not known whether or not significant numbers of vehicles travel in excess of 40mph in this area. It is similarly not known whether or not visibility splays were determined on the basis of actual measured speeds.

2.9 No departures from standards have been identified within the Road Safety Audit Brief. No other information was provided to the Audit Team.

3 Matters Arising From This Stage 1 Audit

3.1 Location: The northern side of Downside Road close to the junction with the A38.

Problem: Steep gradient at proposed access to the Airport Tavern.

A new vehicular access is proposed to the Airport Tavern and there is a significant level difference between the road and the car park. If there is a steep gradient at or near the give-way line then this could restrict sightlines or result in problems when emerging, resulting in risks of collisions with traffic on Downside Road.

Recommendation: It is recommended that the gradient is minimised so as to ensure sufficient sightlines and to ensure that traffic emerges onto Downside Road from a suitably level approach.

3.2 Location: The existing uncontrolled pedestrian crossing near the airport roundabout.

Problem: There is a notable desire line at this point and the proposal is to close this crossing.

A significant number of pedestrians were observed crossing at this point. Some of these appeared to be airport personnel. Others were passengers who were crossing either from, or to, vehicles that were parked in

contravention of restrictions in the short road that leads east from the airport roundabout or were walking to Easirent Car Hire.

A new crossing point is proposed about 100m to the north of the roundabout, but pedestrians are notoriously reluctant to deviate from the most direct route and it seems highly likely that crossing movements will continue near to the roundabout. The proposal includes the addition of a filter lane, or segregated left-turn lane, and the deletion of the dropped kerbing and tactile paving. Consequently, pedestrians who cross at this point will be at increased collision risk.

Recommendation:

It is recommended that this pedestrian movement is either prevented or provided for. Prevention could include the provision of extensive pedestrian guard railings on both sides of the road. Alternatively, a suitable additional pedestrian crossing facility could be provided for pedestrians crossing the new filter lane.

3.3 Location: At the roadside generally, but particularly alongside the new roundabout filter lane and to the east of the junction with Downside Road.

Problem: There are some significant level differences.

At this early stage there are no details available concerning vehicle restraint systems / roadside barrier. In the absence of suitable protection, the occupants of errant vehicles are at increased risk if their vehicle leaves the carriageway and collides with an unforgiving roadside feature or crosses down a steep slope.

Recommendation: It is recommended that suitable assessments are carried out and that barriers are provided where necessary.

3.4 Location: The A38 to the north-east of West Lane.

Problem: The realignment of the carriageway could result in an increased risk of nose-to-tail collisions.

Widening at this point is on the south-east of the A38 and this will increase the curvature of the left-hand bend (for south-west bound traffic). New traffic signals will be provided at West Lane and queuing for these will occur.

If the sightline to these queuing vehicles is insufficient then there is a risk of nose-to-tail collisions occurring.

Recommendation: It is recommended that the forward sightline is sufficient for actual traffic speeds and for the predicted queue lengths.

3.5 Location: The footways alongside the A38 and Downside Road.

Problem: Cars were observed parked in various locations, obstructing and impeding the passage of pedestrians and cyclists.

The proposal includes a number of improvements to footways and shared cycle/footways. If these facilities are parked on then pedestrians and cyclists will be forced into the carriageway and placed at risk of collision.

Recommendation: It is recommended that explicit and enforceable restrictions are introduced to prohibit such parking.

3.6 Location: The cattle grid in West Lane.

Problem: Sufficiency of skidding resistance on the approach to traffic signals.

The cattle grid is approximately 20m from the proposed West Lane Stop Line. At present, drivers approaching the give-way line know that they must yield and their speeds are consequently low. Once signalised, some drivers will approach with a green light ahead of them; their speed may well be higher. If these vehicles need to brake due to the lights changing to red then the cattle grid may not afford sufficient skidding resistance for them to stop safely.

Recommendation: It is recommended that the sufficiency of the skidding resistance is assessed and that it is improved or that the cattle grid is moved further from the junction as necessary.

3.7 Location: The junction of West Lane with the A38.

Problem: There is no provision for pedestrian crossings across the newly signalised junction at West Lane.

The phasing diagram shows that there will be either a left-turn in, or a left-turn out, under all conditions. Pedestrians wishing to cross West Lane must therefore always do so in potential conflict with traffic that has a green light. Similarly, the northbound lane of the A38 will always show a green light and there is no provision for this pedestrian crossing movement.

Recommendation

It is recommended that suitable pedestrian provision is included for the crossings of the A38 and West Lane, possibly including a pedestrian refuge.

3.8 Location: General.

Problem: It is not clear which footways are shared-use.

Some footways are shown as 3.5m wide whereas others appear to be narrower. If provision is unclear, discontinuous or too narrow then there is a risk that vulnerable road users will be placed at unnecessary risk within the carriageway.

Recommendation: It is recommended that shared cycle/footways should form continuous routes and that they should be sufficiently wide and clearly signed.

3.9 Location: The south-west bound bus stop layby.

Problem: Buses overhanging the carriageway.

This bus lay-by includes a raised kerb for easier embarkation and disembarkation. However, because there is an access at this point, the raised kerb has been placed forward in the narrow lay-by such that the front offside of buses are likely to overhang the running lane.

This existing feature is not modified by the proposals. However, an additional lane is to be provided past it and there is consequently a risk of vehicles being 'squeezed' and colliding side-on when passing a bus at this bus stop.

Recommendation: It is recommended that the bus stop is enlarged or otherwise modified so that stationary buses do not overhang the running lane.

3.10 Location: The A38 to the south of West Lane.

Problem: Traffic from West Lane that wish to turn right may undertake u-turns.

The proposal involves prohibiting the right-turn from West Lane. There is an alternative route involving a u-turn 350m to the south at the airport roundabout. However, if there are queues then some traffic may attempt u-turns at the Downside Road signals or at other unsuitable locations.

Similarly, the prohibition of the right-turn may result in traffic being displaced to less suitable or less safe routes elsewhere (e.g. Currells Lane, Newditch Lane or Dial Lane).

Recommendation: It is recommended that an assessment of likely delays and the potential for unsuitable u-turning and traffic displacement is undertaken, with suitable mitigation measures developed as appropriate.

3.11 Location: The junction of West Lane and the A38.

Problem: The traffic island within the A38 and to the west of the junction may not be large enough to accommodate the proposed signal heads.

It is noted that the drawings considered are marked as 'Do Not Scale'. Nevertheless, this traffic island appears to be too narrow to accommodate the required signal heads. If there is insufficient clearance then there will be a risk of the signals being struck by passing traffic.

Recommendation: It is recommended that an assessment is undertaken to ensure that all signals can be accommodated with sufficient clearance.

3.12 Location: General.

Problem: Sufficiency of street lighting provision.

The scheme includes the addition of pedestrian phases, encouraging more cycling, more bus passengers and possibly more ad-hoc pick up / drop off activity on the wider A38 carriageway. Also, at present, neither Downside Road nor West Lane have lighting. If the lighting in insufficient then the increased pedestrian and cyclist activity could result in increased collision risk during darkness.

Recommendation: It is recommended that sufficient street lighting is provided.

3.13 Location: The junction of West Lane and the A38.

Problem: The forward sightline to the nearside primary signal head may not be sufficient.

Although the Audit Team were not aware of any departures from standards, it appeared that it will be necessary to clear extensive nearside vegetation in order to ensure sufficient forward visibility from West Lane to the nearside primary signal. If this visibility is not available then there will be a risk of vehicles overshooting the stop line and colliding with traffic on the A38.

Recommendation: It is recommended that sufficient clearance of vegetation and other roadside objects is undertaken to ensure that necessary sightlines are achieved.

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4 Auditor Statement

I certify that this audit has been carried out in accordance with HD19/15.

AUDIT TEAM LEADER

Name: Tim Sterling

Position: Partner & Principal Road Safety Audit Consultant

Organisation: Sterling Road Safety LLP
13 Bushy Park, Bristol, UK.
www.sterlingroadsafety.co.uk

Signed:

Date: 23rd October 2018

AUDIT TEAM MEMBER

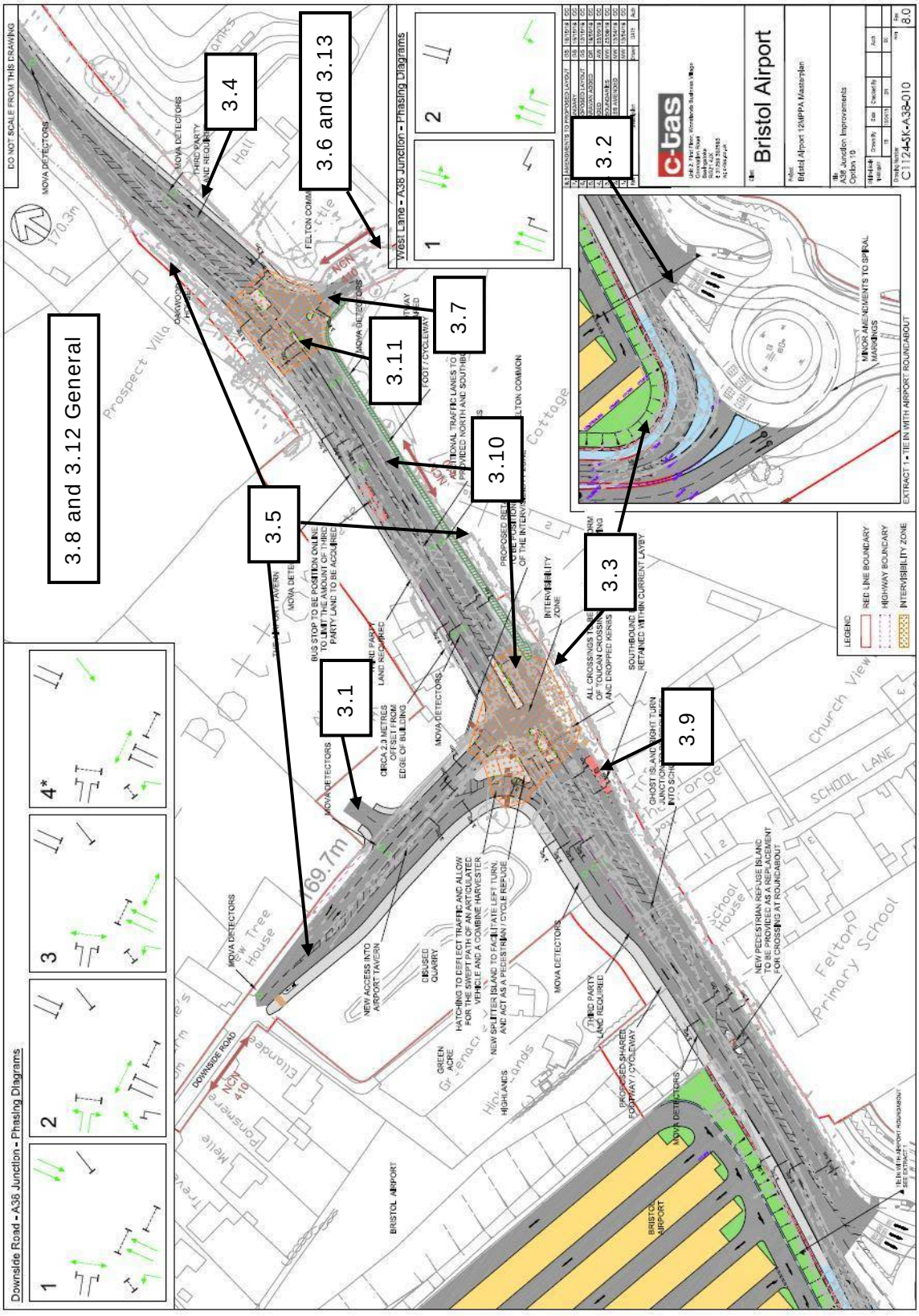
Name: Martin Morley

Position and Organisation: Partner at Road Safety Initiatives LLP acting as Consultant to Sterling Road Safety LLP

Signed:

Date: 23rd October 2018

A.1 Appendix A – Location Plan



A.2 Appendix B – Designers Response

Scheme: A38, Lulsgate Bottom, North Somerset - Proposed Carriageway Widening and Signals Works.

Auditors: Tim Sterling (Team Leader) & Martin Morley (Team Member).

Date Audit Completed: 23rd October 2018.

This response is to a Stage 1 Road Safety Audit to the design standard detailed within HD19/15 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges, as detailed by Highways England.

Problem No. in Safety Audit Report	Problem Accepted (Yes/No)	Recommended Measure Accepted (Yes/No)	Alternative Measure (Detail Description)
3.1	Yes	Yes	It is agreed that the gradient will be minimised where possible to ensure that sufficient sightlines and to ensure that traffic emerges onto Downside Road at a suitable level. Details of proposed levels will be confirmed as part of the detailed design process and provided to the auditor for consideration as part of a future Stage 2 Road Safety Audit. In addition to this, the proposed visibility splays to the left and right at this junction have been added on to Drawing C1124-SK-A38-010 Rev 9.0 as additional information. The visibility splays shown have been based on the recorded 85th percentile speeds recorded in the east and westbound direction, using the visibility splay calculator set out within

			Manual for Street (MfS). The visibility splays have also been calculated on the observed vehicles speeds and have not had a wet weather reduction applied as detailed within the Department for Transport TA 22/81 “Vehicle Speed Measurements on All Purpose Trunk Roads”. Therefore, the visibility splays are greater than those required, if a wet weather reduction was applied in accordance with guidance.
3.2	Yes	Yes	Due to the new left turn filter lane exiting Bristol Airport, and the limited land constraints it is not possible to realign the existing informal crossing point across the A38 (north) arm of the roundabout. As such it is proposed that the current tactile paving, dropped kerbs and central footway within the splitter island will be removed. It is considered that the addition of the new filter land and associated additional traffic lane with act as an addition form of severance to discourage pedestrians from crossing the A38 in this location. Additional pedestrian guard railing will be provided to prevent pedestrians attempting to crossing in this location. In addition to this, it is proposed that adequate signage will be provided to direct pedestrians to a new informal pedestrian crossing 85 metres to the south if they wish do not wish to cross the A38 at the signalised crossing at the A38 / Downside Road junction. The proposed new pedestrian refuge island is considered to be located in a suitable location, as there is no significant developments / amenities directly opposite the current crossing that would generate the pedestrian footfall.
3.3	Yes	Yes	The significant level differences to the east of the junction with Downside Road are not proposing to be altered as part of the proposals, and the review of the accident data within Section 2 of this report has not

			highlighted any accidents that are caused due to these changes in levels. The proposed changes alongside the new roundabout filter lane, it is proposed that a vehicle restraint barrier / roadside barrier will be provide along the back edge of the pedestrian footway at the top of the proposed embankment, as shown on Drawing C1124-SK-A38-010 rev 9.0. Details of proposed levels and protection barriers will be confirmed as part of the detailed design process and provided to the auditor for consideration as part of a future Stage 2 Road Safety Audit.
3.4	Yes	Yes	Noted. A review of the Automatic Traffic Counts has indicated the actual 85th percentile speeds for the southbound approach is 41.2 miles per hour. Based on the SSD calculations set out within DMRB this equates to a SSD of 106.6 metres, which has been shown on the on Drawing C1124-SK-A38-010 Rev 9.0 to demonstrate that these sightlines can be achieved.
3.5	Yes	Yes	Noted. Along the A38, there are double yellow lines parking restrictions on both sides of the carriageway. The double yellow line restriction indicates that parking is prohibited. The restriction imposed by these markings applies from the centre of the road to the highway boundary on the side of the road that the marking is laid, as set out within Chapter 5 of the Traffic Signs Manual (TSM). From the information provided by North Somerset Council, the highway boundary where this parking was observed is up to the edge of the Forge Motel Building. However, it must be noted that where this parking is occurring there are faded marking indicating a stretch of parking bays. Based on a legal

			standing it is considered that the design of this bay does not conform to the requirements set out in the TSM. Therefore, there is an element of confusion if these parking bays are currently exempt, as this may be a historic arrangement. In either circumstance parking outside of this parking bay (as observed), either completely or partly outside of the visible marking enforcement is possible. As the Civil Parking Enforcement authority in this area, North Somerset Council have the powers to issue a penalty charge notice to drivers that park carelessly in breach of traffic regulations. Solving this existing issue through design has not been possible, as the details of the bay yet to be confirmed by NSC. However, with this in mind and through the wider improvements a new shared footway / cycleway has been proposed on the western side of the A38 in order to provide an alternative route to Bristol Airport with a consistent width of 3.0 metres. With regards to the parking observed along Downside Road, it is proposed that new double yellow line markings are provide alongside both sides of the road along the extents of the improvements. The enforcement of this new restriction will be the responsibility of NSC.
3.6	Yes	Yes	Noted. It is proposed that anti-skid surfacing on approach to the proposed West Lane stop line. Due to land constraints it is not possible to relocate the cattle grid. Therefore it is proposed that additional anti-skid markings will be provided over the standard requirements to compensate for the position of the cattle grid. Details of proposed anti-skid surfacing will be confirmed as part of the detailed design process and provided to the auditor for consideration as part of a future Stage 2 Road Safety Audit.

3.7	Yes	Yes	Noted. A pedestrian crossing has been shown across the A38 (north) arm of the junction, utilising the proposed traffic island. Due to the limited demand for pedestrians crossing the A38 in this location, it is proposed that the pedestrian crossing over the northbound traffic lane will only operate on a demand. The junction staging diagram has been altered to reflect this.
3.8	Yes	Yes	For confirmation, a pedestrian / cycle facility diagram has been included on Drawing C1124-SK-A38-010 Rev 9.0. In addition to this, additional labels and ladder and tramline tactile paving have been added to denote the shared footway / cycleway facilities.
3.9	Yes	No	Noted. As part of the detailed design, additional consultation is required with the bus operators to determine the optimum solution for the lay-by to be taken forward.
3.10	Yes	Yes	The associated impacts for the no right turn restriction at West Lane are to be completed by Peter Brett Associates as part of the Transport Assessment for the Hybrid Planning Application, for which the A38 Improvement scheme is an element of. Based on the results of the 2018 traffic surveys only 11 and 13 vehicles currently turn right from West Lane northbound along the A38 in the AM and PM peak hours respectively. For these users to continue to travel north along the A38, they will need to divert and u-turn at the Bristol Airport roundabout, if they do not decide to re-assign to an alternative route from the route origin to avoid to do so. The design of both the left turn from West Lane, and the southbound approach at the A38 / Downside Road junction has been designed to

			restrict as much as possible the opportunity for drivers to perform prohibited movements.
3.11	Yes	Yes	The width of the traffic island is at its widest point 1.5 metres, this is sufficient width to accommodate a 2 aspect signal head with backing boards. It is proposed that this signal will act as the primary head for the right turn into West Lane. With the primary head signals for the northbound ahead movement being provided on the nearside. It is proposed that to reduce confusion a double 3-aspect signal head will be provided on the refuse island opposite the stop line to act as the secondary signals. Details of proposed the proposal traffic signals will be confirmed as part of the detailed design process and provided to the auditor for consideration as part of a future Stage 2 Road Safety Audit.
3.12	Yes	Yes	Details of proposed lighting will be confirmed as part of the detailed design process and provided to the auditor for consideration as part of a future Stage 2 Road Safety Audit.
3.13	Yes	Yes	The approach to the West Lane traffic signal is subject to the national speed limit (60 miles per hour). A speed survey has not been undertaken to determine the actual 85th percentile speed in this location. Based on the Table 3 within TD 9/93, the desirable minimum stopping sight distance required for the forward visibility and visibility to the existing give way line should be 215 metres. However, West Lane is a semi-rural road with tight bends and restricted visibility. As such, within the existing constraints of the highway boundary the actual achievable forward visibility around the bend approaching the current give way is only 68 metres. This equates to a maximum travelling speed of approximately 30.5 miles per hour. As it is outside the means of this proposal to acquire additional land

			along West Lane. It is not possible to achieve the increase the slight line distance as part of the proposal. Therefore, in order to mitigate this issue, and increase the awareness to driver about the approaching new traffic signals. It is proposed that: All vegetation is cut back to edge of the highway boundary in order to maximize visibility around approaching bend. Additional anti-skid surfacing to be provided on approach to the stop line. Discussion with NSC over the potential to relocate the change of speed limit further along West Lane. Provide adequate signage indicating tight bend, and new road layout ahead. Details of proposed these mitigation will be confirmed as part of the detailed design process and provided to the auditor for consideration as part of a future Stage 2 Road Safety Audit.

Principal Engineer's / Audit Project Sponsor's Statement:

Road Safety Audit for: A38, Lulsgate Bottom, North Somerset - Proposed Carriageway Widening and Signals Works.

I certify that I have considered the items raised in the Stage 1 Road Safety Audit Report and I am content to accept all of its recommendations except for the ones listed above. I have stated my reasons for not accepting them and I seek the Chief Engineer's endorsement of my proposals.

..... Date.....

Principal Engineer

Chief Engineer's / Director's Decision:

I accept these proposals by the Principal Engineer.

..... Date.....

Chief Engineer

Appendix E Traffic Survey Raw Data

Intelligent Data Collection Limited
Bri tol !irport

Client:	Peter Brett Associates
Project Number:	ID04020
Junction Number:	Site 1
Date of Survey:	10.07.2018
Junction Name:	A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type:	#rossroads

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0ile Re1	ID04020 Bristol Air'ort 2) ## Site 1 2 10.07.2018			

Iss"e Sheet

Iss"ed to	Date			
	08.08.2018			
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Content Page

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Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018
Project Number:	ID04020	Junction Name:	A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rs
Junction Number:	Site 1	Junction Type:	#rossroads

0 Coordinate	**2** Coordinate	**1**oogle - ap Lin+	
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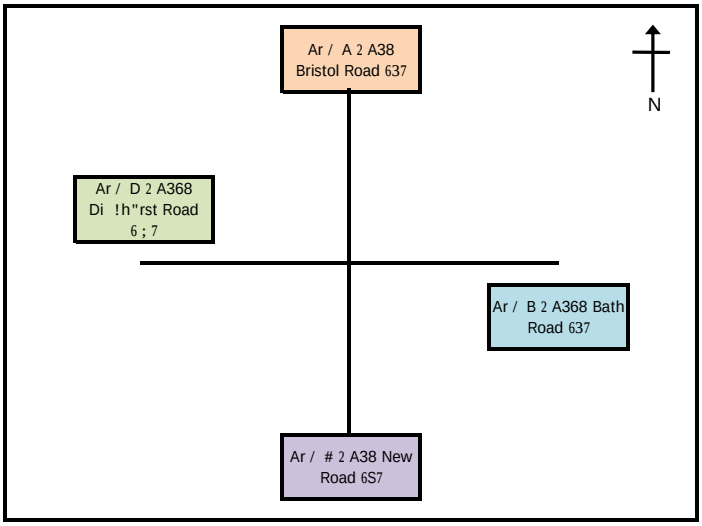
! - Pea+ Condition	Inter$Pea+ Condition	P - Pea+ Condition	
Dr%	Dr%	Dr%	

Junction Layout



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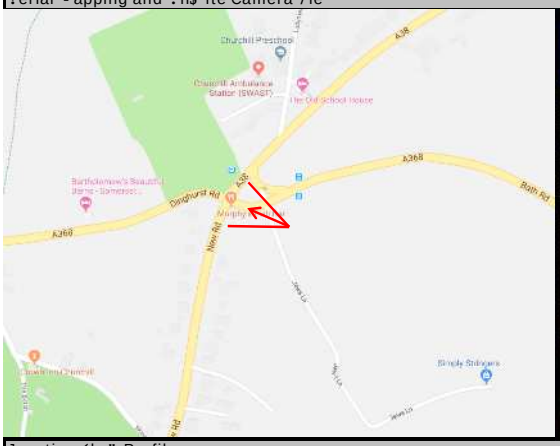
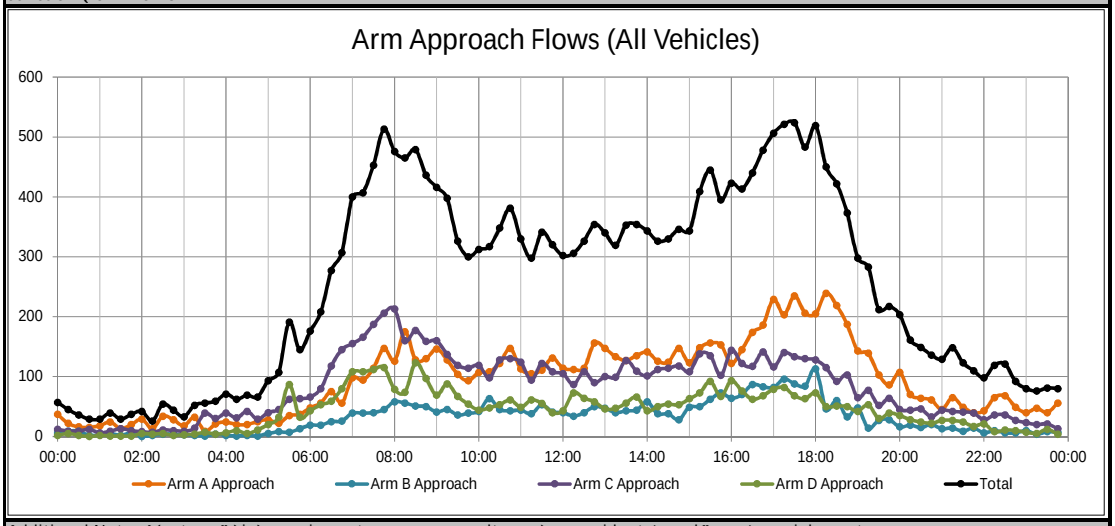


Junction (lo" Profile



!dditional Note '(actor ")ic) may impact on urvey re ult uc) a accident *road"or+ * pecial event ,:

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

!rm !: A38 Bristol Road 637
!rm B: A368 Bath Road 637
!rm C: A38 New Road 657
!rm D: A368 Di !h"rst Road 6 ; 7

	! to !								! to D								! to C							
Time	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total
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00<1:	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	19	1	0	0	1	0	0	21
00<30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	14
00<4:	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	11	1	0	0	1	0	0	13
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08<4:	0	0	0	0	0	0	0	0	29	7	2	1	0	0	0	39	:9	11	3	2	0	0	0	7:
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09<1:	0	0	0	1	0	0	0	1	26	2	2	0	0	0	0	30	68	1:	3	2	0	0	0	88
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09<4:	0	0	0	0	0	0	0	0	13	4	0	0	0	1	0	18	4:	13	3	2	1	2	0	66
10<00	0	0	0	0	0	0	0	0	2:	:	1	0	1	0	0	32	49	11	2	4	1	0	1	68
10<1:	0	0	0	0	0	0	0	0	18	:	0	1	0	0	1	2:	44	16	4	4	1	0	2	71
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Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
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00:1:	0	0	0	0	0	0	0	0	3	3	0	1	0	0	0	7	::	:	0	0	2	0	0	62
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03:00	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	4	70	3	1	2	0	0	0	76
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03:4:	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	69	6	2	2	1	0	0	80
04:00	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	:	64	9	4	4	1	0	0	82
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04:30	0	0	0	0	0	0	0	0	8	3	0	0	0	0	0	11	:9	10	7	4	0	0	0	80
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0:<30	0	0	0	0	0	0	0	0	24	:	1	4	0	0	0	34	84	37	6	3	2	1	0	133
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23:00	0	0	0	0	0	0	0	0	21	3	0	1	0	0	0	2:	138	8	1	1	0	3	0	1:1

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

!rm !: A38 Bristol Road 637
!rm B: A368 Bath Road 637
!rm C: A38 New Road 657
!rm D: A368 Di !h"rst Road 6 ; 7

	! to B								B to B								B to !							
Time	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total
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00:1:	0	0	0	0	0	0	0	0								0	0	0	0	2	0	0	0	2
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00:4:	0	0	0	0	0	0	0	0								0	0	0	0	1	0	0	0	1
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01:4:	0	0	0	0	0	0	0	0								0	0	0	0	3	0	0	0	3
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02:4:	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
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07:30	1	2	0	3	0	0	0	6								0	7	1	1	2	0	0	0	11
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09:30	:	2	0	2	0	0	0	9								0	1	1	1	3	0	0	0	6
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16:30	2	0	1	0	0	0	0	3								0	4	1	0	0	0	0	0	:
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17:00	3	2	0	1	1	0	0	7								0	11	3	0	0	0	0	0	14
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17:30	4	0	0	0	0	0	0	4								0	9	3	0	0	0	0	0	12
17:4:	:	2	0	0	0	0	0	7								0	8	3	0	0	0	0	0	11
18:00	4	1	0	0	0	0	0	:								0	:	3	0	1	0	0	0	9
18:1:	4	1	0	1	0	0	0	6								0	1	1	0	0	0	0	0	2
18:30	4	0	0	0	0	0	1	:								0	6	0	0	1	0	0	0	7
18:4:	4	1	1	0	0	0	0	6								0	4	0	0	0	0	0	0	4
19:00	2	0	0	0	0	0	0	2								0	10	1	0	0	0	0	7	18
19:1:	4	1	0	0	0	0	0	:								0	1	1	0	0	0	0	0	2
19:30	2	0	0	0	0	0	0	2								0	3	1	0	0	0	0	0	4
19:4:	2	2	0	0	0	0	0	4								0	6	1	1	0	0	0	1	9
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20:1:	1	0	0	0	0	0	0	1								0	2	0	0	1	0	0	0	3
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21:4:	2	1	0	0	0	0	0	3								0	3	1	0	0	0	0	0	4
22:00	0	1	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
22:1:	3	0	0	2	0	0	0	:								0	2	1	0	0	0	0	0	3
22:30	3	0	0	0	0	0	0	3								0	1	0	0	0	0	0	0	1
22:4:	0	0	0	0	0	1	0	1								0	1	0	0	2	0	0	0	3
23:00	3	0	0	1	0	0	0	4								0	0	0	0	2	0	0	0	2
23:1:	0	0	0	0	0	0	0	0								0	2	0	0	1	0	0	0	3
23:30	0	0	0	2	0	0	0	2								0	1	0	0	0	0	0	0	1
23:4:	0	0	0	1	0	0	0	1								0	0	0	0	2	0	0	0	2

Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
00:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	7	0	0	0	8
00:1:	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
00:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
00:4:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	:	0	0	0	:
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7
01:1:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	:	0	0	0	:
01:4:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:1:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:4:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
03:1:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
03:30	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
03:4:	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3
04:00	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
04:1:	1	0	0	4	0	0	0	:	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3
04:30	1	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	3	0	1	2	0	0	0	6
04:4:	2	0	1	3	0	0	0	6	0	0	0	0	0	0	0	0	3	0	1	2	0	0	0	6
0:<00	2	0	1	4	0	0	0	7	0	0	0	0	0	0	0	0	3	0	1	2	0	0	0	6
0:<1:	2	1	2	1	0	0	0	6	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	:
0:<30	4	2	2	1	0	0	0	9	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	4
0:<4:	:	4	1	1	0	0	0	11	0	0	0	0	0	0	0	0	4	4	0	2	0	0	1	11
06:00	4	:	1	2	0	0	0	12	0	0	0	0	0	0	0	0	7	:	0	4	0	0	1	17
06:1:	6	6	0	2	0	0	0	14	0	0	0	0	0	0	0	0	10	:	0	:	0	0	1	21
06:30	7	6	0	:	0	2	0	20	0	0	0	0	0	0	0	0	11	:	1	10	0	0	2	29
06:4:	6	6	0	8	0	2	0	22	0	0	0	0	0	0	0	0	17	2	2	10	0	0	1	32
07:00	13	8	1	8	0	2	0	32	0	0	0	0	0	0	0	0	22	3	2	8	0	0	1	36
07:1:	13	8	1	9	0	2	0	33	0	0	0	0	0	0	0	0	26	4	4	7	0	0	1	42
07:30	17	10	2	6	0	0	0	3:	0	0	0	0	0	0	0	0	28	:	:	:	0	0	0	43
07:4:	20	12	2	:	0	0	0	39	0	0	0	0	0	0	0	0	26	6	:	9	0	0	0	46
08:00	22	11	1	8	0	0	0	42	0	0	0	0	0	0	0	0	31	7	6	11	0	0	0	::
08:1:	23	12	1	8	0	0	0	44	0	0	0	0	0	0	0	0	29	8	4	13	0	0	0	:4
08:30	24	9	1	8	0	0	0	42	0	0	0	0	0	0	0	0	28	9	2	10	0	0	0	49
08:4:	2:	7	1	8	0	0	0	41	0	0	0	0	0	0	0	0	24	8	2	7	0	0	0	41
09:00	20	7	1	6	0	0	0	34	0	0	0	0	0	0	0	0	13	8	1	7	1	0	0	30
09:1:	21	:	1	7	0	0	0	34	0	0	0	0	0	0	0	0	13	7	2	6	1	0	0	29
09:30	1:	9	1	8	0	0	4	37	0	0	0	0	0	0	0	0	19	8	2	8	1	0	0	38
09:4:	11	8	2	9	0	0	4	34	0	0	0	0	0	0	0	0	24	8	1	6	1	0	0	40
10:00	11	8	3	10	0	0	4	36	0	0	0	0	0	0	0	0	28	6	3	7	0	0	0	44
10:1:	14	9	3	13	1	1	4	4:	0	0	0	0	0	0	0	0	28	:	2	10	0	0	0	4:
10:30	16	8	2	14	1	2	0	43	0	0	0	0	0	0	0	0	21	4	3	9	0	0	0	37
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11:00	20	9	2	11	2	2	0	46	0	0	0	0	0	0	0	0	23	4	4	9	0	0	0	40
11:1:	1:	9	2	7	1	1	0	3:	0	0	0	0	0	0	0	0	22	4	4	6	0	0	0	36
11:30	1:	6	2	6	1	0	0	30	0	0	0	0	0	0	0	0	2:	7	3	6	0	1	0	42
11:4:	19	6	2	7	1	0	0	3:	0	0	0	0	0	0	0	0	2:	7	1	3	1	2	0	39
12:00	20	3	1	6	0	0	0	30	0	0	0	0	0	0	0	0	2:	6	1	:	1	2	0	40
12:1:	21	3	2	7	0	0	0	33	0	0	0	0	0	0	0	0	2:	7	1	:	1	2	0	41
12:30	19	6	2	10	0	0	0	37	0	0	0	0	0	0	0	0	24	2	2	:	1	1	0	3:
12:4:	17	7	4	7	0	0	0	3:	0	0	0	0	0	0	0	0	22	6	1	8	0	0	0	37
13:00	16	7	3	12	0	0	0	38	0	0	0	0	0	0	0	0	27	:	2	8	0	0	0	42
13:1:	16	:	2	14	0	1	0	38	0	0	0	0	0	0	0	0	32	8	2	8	0	0	0	:0
13:30	20	:	2	12	0	1	0	40	0	0	0	0	0	0	0	0	32	9	1	9	0	1	0	:2
13:4:	16	:	1	1:	0	1	0	38	0	0	0	0	0	0	0	0	33	:	6	:	0	1	0	:0
14:00	14	:	3	12	0	1	0	3:	0	0	0	0	0	0	0	0	23	6	:	7	0	1	0	42
14:1:	13	7	4	11	0	0	0	3:	0	0	0	0	0	0	0	0	20	4	:	8	0	1	0	38
14:30	10	4	6	12	0	0	0	32	0	0	0	0	0	0	0	0	24	6	6	7	0	0	0	43
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1:<00	13	6	3	7	0	0	0	29	0	0	0	0	0	0	0	0	29	10	1	4	0	1	0	4:
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1:<4:	11	3	3	2	0	0	0	19	0	0	0	0	0	0	0	0	21	14	2	2	1	1	0	41
16:00	11	1	3	3	0	0	0	18	0	0	0	0	0	0	0	0	19	10	3	2	1	1	0	36
16:1:	11	2	2	2	1	0	0	18	0	0	0	0	0	0	0	0	26	11	2	1	1	1	0	42
16:30	17	2	1	2	1	0	0	23	0	0	0	0	0	0	0	0	31	7	1	0	0	1	0	40
16:4:	19	2	0	2	1	0	0	24	0	0	0	0	0	0	0	0	36	9	1	0	0	1	0	47
17:00	22	4	0	1	1	0	0	28	0	0	0	0	0	0	0	0	39	12	0	0	0	0	0	:1
17:1:	23	3	0	0	0	0	0	26	0	0	0	0	0	0	0	0	33	12	0	1	0	0	0	46
17:30	17	4	0	1	0	0	0	22	0	0	0	0	0	0	0	0	23	10	0	1	0	0	0	34
17:4:	17	4	0	1	0	0	1	23	0	0	0	0	0	0	0	0	20	7	0	2	0	0	0	29
18:00	16	3	1	1	0	0	1	22	0	0	0	0	0	0	0	0	16	4	0	2	0	0	0	22
18:1:	14	2	1	1	0	0	1	19	0	0	0	0	0	0	0	0	21	2	0	1	0	0	7	31
18:30	14	2	1	0	0	0	1	18	0	0	0	0	0	0	0	0	21	2	0	1	0	0	7	31
18:4:	12	2	1	0	0	0	0	1:	0	0	0	0	0	0	0	0	18	3	0	0	0	0	7	28
19:00	10	3	0	0	0	0	0	13	0	0	0	0	0	0	0	0	20	4	1	0	0	0	8	33
19:1:	11	3	0	0	0	0	0	14	0	0	0	0	0	0	0	0	12	3	1	0	0	0	1	17
19:30	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	13	2	1	1	0	0	1	18
19:4:	7	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0	11	1	1	1	0	0	2	16
20:00	:	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0	7	0	0	1	0	1	1	10
20:1:	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	8	1	0	1	0	1	1	12
20:30	:	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0	9	1	0	0	0	1	1	12
20:4:	:	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0	9	2	0	0	0	1	0	12
21:00	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	10	3	0	0	0	0	0	13
21:1:	7	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	9
21:30	6	2	0	2	0	0	0	10	0	0	0	0	0	0	0	0	6	3	0	0	0	0	0	9
21:4:	8	2	0	2	0	0	0	12	0	0	0	0	0	0	0	0	6	2	0	0	0	0	0	8
22:00	6	1	0	2	0	1	0	10	0	0	0	0	0	0	0	0	4	1	0	2	0	0	0	7
22:1:	9	0	0	3	0	1	0	13	0	0	0	0	0	0	0	0	4	1	0	4	0	0	0	9
22:30	6	0	0	1	0	1	0	8	0	0	0	0	0	0	0	0	4	0	0	:	0	0	0	9
22:4:	3	0	0	3	0	1	0	7	0	0	0	0	0	0	0	0	4	0	0	:	0	0	0	9
23:00	3	0	0	4	0	0	0	7	0	0	0	0	0	0	0	0	3	0	0	:	0	0	0	8

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

!rm !: A38 Bristol Road 637
!rm B: A368 Bath Road 637
!rm C: A38 New Road 657
!rm D: A368 Di !h"rst Road 6 ; 7

	B to D								B to C								C to C							
Time	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total
00:00	2	0	0	0	0	0	0	2	1	0	0	1	0	0	0	2								0
00:1:	6	0	0	0	0	0	0	6	0	0	0	1	0	0	0	1								0
00:30	2	2	1	0	0	0	0	:	1	0	0	0	0	0	0	1								0
00:4:	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0								0
01:00	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1								0
01:1:	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0								0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								0
01:4:	2	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1								0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								0
02:1:	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1								0
02:30	2	0	0	0	0	0	0	2	0	1	0	0	0	1	0	2								0
02:4:	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4								0
03:00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3								0
03:1:	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2								0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								0
03:4:	1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	2								0
04:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1								0
04:1:	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1								0
04:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1								0
04:4:	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0								0
0:<00	1	1	0	0	0	0	0	2	0	0	0	1	0	0	0	1								0
0:<1:	2	1	0	0	0	0	0	3	0	2	0	0	0	0	0	2								0
0:<30	:	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0								0
0:<4:	4	2	1	0	0	0	0	7	4	1	0	1	0	0	0	6								0
06:00	12	0	0	1	0	0	0	13	3	0	0	2	0	0	0	:								0
06:1:	11	1	1	1	0	1	0	1:	1	0	0	1	0	0	0	2								0
06:30	6	2	0	0	0	0	0	8	6	3	0	0	0	0	0	9								0
06:4:	1:	1	0	1	0	0	0	17	2	0	1	0	0	0	0	3								0
07:00	9	2	0	1	0	2	0	14	9	9	1	0	1	0	0	20								0
07:1:	14	:	0	0	0	0	0	19	8	2	0	0	0	0	0	10								0
07:30	13	4	0	1	0	0	0	18	8	2	0	1	0	0	0	11								0
07:4:	16	8	0	0	1	0	0	2:	9	1	0	0	0	0	0	10								0
08:00	26	1	2	1	1	0	0	31	13	0	2	1	0	0	0	16								0
08:1:	28	:	0	0	0	0	0	33	9	3	0	0	0	0	0	12								0
08:30	1:	2	1	0	0	0	0	18	16	2	1	0	0	0	0	19								0
08:4:	11	3	0	0	0	0	0	14	12	4	1	0	0	0	0	17								0
09:00	13	1	0	0	0	0	0	14	12	4	1	0	0	0	0	17								0
09:1:	18	2	0	0	0	0	0	20	14	4	1	0	0	0	0	19								0
09:30	18	1	0	0	0	0	0	19	9	1	0	0	0	1	0	11								0
09:4:	10	3	0	0	0	0	0	13	12	4	1	1	0	0	0	18								0
10:00	16	0	0	1	2	0	0	19	13	1	0	0	0	0	0	14								0
10:1:	23	6	1	0	2	0	0	32	9	2	3	2	0	0	0	16								0
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11:30	16	4	0	1	0	0	1	22	12	3	1	0	0	1	0	17								0
11:4:	16	2	0	0	0	0	0	18	10	3	1	0	0	0	0	14								0
12:00	14	:	0	0	0	1	1	21	9	4	0	0	0	0	0	13								0
12:1:	4	7	0	0	0	0	0	11	8	2	0	0	0	0	0	10								0
12:30	16	1	2	0	0	1	0	20	6	1	0	2	0	0	0	9								0
12:4:	20	4	0	1	0	0	2	27	10	1	0	2	0	0	0	13								0
13:00	19	2	0	2	0	1	0	24	9	2	0	:	0	0	0	16								0
13:1:	1:	6	0	0	0	0	0	21	9	2	0	1	0	0	0	12								0
13:30	1:	2	0	0	0	0	0	17	8	3	1	1	0	0	0	13								0
13:4:	11	4	1	0	0	0	0	16	11	2	0	0	0	0	0	13								0
14:00	20	7	0	0	0	0	1	28	9	4	1	0	0	1	0	1:								0
14:1:	13	3	0	0	0	1	0	17	6	6	0	0	0	0	0	12								0
14:30	12	4	1	0	0	2	0	19	7	0	0	1	0	0	0	8								0
14:4:	11	2	2	0	0	0	0	1:	4	1	0	1	0	0	0	6								0
1:<00	16	3	0	1	1	1	0	22	11	:	0	0	0	0	0	16								0
1:<1:	1:	9	0	1	0	0	0	2:	8	2	0	1	0	0	0	11								0
1:<30	20	:	0	2	0	0	0	27	18	8	0	1	0	0	0	27								0
1:<4:	24	9	0	4	0	0	0	37	19	:	0	0	0	0	0	24								0
16:00	19	9	1	2	0	0	0	31	18	:	0	2	0	0	0	2:								0
16:1:	17	12	0	0	0	0	0	29	18	6	0	1	0	0	0	2:								0
16:30	33	19	0	1	2	1	0	:6	21	4	0	1	0	0	0	26								0
16:4:	28	1:	0	0	1	1	0	4:	18	12	1	0	0	0	0	31								0
17:00	28	13	1	0	0	0	0	42	20	6	0	0	0	0	0	26								0
17:1:	32	10	0	1	0	0	1	44	27	10	0	1	0	0	0	38								0
17:30	36	7	0	0	0	2	1	46	27	3	0	0	0	0	0	30								0
17:4:	38	6	0	0	0	0	0	44	22	:	0	1	0	1	0	29								0
18:00	72	4	0	0	0	0	0	76	26	2	0	0	0	0	0	28								0
18:1:	29	2	0	0	0	0	0	31	12	0	0	0	0	1	0	13								0
18:30	30	2	0	0	0	0	0	32	16	3	1	0	0	1	0	21								0
18:4:	14	3	0	0	0	2	0	19	7	2	0	1	0	0	0	10								0
19:00	17	3	0	0	0	0	0	20	10	0	0	0	0	0	0	10								0
19:1:	6	1	0	0	0	0	0	7	4	1	0	0	0	0	0	:								0
19:30	12	1	0	0	0	0	0	13	:	1	0	1	0	1	2	10								0
19:4:	7	4	0	0	0	2	0	13	6	0	0	0	0	0	0	6								0
20:00	8	0	1	0	0	0	0	9	4	1	0	0	0	0	0	:								0
20:1:	9	2	1	0	0	0	0	12	2	0	0	1	0	0	1	4								0
20:30	10	1	0	0	0	0	0	11	1	0	0	0	0	0	1	2								0
20:4:	8	1	0	0	0	3	0	12	:	0	0	0	0	0	0	:								0
21:00	2	3	0	0	0	0	0	:	3	1	0	0	0	0	0	4								0
21:1:	8	1	0	0	0	0	0	9	2	0	0	0	0	0	0	2								0
21:30	4	0	0	0	0	0	0	4	2	0	0	1	0	0	0	3								0
21:4:	:	0	0	0	0	0	0	:	3	1	0	1	0	0	0	:								0
22:00	3	1	0	0	0	0	0	4	2	0	0	0	0	0	0	2								0
22:1:	4	0	0	0	0	0	0	4	3	0	0	0	0	0	0	3								0
22:30	3	0	0	0	1	0	0	4	1	0	0	0	0	0	0	1								0
22:4:	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0								0
23:00	4	0	0	0	0	0	0	4	3	0	0	1	0	0	0	4								0
23:1:	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1								0
23:30	3	1	0	1	0	0	0	:	1	0	0	1	0	0	0	2								0
23:4:	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3								0

Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
00:00	11	2	1	0	0	0	0	14	2	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0
00:1:	10	2	1	0	0	0	0	13	1	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0
00:30	7	3	1	0	0	0	0	11	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
00:4:	:	1	0	0	0	0	0	6	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
01:00	6	1	0	0	0	0	0	7	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
01:1:	:	1	0	0	0	0	0	6	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
01:30	3	0	0	0	0	0	0	3	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0
01:4:	:	0	0	0	0	0	0	:	0	1	0	2	0	1	0	4	0	0	0	0	0	0	0	0
02:00	3	0	0	0	0	0	0	3	0	4	1	1	0	1	0	7	0	0	0	0	0	0	0	0
02:1:	3	0	0	0	0	0	0	3	1	6	1	1	0	1	0	10	0	0	0	0	0	0	0	0
02:30	2	0	0	0	0	0	0	2	1	7	1	1	0	1	0	11	0	0	0	0	0	0	0	0
02:4:	0	0	0	0	0	0	0	0	1	6	1	1	0	0	0	9	0	0	0	0	0	0	0	0
03:00	1	0	0	0	0	0	0	1	1	:	0	1	0	0	0	7	0	0	0	0	0	0	0	0
03:1:	1	0	0	0	0	0	0	1	1	3	0	1	0	0	0	:	0	0	0	0	0	0	0	0
03:30	1	0	0	0	0	0	0	1	1	2	0	1	0	0	0	4	0	0	0	0	0	0	0	0
03:4:	1	0	0	0	0	0	0	1	2	2	0	1	0	0	0	:	0	0	0	0	0	0	0	0
04:00	1	0	0	0	0	0	0	1	2	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
04:1:	2	1	0	0	0	0	0	3	1	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0
04:30	4	2	0	0	0	0	0	6	1	2	0	1	0	0	0	4	0	0	0	0	0	0	0	0
04:4:	9	3	0	0	0	0	0	12	0	2	0	1	0	0	0	3	0	0	0	0	0	0	0	0
0:<00	12	:	1	0	0	0	0	18	4	3	0	2	0	0	0	9	0	0	0	0	0	0	0	0
0:<1:	23	4	1	1	0	0	0	29	7	3	0	3	0	0	0	13	0	0	0	0	0	0	0	0
0:<30	32	4	2	2	0	1	0	41	8	1	0	4	0	0	0	13	0	0	0	0	0	0	0	0
0:<4:	33	:	2	2	0	1	0	43	14	4	0	4	0	0	0	22	0	0	0	0	0	0	0	0
06:00	44	4	1	3	0	1	0	:3	12	3	1	3	0	0	0	19	0	0	0	0	0	0	0	0
06:1:	41	6	1	3	0	3	0	:4	18	12	2	1	1	0	0	34	0	0	0	0	0	0	0	0
06:30	44	10	0	2	0	2	0	:8	2:	14	2	0	1	0	0	42	0	0	0	0	0	0	0	0
06:4:	:1	12	0	3	0	2	0	68	27	13	2	1	1	0	0	44	0	0	0	0	0	0	0	0
07:00	:2	19	0	2	1	2	0	76	34	14	1	1	1	0	0	:1	0	0	0	0	0	0	0	0
07:1:	69	18	2	2	2	0	0	93	38	:	2	2	0	0	0	47	0	0	0	0	0	0	0	0
07:30	83	18	2	2	2	0	0	107	39	6	2	2	0	0	0	49	0	0	0	0	0	0	0	0
07:4:	8:	16	3	1	2	0	0	107	47	6	3	1	0	0	0	:7	0	0	0	0	0	0	0	0
08:00	80	11	3	1	1	0	0	96	:0	9	4	1	0	0	0	64	0	0	0	0	0	0	0	0
08:1:	67	11	1	0	0	0	0	79	49	13	3	0	0	0	0	6:	0	0	0	0	0	0	0	0
08:30	:7	8	1	0	0	0	0	66	:4	14	4	0	0	0	0	72	0	0	0	0	0	0	0	0
08:4:	60	7	0	0	0	0	0	67	47	13	3	0	0	1	0	64	0	0	0	0	0	0	0	0
09:00	:9	7	0	0	0	0	0	66	47	13	3	1	0	1	0	6:	0	0	0	0	0	0	0	0
09:1:	62	6	0	1	2	0	0	71	48	10	2	1	0	1	0	62	0	0	0	0	0	0	0	0
09:30	67	10	1	1	4	0	0	83	43	8	4	3	0	1	0	:9	0	0	0	0	0	0	0	0
09:4:	67	13	1	1	4	1	0	87	44	9	4	:	0	0	0	62	0	0	0	0	0	0	0	0
10:00	73	13	2	1	4	1	0	94	39	7	4	:	0	0	0	: :	0	0	0	0	0	0	0	0
10:1:	71	16	2	0	2	1	1	93	41	7	4	:	0	0	0	:7	0	0	0	0	0	0	0	0
10:30	61	14	2	0	0	1	2	80	40	8	1	4	0	0	0	:3	0	0	0	0	0	0	0	0
10:4:	:9	14	2	1	0	0	3	79	42	9	2	2	0	1	0	:6	0	0	0	0	0	0	0	0
11:00	:9	13	1	1	0	0	3	77	4:	10	2	1	0	1	0	:9	0	0	0	0	0	0	0	0
11:1:	:9	1:	1	1	0	1	3	80	39	13	2	1	0	1	0	:6	0	0	0	0	0	0	0	0
11:30	:0	18	0	1	0	1	2	72	39	12	2	0	0	1	0	:4	0	0	0	0	0	0	0	0
11:4:	:0	1:	2	0	0	2	1	70	33	10	1	2	0	0	0	46	0	0	0	0	0	0	0	0
12:00	:4	17	2	1	0	2	3	79	33	8	0	4	0	0	0	4:	0	0	0	0	0	0	0	0
12:1:	:9	14	2	3	0	2	2	82	33	6	0	9	0	0	0	48	0	0	0	0	0	0	0	0
12:30	70	13	2	3	0	2	2	92	34	6	0	10	0	0	0	:0	0	0	0	0	0	0	0	0
12:4:	69	14	0	3	0	1	2	89	36	8	1	9	0	0	0	:4	0	0	0	0	0	0	0	0
13:00	60	14	1	2	0	1	0	78	37	9	1	7	0	0	0	:4	0	0	0	0	0	0	0	0
13:1:	61	19	1	0	0	0	1	82	37	11	2	2	0	1	0	:3	0	0	0	0	0	0	0	0
13:30	:9	16	1	0	0	1	1	78	34	1:	2	1	0	1	0	:3	0	0	0	0	0	0	0	0
13:4:	:6	18	2	0	0	3	1	80	33	12	1	1	0	1	0	48	0	0	0	0	0	0	0	0
14:00	:6	16	3	0	0	3	1	79	26	11	1	2	0	1	0	41	0	0	0	0	0	0	0	0
14:1:	:2	12	3	1	1	4	0	73	28	12	0	2	0	0	0	42	0	0	0	0	0	0	0	0
14:30	:4	18	3	2	1	3	0	81	30	8	0	3	0	0	0	41	0	0	0	0	0	0	0	0
14:4:	62	19	2	4	1	1	0	89	41	16	0	3	0	0	0	60	0	0	0	0	0	0	0	0
1:<00	7:	26	0	8	1	1	0	111	:6	20	0	2	0	0	0	78	0	0	0	0	0	0	0	0
1:<1:	78	32	1	9	0	0	0	120	63	20	0	4	0	0	0	87	0	0	0	0	0	0	0	0
1:<30	80	3:	1	8	0	0	0	124	73	24	0	4	0	0	0	101	0	0	0	0	0	0	0	0
1:<4:	93	49	1	7	2	1	0	1:3	76	20	0	4	0	0	0	100	0	0	0	0	0	0	0	0
16:00	97	: :	1	3	3	2	0	161	7:	27	1	4	0	0	0	107	0	0	0	0	0	0	0	0
16:1:	106	:9	1	1	3	2	0	172	77	28	1	2	0	0	0	108	0	0	0	0	0	0	0	0
16:30	121	:7	1	2	3	2	1	187	86	32	1	2	0	0	0	121	0	0	0	0	0	0	0	0
16:4:	124	4:	1	1	1	3	2	177	92	31	1	1	0	0	0	12:	0	0	0	0	0	0	0	0
17:00	134	36	1	1	0	2	2	176	96	24	0	2	0	1	0	123	0	0	0	0	0	0	0	0
17:1:	178	27	0	1	0	2	2	210	102	20	0	2	0	1	0	12:	0	0	0	0	0	0	0	0
17:30	17:	19	0	0	0	2	1	197	87	10	0	1	0	2	0	100	0	0	0	0	0	0	0	0
17:4:	169	14	0	0	0	0	0	183	76	10	1	1	0	3	0	91	0	0	0	0	0	0	0	0
18:00	14:	11	0	0	0	2	0	1:8	61	7	1	1	0	2	0	72	0	0	0	0	0	0	0	0
18:1:	90	10	0	0	0	2	0	102	4:	:	1	1	0	2	0	:4	0	0	0	0	0	0	0	0
18:30	67	9	0	0	0	2	0	78	37	6	1	1	0	1	0	46	0	0	0	0	0	0	0	0
18:4:	49	8	0	0	0	2	0	:9	26	4	0	2	0	1	2	3:	0	0	0	0	0	0	0	0
19:00	42	9	0	0	0	2	0	:3	2:	2	0	1	0	1	2	31	0	0	0	0	0	0	0	0
19:1:	33	6	1	0	0	2	0	42	19	3	0	1	0	1	2	26	0	0	0	0	0	0	0	0
19:30	36	7	2	0	0	2	0	47	17	2	0	2	0	1	3	2:	0	0	0	0	0	0	0	0
19:4:	34	7	2	0	0	2	0	4:	13	1	0	1	0	0	2	17	0	0	0	0	0	0	0	0
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20:1:	29	7	1	0	0	3	0	40	11	1	0	1	0	0	2	1:	0	0	0	0	0	0	0	0
20:30	28	6	0	0	0	3	0	37	11	1	0	0	0	0	1	13	0	0	0	0	0	0	0	0
20:4:	22	:	0	0	0	3	0	30	12	1	0	1	0	0	0	14	0	0	0	0	0	0	0	0
21:00	19	4	0	0	0	0	0	23	10	2	0	2	0	0	0	14	0	0	0	0	0	0	0	0
21:1:	20	2	0	0	0	0	0	22	9	1	0	2	0	0	0	12	0	0	0	0	0	0	0	0
21:30	16	1	0	0	0	0	0	17	10	1	0	2	0	0	0	13	0	0	0	0	0	0	0	0
21:4:	1:	1	0	0	1	0	0	17	9	1	0	1	0	0	0	11	0	0	0	0	0	0	0	0
22:00	13	1	0	0	1	0	0	1:	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
22:1:	14	0	0	0	1	0	0	1:	7	0	0	1	0	0	0	8	0	0	0	0	0	0	0	0
22:30	10	0	0	0	1	0	0	11	:	0	0	1	0	0	0	6	0	0	0	0	0	0	0	0
22:4:	10	1	0	1	0	0	0	12	:	0	0	2	0	0	0	7	0	0	0	0	0	0	0	0
23:00	9	1	0	1	0	0	0	11	8	0	0	2	0	0	0	10	0	0	0	0	0	0	0	0

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

!rm 1: A38 Bristol Road 637
!rm B: A368 Bath Road 637
!rm C: A38 New Road 657
!rm D: A368 Di !h"rst Road 6 ; 7

	C to B								C to !								C to D							
Time	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total
00<00	2	0	0	0	0	0	0	2	8	1	0	0	0	1	0	10	0	0	0	0	0	0	0	0
00<1:	0	0	0	1	0	0	0	1	:	0	1	1	1	0	0	8	0	0	0	0	0	0	0	0
00<30	1	0	0	1	0	0	0	2	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
00<4:	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
01<00	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
01<1:	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
01<30	0	0	0	1	0	0	0	1	8	1	0	1	1	0	0	11	0	0	0	1	0	0	0	1
01<4:	1	0	0	0	0	0	0	1	7	1	0	1	0	0	0	9	0	0	0	0	0	0	0	0
02<00	0	0	0	0	0	0	0	0	6	1	1	0	0	0	0	8	0	0	0	0	0	0	0	0
02<1:	0	0	0	1	0	0	0	1	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
02<30	0	0	0	0	0	0	0	0	8	2	0	0	1	0	0	11	0	0	0	0	0	0	0	0
02<4:	0	0	0	1	0	0	0	1	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
03<00	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
03<1:	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0
03<30	1	0	0	1	0	0	0	2	32	4	0	0	1	0	0	37	0	0	0	0	0	0	0	0
03<4:	0	0	0	1	0	0	0	1	29	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0
04<00	0	0	0	0	0	0	0	0	34	:	0	0	0	0	0	39	0	0	0	0	0	0	0	0
04<1:	0	0	0	0	0	0	0	0	29	0	1	1	0	0	0	31	0	0	0	0	0	0	0	0
04<30	2	1	0	0	0	0	0	3	33	4	0	0	0	2	0	39	0	0	0	0	0	0	0	0
04<4:	0	0	0	0	0	0	0	0	26	2	0	0	0	0	0	28	1	0	0	0	0	0	0	1
0:<00	1	0	0	0	0	0	0	1	34	4	0	1	0	0	0	39	0	0	0	0	0	0	0	0
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23<30	1	0	0	0	0	0	0	1	16	2	0	1	1	0	0	20	0	0	0	0	0	0	0	0
23<4:	0	0	0	2	0	0	0	2	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0

Start Time	&olling 6our							Total	&olling 6our							Total	&olling 6our							Total
00⁚00	3	0	0	2	0	0	0	:	31	2	1	1	1	1	0	37	0	0	0	0	0	0	0	0
00⁚1:	1	0	0	2	0	0	0	3	29	1	1	1	1	0	0	33	0	0	0	0	0	0	0	0
00⁚30	2	0	0	1	0	0	0	3	32	1	0	0	0	0	0	33	0	0	0	0	0	0	0	0
00⁚4:	1	0	0	1	0	0	0	2	34	1	0	1	1	0	0	37	0	0	0	1	0	0	0	1
01⁚00	2	0	0	1	0	0	0	3	29	2	0	2	1	0	0	34	0	0	0	1	0	0	0	1
01⁚1:	2	0	0	1	0	0	0	3	29	3	1	2	1	0	0	36	0	0	0	1	0	0	0	1
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01⁚4:	1	0	0	1	0	0	0	2	27	4	1	1	1	0	0	34	0	0	0	0	0	0	0	0
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03⁚00	1	0	0	2	0	0	0	3	84	4	0	0	1	0	0	89	0	0	0	0	0	0	0	0
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03⁚30	1	0	0	2	0	0	0	3	124	9	1	1	1	0	0	136	0	0	0	0	0	0	0	0
03⁚4:	2	1	0	1	0	0	0	4	12:	9	1	1	0	2	0	138	0	0	0	0	0	0	0	0
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04⁚1:	3	1	0	0	0	0	0	4	122	10	1	2	0	2	0	137	1	1	0	0	0	0	0	1
04⁚30	7	2	0	0	0	0	0	9	127	12	0	3	0	2	0	144	3	0	0	0	0	0	0	3
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07⁚00	:3	2:	2	0	0	0	0	80	479	98	:	9	0	8	3	602	23	:	1	2	0	0	1	32
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17⁚4:	39	9	1	1	1	2	1	:4	327	38	2	1	0	8	3	379	2:	4	0	3	0	0	0	32
18⁚00	39	4	1	2	1	1	1	49	303	38	1	0	1	11	3	3:7	26	3	0	3	0	0	0	32
18⁚1:	40	6	1	1	0	0	0	48	2:1	31	2	1	1	11	3	300	22	2	0	0	0	1	2	27
18⁚30	36	4	0	2	0	0	0	42	223	31	2	1	1	8	3	269	18	:	0	0	0	1	2	26
18⁚4:	32	3	0	2	0	0	0	37	198	27	3	1	1	7	2	239	14	4	0	0	0	1	2	21
19⁚00	24	3	0	1	0	0	0	28	177	20	:	1	1	4	2	210	12	4	0	1	0	1	2	20
19⁚1:	16	2	0	2	0	0	0	20	170	14	3	0	1	9	1	198	1:	4	0	1	0	0	0	20
19⁚30	14	2	0	1	0	0	0	17	148	11	3	0	1	7	1	171	13	3	0	1	0	0	0	17
19⁚4:	1:	3	0	2	0	0	0	20	141	7	3	0	1	8	0	160	1:	3	0	1	0	0	0	19
20⁚00	13	3	0	3	0	0	0	19	119	6	1	0	0	6	0	132	14	2	0	1	0	0	0	17
20⁚1:	13	2	1	2	0	0	0	18	120	10	1	1	0	4	0	136	10	2	0	1	0	0	0	13
20⁚30	11	2	1	3	0	0	0	17	119	9	1	1	1	4	0	13:	11	1	0	1	0	0	0	13
20⁚4:	8	0	1	2	0	0	0	11	120	9	0	1	1	8	0	139	8	1	0	1	0	0	0	10
21⁚00	8	0	1	1	0	0	0	10	124	11	0	1	1	10	0	147	7	1	0	0	0	1	0	9
21⁚1:	8	0	0	1	0	0	0	9	116	8	0	0	1	8	0	133	6	1	0	0	0	1	0	8
21⁚30	:	1	0	1	0	0	0	7	114	8	0	1	0	8	0	131	3	1	0	1	0	1	0	6
21⁚4:	:	1	0	1	0	0	0	7	112	9	0	1	1	3	0	126	3	1	0	1	0	1	0	6
22⁚00	6	1	0	2	0	0	0	9	102	6	0	1	1	3	0	113	3	1	0	1	0	0	0	:
22⁚1:	:	1	0	2	0	0	0	8	96	9	0	1	1	2	0	109	3	1	0	1	0	0	0	:
22⁚30	:	0	0	2	0	0	0	7	83	9	0	0	1	2	0	9:	4	0	0	0	0	0	0	4
22⁚4:	3	0	0	2	0	0	0	:	70	9	0	1	1	2	0	83	3	0	0	0	0	0	0	3
23⁚00	1	0	0	3	0	0	0	4	62	8	0	1	1	0	0	72	1	0	0	0	0	0	0	1

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

!rm !: A38 Bristol Road 637
!rm B: A368 Bath Road 637
!rm C: A38 New Road 657
!rm D: A368 Di !h"rst Road 6 ; 7

	D to D								D to C								D to B							
Time	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total
00:00								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
00:1:								0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
00:30								0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:4:								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:1:								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:4:								0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
02:00								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:1:								0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:30								0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
02:4:								0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
03:00								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:1:								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:30								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:4:								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00								0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1
04:1:								0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	3
04:30								0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
04:4:								0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	3
0:<00								0	0	0	0	1	0	0	0	1	6	2	0	0	0	0	0	8
0:<1:								0	0	1	0	0	0	0	0	1	20	2	0	1	0	1	0	24
0:<30								0	0	2	0	0	0	0	0	2	60	3	0	0	0	0	0	63
0:<4:								0	0	0	0	2	0	0	0	2	1:	1	0	0	0	0	0	16
06:00								0	0	1	0	1	0	0	0	2	14	0	0	0	1	0	1	1:
06:1:								0	0	0	0	0	0	0	0	0	1:	9	2	0	0	2	1	29
06:30								0	0	0	0	0	0	0	0	0	11	12	0	1	0	0	0	24
06:4:								0	0	0	0	2	0	0	0	2	3:	1	1	1	0	0	0	38
07:00								0	2	1	0	3	0	0	0	6	32	11	1	0	1	0	0	4:
07:1:								0	1	0	0	0	0	0	0	1	21	1:	2	2	1	1	0	42
07:30								0	2	0	0	2	0	0	0	4	31	12	0	0	0	0	0	43
07:4:								0	7	2	0	0	0	0	0	9	34	9	0	0	0	0	0	43
08:00								0	:	0	2	0	0	0	0	7	18	:	0	0	0	1	0	24
08:1:								0	8	1	1	3	0	0	0	13	20	:	0	0	0	1	0	26
08:30								0	6	1	0	2	0	0	0	9	31	8	0	0	0	0	0	39
08:4:								0	7	3	0	0	0	0	0	10	19	4	0	1	0	0	0	24
09:00								0	8	1	1	1	0	0	0	10	17	1	3	0	1	0	0	22
09:1:								0	14	2	1	1	0	0	2	20	14	4	0	0	0	0	2	20
09:30								0	10	0	1	1	0	0	1	13	19	:	0	0	0	0	1	2:
09:4:								0	4	0	2	1	0	0	0	7	16	3	1	0	1	0	0	21
10:00								0	4	0	1	0	0	0	0	:	8	3	0	0	0	1	0	12
10:1:								0	4	:	0	0	0	0	0	9	7	2	0	0	0	0	0	9
10:30								0	7	0	0	1	0	0	0	8	18	3	0	0	0	0	0	21
10:4:								0	3	2	2	0	0	0	0	7	16	2	0	0	0	0	0	18
11:00								0	4	2	1	2	0	0	0	9	10	3	0	1	0	0	0	14
11:1:								0	4	3	0	0	0	0	0	7	11	:	0	0	0	0	0	16
11:30								0	:	1	0	0	0	0	0	6	11	8	0	0	0	0	0	19
11:4:								0	2	0	0	1	0	0	0	3	8	2	0	0	0	0	0	10
12:00								0	3	1	1	0	0	0	0	:	11	2	0	0	0	0	0	13
12:1:								0	:	0	0	2	0	0	0	7	22	6	0	0	0	0	0	28
12:30								0	:	1	0	4	0	0	0	10	14	4	0	0	0	1	0	19
12:4:								0	7	1	0	1	0	0	0	9	1:	3	0	1	0	0	0	19
13:00								0	3	3	0	0	0	0	0	6	17	2	0	0	0	0	0	19
13:1:								0	2	1	0	0	0	0	0	3	16	3	0	0	1	0	0	20
13:30								0	2	1	0	0	0	0	0	3	20	2	1	0	0	0	0	23
13:4:								0	1	1	0	1	0	0	0	3	18	3	1	1	0	0	0	23
14:00								0	3	3	0	0	0	0	0	6	11	1	1	0	0	0	0	13
14:1:								0	3	3	1	1	0	0	0	8	7	4	1	0	1	1	0	14
14:30								0	:	0	0	1	0	0	0	6	17	:	0	0	0	0	0	22
14:4:								0	4	1	1	1	0	0	0	7	10	4	0	0	2	0	0	16
1:<00								0	:	0	0	0	0	0	0	:	19	2	1	0	0	2	0	24
1:<1:								0	14	2	0	1	0	0	0	17	17	4	1	0	0	1	0	23
1:<30								0	18	3	0	1	0	1	0	23	20	2	0	0	0	0	0	22
1:<4:								0	10	6	0	2	0	0	0	18	9	1	0	0	0	0	0	10
16:00								0	8	1	0	1	0	0	0	10	2:	4	2	0	1	1	0	33
16:1:								0	8	1	0	0	0	0	0	9	1:	8	0	0	0	2	0	2:
16:30								0	6	2	0	0	0	0	0	8	20	4	0	0	0	0	0	24
16:4:								0	10	0	0	0	0	1	0	11	22	3	1	0	0	0	0	26
17:00								0	8	2	0	1	0	0	0	11	27	:	0	0	0	0	0	32
17:1:								0	12	1	0	0	0	0	0	13	22	1	0	0	0	0	0	23
17:30								0	6	1	0	1	0	0	0	8	26	1	2	0	0	0	0	29
17:4:								0	8	0	0	1	0	0	0	9	20	2	1	0	0	0	0	23
18:00								0	10	1	0	0	0	0	0	11	20	1	0	0	0	1	0	22
18:1:								0	10	0	0	0	0	0	0	10	9	4	0	0	0	0	0	13
18:30								0	:	2	0	0	0	0	0	7	14	2	0	0	0	0	0	16
18:4:								0	3	2	0	0	0	0	0	:	17	0	0	0	0	0	0	17
19:00								0	11	0	0	0	0	0	0	11	9	1	0	0	0	0	0	10
19:1:								0	4	1	0	0	0	0	0	:	13	4	0	1	0	0	0	18
19:30								0	4	0	0	0	0	0	0	4	:	0	0	0	0	0	0	:
19:4:								0	3	1	0	1	0	0	0	:	8	2	0	0	0	0	0	10
20:00								0	6	0	0	0	0	0	0	6	11	0	0	0	0	0	0	11
20:1:								0	3	1	0	0	0	0	0	4	6	0	0	0	0	0	0	6
20:30								0	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
20:4:								0	2	0	0	0	0	1	0	3	:	1	0	0	0	0	1	7
21:00								0	2	2	0	0	0	0	0	4	4	0	0	0	0	0	0	4
21:1:								0	2	0	0	1	0	0	0	3	6	1	0	0	0	0	0	7
21:30								0	3	0	0	0	0	0	0	3	:	0	0	0	0	0	0	:
21:4:								0	3	0	0	0	0	1	0	4	:	0	0	0	0	0	0	:
22:00								0	2	0	0	0	0	0	0	2	4	2	0	0	0	0	0	6
22:1:								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
22:30								0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
22:4:								0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
23:00								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
23:1:								0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
23:30								0	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
23:4:								0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
00:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3
00:1:	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
00:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:4:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
01:1:	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1
01:4:	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	2	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	:
02:1:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	:
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	:
02:4:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
03:1:	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4	0	0	0	0	0	0	4
03:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4	0	0	2	0	0	0	6
03:4:	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	:	1	0	2	0	0	0	8
04:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	:	2	0	3	0	0	0	10
04:1:	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	10	4	0	3	0	0	0	17
04:30	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	29	6	0	2	0	1	0	38
04:4:	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	4	87	8	0	2	0	1	0	98
0:<00	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	6	101	8	0	1	0	1	0	111
0:<1:	0	0	0	0	0	0	0	0	0	4	0	3	0	0	0	7	109	6	0	1	0	2	0	118
0:<30	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	6	104	13	2	0	0	3	1	123
0:<4:	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	4	::	22	2	1	0	3	1	84
06:00	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	4	7:	22	3	2	0	3	1	106
06:1:	0	0	0	0	0	0	0	0	2	1	0	:	0	0	0	8	93	33	4	2	1	2	1	136
06:30	0	0	0	0	0	0	0	0	3	1	0	:	0	0	0	9	99	39	4	4	2	1	0	149
06:4:	0	0	0	0	0	0	0	0	:	1	0	7	0	0	0	13	119	39	4	3	2	1	0	168
07:00	0	0	0	0	0	0	0	0	12	3	0	:	0	0	0	20	118	47	3	2	2	1	0	173
07:1:	0	0	0	0	0	0	0	0	1:	2	2	2	0	0	0	21	104	41	2	2	1	2	0	1:2
07:30	0	0	0	0	0	0	0	0	22	3	3	:	0	0	0	33	103	31	0	0	0	2	0	136
07:4:	0	0	0	0	0	0	0	0	26	4	3	:	0	0	0	38	103	27	0	0	0	2	0	132
08:00	0	0	0	0	0	0	0	0	26	:	3	:	0	0	0	39	88	22	0	1	0	2	0	113
08:1:	0	0	0	0	0	0	0	0	29	6	1	6	0	0	0	42	87	18	3	1	1	1	0	111
08:30	0	0	0	0	0	0	0	0	3:	7	1	4	0	0	2	49	81	17	3	1	1	0	2	10:
08:4:	0	0	0	0	0	0	0	0	39	6	2	3	0	0	3	:3	69	14	3	1	1	0	3	91
09:00	0	0	0	0	0	0	0	0	36	3	4	4	0	0	3	:0	66	13	4	0	2	0	3	88
09:1:	0	0	0	0	0	0	0	0	32	2	:	3	0	0	3	4:	:7	1:	1	0	1	1	3	78
09:30	0	0	0	0	0	0	0	0	22	:	4	2	0	0	1	34	:0	13	1	0	1	1	1	67
09:4:	0	0	0	0	0	0	0	0	19	:	3	2	0	0	0	29	49	11	1	0	1	1	0	63
10:00	0	0	0	0	0	0	0	0	18	7	3	1	0	0	0	29	49	10	0	0	0	1	0	60
10:1:	0	0	0	0	0	0	0	0	18	9	3	3	0	0	0	33	:1	10	0	1	0	0	0	62
10:30	0	0	0	0	0	0	0	0	18	7	3	3	0	0	0	31	::	13	0	1	0	0	0	69
10:4:	0	0	0	0	0	0	0	0	16	8	3	2	0	0	0	29	48	18	0	1	0	0	0	67
11:00	0	0	0	0	0	0	0	0	1:	6	1	3	0	0	0	2:	40	18	0	1	0	0	0	:9
11:1:	0	0	0	0	0	0	0	0	14	:	1	1	0	0	0	21	41	17	0	0	0	0	0	:8
11:30	0	0	0	0	0	0	0	0	1:	2	1	3	0	0	0	21	:2	18	0	0	0	0	0	70
11:4:	0	0	0	0	0	0	0	0	1:	2	1	7	0	0	0	2:	::	14	0	0	0	1	0	70
12:00	0	0	0	0	0	0	0	0	20	3	1	7	0	0	0	31	62	1:	0	1	0	1	0	79
12:1:	0	0	0	0	0	0	0	0	20	:	0	7	0	0	0	32	68	1:	0	1	0	1	0	8:
12:30	0	0	0	0	0	0	0	0	17	6	0	:	0	0	0	28	62	12	0	1	1	1	0	77
12:4:	0	0	0	0	0	0	0	0	14	6	0	1	0	0	0	21	68	10	1	1	1	0	0	81
13:00	0	0	0	0	0	0	0	0	8	6	0	1	0	0	0	1:	71	10	2	1	1	0	0	8:
13:1:	0	0	0	0	0	0	0	0	8	6	0	1	0	0	0	1:	6:	9	3	1	1	0	0	79
13:30	0	0	0	0	0	0	0	0	9	8	1	2	0	0	0	20	:6	10	4	1	1	1	0	73
13:4:	0	0	0	0	0	0	0	0	12	7	1	3	0	0	0	23	:3	13	3	1	1	1	0	72
14:00	0	0	0	0	0	0	0	0	1:	7	2	3	0	0	0	27	4:	14	2	0	3	1	0	6:
14:1:	0	0	0	0	0	0	0	0	17	4	2	3	0	0	0	26	:3	1:	2	0	3	3	0	76
14:30	0	0	0	0	0	0	0	0	28	3	1	3	0	0	0	3:	63	1:	2	0	2	3	0	8:
14:4:	0	0	0	0	0	0	0	0	41	6	1	3	0	1	0	:2	66	12	2	0	2	3	0	8:
1:<00	0	0	0	0	0	0	0	0	47	11	0	4	0	1	0	63	6:	9	2	0	0	3	0	79
1:<1:	0	0	0	0	0	0	0	0	:0	12	0	:	0	1	0	68	71	11	3	0	1	2	0	88
1:<30	0	0	0	0	0	0	0	0	44	11	0	4	0	1	0	60	69	1:	2	0	1	3	0	90
1:<4:	0	0	0	0	0	0	0	0	32	10	0	3	0	0	0	4:	69	17	2	0	1	3	0	92
16:00	0	0	0	0	0	0	0	0	32	4	0	1	0	1	0	38	82	19	3	0	1	3	0	108
16:1:	0	0	0	0	0	0	0	0	32	:	0	1	0	1	0	39	84	20	1	0	0	2	0	107
16:30	0	0	0	0	0	0	0	0	36	:	0	1	0	1	0	43	91	13	1	0	0	0	0	10:
16:4:	0	0	0	0	0	0	0	0	36	4	0	2	0	1	0	43	97	10	3	0	0	0	0	110
17:00	0	0	0	0	0	0	0	0	34	4	0	3	0	0	0	41	9:	9	3	0	0	0	0	107
17:1:	0	0	0	0	0	0	0	0	36	3	0	2	0	0	0	41	88	:	3	0	0	1	0	97
17:30	0	0	0	0	0	0	0	0	34	2	0	2	0	0	0	38	7:	8	3	0	0	1	0	87
17:4:	0	0	0	0	0	0	0	0	33	3	0	1	0	0	0	37	63	9	1	0	0	1	0	74
18:00	0	0	0	0	0	0	0	0	28	:	0	0	0	0	0	33	60	7	0	0	0	1	0	68
18:1:	0	0	0	0	0	0	0	0	29	4	0	0	0	0	0	33	49	7	0	0	0	0	0	:6
18:30	0	0	0	0	0	0	0	0	23	:	0	0	0	0	0	28	:3	7	0	1	0	0	0	61
18:4:	0	0	0	0	0	0	0	0	22	3	0	0	0	0	0	2:	44	:	0	1	0	0	0	:0
19:00	0	0	0	0	0	0	0	0	22	2	0	1	0	0	0	2:	3:	7	0	1	0	0	0	43
19:1:	0	0	0	0	0	0	0	0	17	2	0	1	0	0	0	20	37	6	0	1	0	0	0	44
19:30	0	0	0	0	0	0	0	0	16	2	0	1	0	0	0	19	30	2	0	0	0	0	0	32
19:4:	0	0	0	0	0	0	0	0	14	2	0	1	0	0	0	17	28	2	0	0	0	0	0	30
20:00	0	0	0	0	0	0	0	0	13	1	0	0	0	1	0	1:	2:	1	0	0	0	0	1	27
20:1:	0	0	0	0	0	0	0	0	9	3	0	0	0	1	0	13	18	1	0	0	0	0	1	20
20:30	0	0	0	0	0	0	0	0	8	2	0	1	0	1	0	12	18	2	0	0	0	0	1	21
20:4:	0	0	0	0	0	0	0	0	9	2	0	1	0	1	0	13	20	2	0	0	0	0	1	23
21:00	0	0	0	0	0	0	0	0	10	2	0	1	0	1	0	14	20	1	0	0	0	0	0	21
21:1:	0	0	0	0	0	0	0	0	10	0	0	1	0	1	0	12	20	3	0	0	0	0	0	23
21:30	0	0	0	0	0	0	0	0	8	0	0	0	0	1	0	9	1:	2	0	0	0	0	0	17
21:4:	0	0	0	0	0	0	0	0	:	0	0	0	0	1	0	6	12	2	0	0	0	0	0	14
22:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	11	2	0	0	0	0	0	13
22:1:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10
22:4:	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	10	0	0	0	0	0	0	10
23:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	6	0	0	0	0	0	0	6

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

!rm !: A38 Bristol Road 637
!rm B: A368 Bath Road 637
!rm C: A38 New Road 657
!rm D: A368 Di !h"rst Road 6 ; 7

	D to !							
Time	Car	L ! /	. 1 / 3	. ! / 4	Bu e	- 5C	Cycle	Total
00-00	1	0	0	0	0	0	0	1
00-1:	3	0	0	0	0	0	0	3
00-30	0	0	1	0	0	0	0	1
00-4:	0	0	0	0	0	0	0	0
01-00	2	0	0	0	0	0	0	2
01-1:	0	1	0	0	0	0	0	1
01-30	1	0	0	0	0	0	0	1
01-4:	0	0	0	0	0	0	0	0
02-00	4	1	0	0	0	0	0	:
02-1:	3	0	0	0	0	0	0	3
02-30	3	0	0	0	0	0	0	3
02-4:	0	0	0	0	0	0	0	0
03-00	3	0	0	0	0	0	0	3
03-1:	2	1	0	0	0	0	0	3
03-30	:	1	0	0	0	0	0	6
03-4:	2	0	0	1	0	0	0	3
04-00	2	0	1	1	0	0	0	4
04-1:	6	1	0	0	0	0	0	7
04-30	2	0	0	0	0	0	0	2
04-4:	6	1	0	1	0	0	0	8
0:-00	9	1	0	1	0	0	0	11
0:-1:	:	1	0	1	0	0	0	7
0:-30	19	1	0	1	0	1	0	22
0:-4:	12	2	0	0	0	0	0	14
06-00	19	4	0	1	0	1	1	26
06-1:	21	2	0	1	0	0	0	24
06-30	29	4	0	2	0	0	0	3:
06-4:	33	:	0	0	0	2	0	40
07-00	43	10	0	4	0	0	0	:7
07-1:	:4	10	0	0	1	0	0	6:
07-30	:2	9	1	2	0	0	1	6:
07-4:	46	10	2	3	1	1	0	63
08-00	38	8	0	0	2	0	0	48
08-1:	28	4	1	1	0	1	0	3:
08-30	62	8	2	1	0	2	0	7:
08-4:	:3	4	2	1	0	1	2	63
09-00	26	9	1	1	0	0	0	37
09-1:	31	7	3	4	1	2	0	48
09-30	26	1	0	0	0	2	0	29
09-4:	19	:	0	1	0	1	0	26
10-00	20	6	0	1	0	0	0	27
10-1:	23	4	1	2	0	0	0	30
10-30	18	6	0	0	0	0	0	24
10-4:	23	9	1	1	0	0	2	36
11-00	17	7	0	1	1	0	0	26
11-1:	2:	6	2	4	1	0	0	38
11-30	2:	3	0	1	0	0	1	30
11-4:	18	7	1	1	0	0	0	27
12-00	20	1	1	2	0	1	0	2:
12-1:	33	4	0	1	0	0	0	38
12-30	28	3	2	2	0	0	0	3:
12-4:	23	6	0	1	0	0	0	30
13-00	18	3	0	0	0	0	0	21
13-1:	16	6	1	0	0	1	0	24
13-30	23	7	0	0	0	0	0	30
13-4:	28	6	0	3	3	0	0	40
14-00	20	2	0	2	0	0	0	24
14-1:	24	2	0	1	1	0	0	28
14-30	20	:	1	0	0	0	0	26
14-4:	24	:	0	0	1	0	0	30
1:-00	23	9	1	0	0	1	0	34
1:-1:	29	3	0	1	0	0	0	33
1:-30	37	6	0	0	4	0	0	47
1:-4:	31	:	0	1	2	0	0	39
16-00	37	9	0	0	2	2	0	:0
16-1:	38	3	0	0	0	1	0	42
16-30	24	:	0	1	0	0	0	30
16-4:	27	4	0	0	0	0	0	31
17-00	28	6	0	0	0	2	0	36
17-1:	3:	8	1	0	0	2	0	46
17-30	26	:	0	0	0	0	0	31
17-4:	28	3	0	0	0	0	0	31
18-00	33	:	0	0	0	2	0	40
18-1:	2:	1	0	1	0	0	0	27
18-30	2:	3	0	0	0	0	0	28
18-4:	26	1	0	0	0	1	0	28
19-00	18	2	0	1	0	0	0	21
19-1:	24	:	0	1	0	0	0	30
19-30	19	2	0	0	0	0	0	21
19-4:	22	1	0	0	0	1	0	24
20-00	18	0	0	0	0	0	0	18
20-1:	14	2	1	0	0	0	1	18
20-30	17	1	0	0	0	1	0	19
20-4:	9	2	0	0	0	0	1	12
21-00	17	2	0	0	0	0	0	19
21-1:	17	0	0	0	0	0	0	17
21-30	13	2	0	0	0	1	0	16
21-4:	7	1	0	0	0	0	0	8
22-00	12	0	0	1	0	0	0	13
22-1:	:	1	0	0	0	1	0	7
22-30	8	1	0	0	0	0	0	9
22-4:	:	1	0	0	0	0	0	6
23-00	6	0	0	0	0	0	0	6
23-1:	2	0	0	0	0	0	0	2
23-30	7	0	0	1	0	0	0	8
23-4:	3	0	0	0	0	0	0	3

Start Time	&olling 6our							Total
00-00	4	0	1	0	0	0	0	:
00-1:	:	0	1	0	0	0	0	6
00-30	2	1	1	0	0	0	0	4
00-4:	3	1	0	0	0	0	0	4
01-00	3	1	0	0	0	0	0	4
01-1:	:	2	0	0	0	0	0	7
01-30	8	1	0	0	0	0	0	9
01-4:	10	1	0	0	0	0	0	11
02-00	10	1	0	0	0	0	0	11
02-1:	9	0	0	0	0	0	0	9
02-30	8	1	0	0	0	0	0	9
02-4:	10	2	0	0	0	0	0	12
03-00	12	2	0	1	0	0	0	1:
03-1:	11	2	1	2	0	0	0	16
03-30	1:	2	1	2	0	0	0	20
03-4:	12	1	1	2	0	0	0	16
04-00	16	2	1	2	0	0	0	21
04-1:	23	3	0	2	0	0	0	28
04-30	22	3	0	3	0	0	0	28
04-4:	39	4	0	4	0	1	0	48
0:-00	4:	:	0	3	0	1	0	:4
0:-1:	: :	8	0	3	0	2	1	69
0:-30	71	9	0	3	0	2	1	86
0:-4:	81	12	0	4	0	1	1	99
06-00	102	1:	0	4	0	3	1	12:
06-1:	126	21	0	7	0	2	0	1:6
06-30	1:9	29	0	6	1	2	0	197
06-4:	182	34	1	6	1	2	1	227
07-00	19:	39	3	9	2	1	1	2:0
07-1:	190	37	3	:	4	1	1	241
07-30	164	31	4	6	3	2	1	211
07-4:	174	30	:	:	3	4	0	221
08-00	181	24	:	3	2	4	2	221
08-1:	169	2:	6	4	0	4	2	210
08-30	172	28	8	7	1	:	2	223
08-4:	136	21	6	6	1	:	2	177
09-00	102	22	4	6	1	:	0	140
09-1:	96	19	3	6	1	:	0	130
09-30	88	16	1	4	0	3	0	112
09-4:	80	21	1	4	0	1	0	107
10-00	84	2:	2	4	0	0	2	117
10-1:	81	26	2	4	1	0	2	116
10-30	83	28	3	6	2	0	2	124
10-4:	90	2:	3	7	2	0	3	130
11-00	8:	23	3	7	2	0	1	121
11-1:	88	17	4	8	1	1	1	120
11-30	96	1:	2	:	0	1	1	120
11-4:	99	1:	4	6	0	1	0	12:
12-00	104	14	3	6	0	1	0	128
12-1:	102	16	2	4	0	0	0	124
12-30	8:	18	3	3	0	1	0	110
12-4:	80	22	1	1	0	1	0	10:
13-00	8:	22	1	3	3	1	0	11:
13-1:	87	21	1	:	3	1	0	118
13-30	9:	17	0	6	4	0	0	122
13-4:	92	1:	1	6	4	0	0	118
14-00	88	14	1	3	2	0	0	108
14-1:	91	21	2	1	2	1	0	118
14-30	96	22	2	1	1	1	0	123
14-4:	113	23	1	1	:	1	0	144
1:-00	120	23	1	2	6	1	0	1:3
1:-1:	134	23	0	2	8	2	0	169
1:-30	143	23	0	1	8	3	0	178
1:-4:	130	22	0	2	4	3	0	161
16-00	126	21	0	1	2	3	0	1:3
16-1:	117	18	0	1	0	3	0	139
16-30	114	23	1	1	0	4	0	143
16-4:	116	23	1	0	0	4	0	144
17-00	117	22	1	0	0	4	0	144
17-1:	122	21	1	0	0	4	0	148
17-30	112	14	0	1	0	2	0	129
17-4:	111	12	0	1	0	2	0	126
18-00	109	10	0	1	0	3	0	123
18-1:	94	7	0	2	0	1	0	104
18-30	93	11	0	2	0	1	0	107
18-4:	87	10	0	2	0	1	0	100
19-00	83	10	0	2	0	1	0	96
19-1:	83	8	0	1	0	1	0	93
19-30	73	:	1	0	0	1	1	81
19-4:	71	4	1	0	0	2	1	79
20-00	:8	:	1	0	0	1	2	67
20-1:	:7	7	1	0	0	1	2	68
20-30	60	:	0	0	0	1	1	67
20-4:	:6	6	0	0	0	1	1	64
21-00	:4	:	0	0	0	1	0	60
21-1:	49	3	0	1	0	1	0	:4
21-30	37	4	0	1	0	2	0	44
21-4:	32	3	0	1	0	1	0	37
22-00	30	3	0	1	0	1	0	3:
22-1:	24	3	0	0	0	1	0	28
22-30	21	2	0	0	0	0	0	23
22-4:	20	1	0	1	0	0	0	22
23-00	18	0	0	1	0	0	0	19

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

	!rm ! !pproac)								!rm ! 78it							
Time	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total
00:00	32	3	2	0	0	0	0	37	9	2	0	1	0	1	0	13
00:1:	19	1	0	1	1	0	0	22	8	0	1	3	1	0	0	13
00:30	14	2	0	0	0	0	0	16	6	1	1	3	0	0	0	11
00:4:	12	2	0	0	1	0	0	1:	12	0	0	1	0	0	0	13
01:00	1:	3	0	0	0	0	0	18	8	0	0	1	0	0	0	9
01:1:	23	0	1	0	0	0	0	24	8	1	0	1	0	0	0	10
01:30	12	0	0	0	0	1	0	13	9	1	0	3	1	0	0	14
01:4:	19	1	0	0	0	0	0	20	7	1	0	4	0	0	0	12
02:00	27	0	0	1	1	0	0	29	10	2	1	0	0	0	0	13
02:1:	12	1	0	0	0	0	0	13	9	0	0	0	0	0	0	9
02:30	27	4	1	1	1	0	0	34	11	2	0	0	1	0	0	14
02:4:	2:	2	0	1	0	0	0	28	9	0	0	0	0	0	0	9
03:00	17	1	0	0	0	0	0	18	12	0	0	0	0	0	0	12
03:1:	28	1	1	2	0	0	0	32	16	1	0	0	0	0	0	17
03:30	6	2	0	1	0	0	0	9	38	:	0	0	1	0	0	44
03:4:	21	0	0	0	0	0	0	21	32	0	0	1	0	0	0	33
04:00	23	1	0	0	0	0	0	24	37	:	1	1	0	0	0	44
04:1:	1:	3	0	1	1	0	0	20	3:	1	1	1	0	0	0	38
04:30	13	3	2	2	0	0	0	20	3:	4	0	1	0	2	0	42
04:4:	18	3	2	2	0	0	0	2:	32	3	0	1	0	0	0	36
0:<00	19	4	2	3	0	0	0	28	43	:	1	3	0	0	0	:2
0:<1:	18	3	1	0	0	0	0	22	42	3	0	3	0	0	0	48
0:<30	26	7	2	0	0	0	0	3:	69	6	0	2	1	1	1	80
0:<4:	2:	9	1	2	0	0	0	37	61	:	0	2	1	1	0	70
06:00	28	12	4	2	1	1	0	48	72	11	1	1	0	4	1	90
06:1:	33	16	2	4	1	0	0	:6	78	14	3	1	0	2	0	98
06:30	:0	18	1	:	0	1	0	7:	118	2:	1	8	0	0	1	1:3
06:4:	33	16	2	4	0	1	0	:6	127	32	0	7	1	3	0	170
07:00	:8	28	2	7	1	1	1	98	144	43	2	7	0	0	0	196
07:1:	:7	24	1	7	0	4	1	94	171	33	2	7	1	1	3	218
07:30	72	29	4	6	1	2	0	114	189	3:	3	6	0	3	1	237
07:4:	92	34	6	9	3	3	0	147	192	29	3	6	1	:	1	237
08:00	92	26	4	4	0	0	0	126	203	26	:	3	3	3	0	243
08:1:	119	37	9	1	:	4	0	17:	137	24	3	6	0	4	0	174
08:30	87	30	3	7	1	0	0	128	184	26	6	12	0	4	0	232
08:4:	97	20	:	8	0	0	0	130	176	2:	7	:	0	3	2	218
09:00	103	29	3	8	1	1	1	146	138	21	4	6	0	2	0	171
09:1:	102	17	6	3	0	0	0	128	122	28	6	9	3	2	1	171
09:30	78	16	4	:	1	0	0	104	104	14	2	6	2	2	0	130
09:4:	62	19	3	:	1	3	0	93	98	17	4	7	1	1	0	128
10:00	78	17	3	6	2	0	1	107	101	20	2	7	0	0	1	131
10:1:	64	2:	:	6	1	0	7	108	10:	16	4	:	1	0	0	131
10:30	81	2:	6	6	3	1	0	122	108	26	1	3	0	0	0	138
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11:1:	77	17	3	4	1	2	1	10:	93	13	6	8	1	0	0	121
11:30	94	10	1	4	0	2	0	111	109	1:	4	10	1	0	1	140
11:4:	97	21	8	4	1	0	0	131	92	22	6	1	0	1	0	122
12:00	87	16	9	1	0	1	0	114	96	14	2	4	0	3	0	119
12:1:	88	13	:	3	1	2	0	112	99	19	0	:	0	2	0	12:
12:30	8:	17	2	8	0	1	1	114	11:	9	:	3	1	3	0	136
12:4:	117	28	4	:	0	2	0	1:6	86	19	:	4	0	0	1	11:
13:00	112	19	:	7	1	3	0	147	86	13	4	3	1	1	0	108
13:1:	101	20	1	8	1	2	0	133	83	17	3	6	0	1	0	110
13:30	96	18	:	6	1	0	1	127	116	24	1	11	2	1	1	1:6
13:4:	104	20	1	9	0	1	0	13:	120	9	4	7	3	1	2	146
14:00	104	18	:	8	2	4	0	141	89	21	2	3	1	3	0	119
14:1:	103	14	0	7	0	2	0	126	106	19	2	3	1	2	1	134
14:30	90	1:	4	8	:	2	0	124	106	1:	8	1	1	2	0	133
14:4:	117	19	:	4	0	2	0	147	101	23	2	7	3	0	0	136
1:<00	89	1:	4	8	:	2	0	123	97	2:	:	:	0	1	0	133
1:<1:	118	19	:	4	0	2	0	148	134	1:	2	8	0	3	2	164
1:<30	131	17	3	3	0	2	0	1:6	133	21	1	3	:	4	0	167
1:<4:	128	1:	1	6	2	1	0	1:3	104	23	2	3	2	2	0	136
16:00	86	23	4	:	1	3	0	122	13:	30	3	1	3	2	0	174
16:1:	113	21	3	7	1	0	0	14:	130	31	1	1	1	1	0	16:
16:30	14:	21	1	3	0	4	0	174	100	16	0	6	0	0	1	123
16:4:	1::	24	1	3	1	1	1	186	11:	21	1	2	1	4	0	144
17:00	19:	24	1	4	1	2	2	229	114	2:	2	1	1	2	0	14:
17:1:	170	28	1	2	0	1	1	203	14:	20	2	2	0	3	0	172
17:30	208	16	1	0	0	7	3	23:	12:	24	1	0	1	1	0	1:2
17:4:	17:	24	2	0	0	:	0	206	128	16	1	1	0	2	0	148
18:00	178	13	0	1	1	7	:	20:	129	21	1	1	0	2	1	1::
18:1:	208	21	1	2	0	6	1	239	108	8	0	1	0	:	0	122
18:30	186	19	1	2	0	:	6	219	93	12	0	1	0	1	2	109
18:4:	1::	21	2	1	2	4	2	187	98	11	0	0	1	6	0	116
19:00	134	4	0	1	1	3	0	143	67	9	2	2	0	0	8	88
19:1:	123	14	0	0	0	2	0	139	79	12	0	1	0	2	0	94
19:30	87	13	0	0	1	1	1	103	:9	8	1	0	0	0	1	69
19:4:	74	8	0	1	1	1	1	86	7:	:	3	0	1	3	1	88
20:00	9:	9	0	1	0	2	0	107	:2	0	0	0	0	:	0	:7
20:1:	63	:	1	1	0	0	0	70	48	:	1	1	0	0	1	:6
20:30	:3	8	0	1	0	2	0	64	48	2	1	0	0	2	1	:4
20:4:	:3	:	1	0	1	1	0	61	36	4	0	0	0	1	1	42
21:00	42	2	0	0	0	1	0	4:	:3	7	0	1	0	3	0	64
21:1:	60	2	1	1	0	0	1	6:	:1	2	0	0	1	0	0	:4
21:30	4:	3	0	1	0	0	0	49	4:	4	0	0	0	6	0	::
21:4:	36	4	0	0	0	0	0	40	39	6	0	0	0	2	0	47
22:00	36	3	0	0	1	3	0	43	37	1	0	1	0	1	0	40
22:1:	::	6	0	2	1	0	1	6:	36	4	0	1	0	1	0	42
22:30	64	4	0	0	0	0	0	68	38	3	0	0	1	0	0	42
22:4:	44	1	0	0	0	4	0	49	2:	2	0	2	0	2	0	31
23:00	33	:	0	2	0	0	0	40	2:	4	0	2	0	0	0	31
23:1:	43	2	0	0	0	2	0	47	20	2	0	1	0	0	0	23
23:30	36	2	0	2	0	0	0	40	24	2	0	2	1	0	0	29
23:4:	:0	2	1	2	0	1	0	:6	14	0	0	2	0	0	0	16

Start Time	Rolling Hour							Total	Rolling Hour							Total
00:00	77	8	2	1	2	0	0	90	3:	3	2	8	1	1	0	:0
00:1:	60	8	0	1	2	0	0	71	34	1	2	8	1	0	0	46
00:30	64	7	1	0	1	0	0	73	34	2	1	6	0	0	0	43
00:4:	62	:	1	0	1	1	0	70	37	2	0	6	1	0	0	46
01:00	69	4	1	0	0	1	0	7:	32	3	0	9	1	0	0	4:
01:1:	81	1	1	1	1	1	0	86	34	:	1	8	1	0	0	49
01:30	70	2	0	1	1	1	0	7:	3:	4	1	7	1	0	0	48
01:4:	8:	6	1	2	2	0	0	96	37	:	1	4	1	0	0	48
02:00	91	7	1	3	2	0	0	104	39	4	1	0	1	0	0	4:
02:1:	81	8	1	2	1	0	0	93	41	2	0	0	1	0	0	44
02:30	97	8	2	4	1	0	0	112	48	3	0	0	1	0	0	:2
02:4:	76	6	1	4	0	0	0	87	7:	6	0	0	1	0	0	82
03:00	72	4	1	3	0	0	0	80	98	6	0	1	1	0	0	106
03:1:	78	4	1	3	0	0	0	86	123	11	1	2	1	0	0	138
03:30	6:	6	0	2	1	0	0	74	142	11	2	3	1	0	0	1:9
03:4:	72	7	2	3	1	0	0	8:	139	10	2	4	0	2	0	1:7
04:00	69	10	4	:	1	0	0	89	139	13	2	4	0	2	0	160
04:1:	6:	13	6	8	1	0	0	93	14:	13	2	6	0	2	0	168
04:30	68	13	7	7	0	0	0	9:	1:2	1:	1	8	0	2	0	178
04:4:	81	17	7	:	0	0	0	110	186	17	1	9	1	1	1	216
0::00	88	23	6	:	0	0	0	122	21:	19	1	10	2	2	1	2:0
0::1:	97	31	8	4	1	1	0	142	244	2:	1	8	2	6	2	288
0::30	112	44	9	8	2	1	0	176	280	36	4	6	2	8	2	338
0::4:	136	::	8	13	2	2	0	216	329	::	:	12	1	7	2	411
06:00	144	62	9	1:	2	3	0	23:	39:	82	:	17	1	9	2	:11
06:1:	174	78	7	20	2	3	1	28:	467	114	6	23	1	:	1	617
06:30	198	86	6	23	1	7	2	323	:60	133	:	29	2	4	4	737
06:4:	220	97	9	24	2	8	2	362	631	143	7	27	2	7	4	821
07:00	279	11:	13	29	:	10	2	4:3	696	140	10	26	2	9	:	888
07:1:	313	113	1:	26	4	9	1	481	7::	123	13	22	:	12	:	93:
07:30	37:	126	23	20	9	9	0	:62	721	114	14	21	4	1:	2	891
07:4:	390	127	22	21	9	7	0	:76	716	10:	17	27	4	16	1	886
08:00	39:	113	21	20	6	4	0	::9	700	101	21	26	3	14	2	867
08:1:	406	116	20	24	7	:	1	:79	63:	96	20	29	0	13	2	79:
08:30	389	96	17	26	2	1	1	:32	620	100	23	32	3	11	3	792
08:4:	380	82	18	24	2	1	1	:08	:40	88	19	26	:	9	3	690
09:00	34:	81	16	21	3	4	1	471	462	80	16	28	6	7	1	600
09:1:	320	69	16	19	4	3	1	432	42:	79	14	29	6	:	2	:60
09:30	282	77	1:	22	:	3	8	412	408	67	12	2:	4	3	1	:20
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13:4:	401	67	10	32	7	9	0	:26	421	64	16	14	6	8	3	:32
14:00	414	66	14	27	7	10	0	:38	402	78	14	14	6	7	1	:22
14:1:	399	63	13	27	10	8	0	:20	410	82	17	16	:	:	1	:36
14:30	414	68	18	24	10	8	0	:42	438	78	17	21	4	6	2	:66
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16:00	499	89	9	18	3	8	1	627	480	98	:	10	:	7	1	606
16:1:	608	90	6	17	3	7	3	734	4:9	93	4	10	3	7	1	:77
16:30	66:	97	4	12	2	8	4	792	474	82	:	11	2	9	1	:84
16:4:	728	92	4	9	2	11	7	8:3	499	90	6	:	3	10	0	613
17:00	748	92	:	6	1	1:	6	873	:12	8:	6	4	2	8	0	617
17:1:	731	81	4	3	1	20	9	849	:27	81	:	4	1	8	1	627
17:30	769	74	4	3	1	2:	9	88:	490	69	3	3	1	10	1	:77
17:4:	747	77	4	:	1	23	12	869	4:8	:7	2	4	0	10	3	:34
18:00	727	74	4	6	3	22	14	8:0	428	:2	1	3	1	14	3	:02
18:1:	683	6:	4	6	3	18	9	788	366	40	2	4	1	12	10	43:
18:30	:98	:8	3	4	3	14	8	688	337	44	2	4	1	9	10	407
18:4:	499	:2	2	2	4	10	3	:72	303	40	3	3	1	8	9	367
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21:00	183	11	1	2	0	1	1	199	188	19	0	1	1	11	0	220
21:1:	177	12	1	2	1	3	1	197	172	13	0	1	1	9	0	196
21:30	172	16	0	3	2	3	1	197	1:7	1:	0	2	0	10	0	184
21:4:	191	17	0	2	2	3	1	216	1:0	14	0	2	1	4	0	171
22:00	199	14	0	2	2	7	1	22:	136	10	0	4	1	4	0	1::
22:1:	196	16	0	4	1	4	1	222	124	13	0	:	1	3	0	146
22:30	184	12	0	2	0	6	0	204	108	11	0	:	1	2	0	127
22:4:	1:6	10	0	4	0	6	0	176	94	10	0	7	1	2	0	114
23:00	162	11	1	6	0	3	0	183	83	8	0	7	1	0	0	99

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

	Arm B (Approach)								Arm B (Exit)							
Time	Car	LGV	OGV 1	OGV 2	Bus	PSV	Cycle	Total	Car	LGV	OGV 1	OGV 2	Bus	PSV	Cycle	Total
00:00	3	1	0	2	0	0	0	6	3	0	0	0	0	0	0	3
00:15	6	0	0	3	0	0	0	9	2	0	0	1	0	0	0	3
00:30	3	2	1	3	0	0	0	9	3	0	0	1	0	0	0	4
00:45	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
01:00	1	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0
01:15	3	1	0	1	0	0	0	5	1	0	0	0	0	0	0	1
01:30	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1
01:45	2	0	0	4	0	0	0	6	1	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	1	0	0	1	0	0	0	2	0	1	0	1	0	0	0	2
02:30	2	1	0	0	0	1	0	4	1	1	0	0	0	0	0	2
02:45	0	3	1	0	0	0	0	4	2	0	0	1	0	0	0	3
03:00	1	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0
03:15	0	1	0	1	0	0	0	2	1	0	0	0	0	0	0	1
03:30	1	0	0	0	0	0	0	1	2	0	0	1	0	0	0	3
03:45	2	2	0	0	0	0	0	4	1	0	0	1	0	0	0	2
04:00	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
04:15	0	0	0	1	0	0	0	1	1	0	0	3	0	0	0	4
04:30	1	0	0	1	0	0	0	2	4	2	0	0	0	0	0	6
04:45	1	0	0	0	0	0	0	1	2	1	0	1	0	0	0	4
05:00	1	1	1	2	0	0	0	5	7	2	0	3	0	0	0	12
05:15	5	3	0	0	0	0	0	8	24	3	0	1	0	1	0	29
05:30	5	1	0	1	0	0	0	7	66	3	1	0	0	0	0	70
05:45	8	3	1	1	0	0	0	13	21	2	0	2	0	0	0	25
06:00	16	0	0	3	0	0	0	19	17	1	1	0	0	1	0	20
06:15	14	1	1	2	0	1	0	19	21	11	2	0	0	2	1	37
06:30	13	9	0	2	0	0	1	25	17	15	0	1	0	0	0	33
06:45	20	2	1	3	0	0	0	26	48	4	2	4	0	0	0	58
07:00	22	11	1	2	1	2	0	39	42	23	2	0	1	0	0	68
07:15	25	7	1	5	0	0	1	39	35	21	2	5	1	3	0	67
07:30	28	7	1	4	0	0	0	40	45	20	0	3	0	0	0	68
07:45	33	11	0	0	1	0	0	45	62	16	2	2	0	0	0	82
08:00	47	2	6	2	1	0	0	58	31	11	2	1	0	1	0	46
08:15	42	9	2	3	0	0	0	56	43	11	1	0	0	1	0	56
08:30	36	6	3	6	0	0	0	51	56	14	0	3	0	1	1	75
08:45	36	10	2	2	0	0	0	50	40	10	1	6	0	0	0	57
09:00	31	7	1	2	0	0	0	41	39	6	3	1	1	0	0	50
09:15	36	8	1	0	0	0	0	45	36	6	1	1	0	0	2	46
09:30	28	3	1	3	0	1	0	36	33	9	0	3	0	0	1	46
09:45	24	10	1	3	1	0	0	39	33	7	1	3	1	0	0	45
10:00	35	2	1	2	2	0	0	42	20	10	0	2	0	1	0	33
10:15	42	11	4	4	2	0	0	63	17	8	1	1	0	1	4	32
10:30	34	7	0	3	0	1	0	45	33	6	2	3	0	0	0	44
10:45	29	6	4	4	0	0	0	43	26	8	1	6	0	0	0	41
11:00	35	4	0	4	0	0	1	44	24	9	0	8	1	1	0	43
11:15	24	9	2	2	0	0	1	38	21	11	1	2	0	1	0	36
11:30	35	7	4	1	0	1	1	43	28	13	0	4	0	0	0	45
11:45	33	7	1	0	0	0	0	41	20	8	2	4	1	0	0	35
12:00	28	9	0	1	0	1	1	40	22	8	1	1	0	0	0	32
12:15	18	14	0	1	0	1	0	34	30	7	0	2	0	0	1	40
12:30	29	2	3	3	1	2	0	40	32	7	0	3	0	1	0	43
12:45	37	6	0	1	0	0	2	50	31	4	2	2	0	0	0	39
13:00	33	1	0	8	0	1	0	47	31	8	1	2	0	0	0	42
13:15	29	8	1	2	0	0	0	40	24	10	1	1	1	0	0	41
13:30	28	9	1	1	0	0	0	43	33	7	3	0	0	0	0	43
13:45	34	6	2	2	0	0	0	44	30	6	2	7	0	0	0	45
14:00	39	1:5	1	1	0	1	1	48	22	3	1	4	0	1	0	31
14:15	24	10	0	2	0	2	0	38	21	7	1	2	1	1	0	33
14:30	25	4	6	1	0	2	0	38	24	12	1	3	0	0	0	40
14:45	17	4	2	1	0	0	0	28	18	8	2	3	2	0	0	33
15:00	34	10	0	3	1	1	0	49	33	1	2	3	0	2	0	41
15:15	32	14	1	3	0	0	0	50	28	6	1	4	0	1	0	44
15:30	44	14	0	4	0	0	0	62	33	9	0	1	0	0	2	45
15:45	50	18	0	4	0	1	0	73	15	4	0	1	0	0	0	20
16:00	41	16	2	1	0	0	0	64	42	11	3	2	1	1	0	60
16:15	41	25	1	2	1	0	0	70	27	9	2	1	0	2	0	41
16:30	58	24	0	2	2	1	0	87	34	8	4	0	0	1	0	47
16:45	51	27	2	0	1	2	0	83	39	7	1	1	0	0	0	48
17:00	59	22	1	0	0	0	0	82	42	10	1	1	1	0	0	55
17:15	70	23	0	2	0	0	1	96	48	15	1	0	0	0	0	54
17:30	72	13	0	0	0	2	1	88	46	4	2	0	0	0	0	52
17:45	68	14	0	1	0	1	0	84	36	9	1	0	0	1	0	47
18:00	103	9	0	1	0	0	0	113	32	2	0	1	1	2	1	39
18:15	42	3	0	0	0	1	0	46	24	7	1	1	0	0	0	33
18:30	52	5	1	1	0	1	0	60	27	4	0	0	0	0	1	32
18:45	25	5	0	1	0	2	0	33	32	1	1	1	0	0	0	35
19:00	37	4	0	0	0	0	7	48	20	3	0	0	0	0	0	23
19:15	11	3	0	0	0	0	0	14	24	5	0	2	0	0	0	31
19:30	20	3	0	1	0	1	2	27	12	1	0	0	0	0	0	13
19:45	19	5	1	0	0	2	1	28	13	4	0	0	0	0	0	17
20:00	14	1	1	0	0	0	0	16	15	1	0	1	0	0	0	17
20:15	13	2	1	2	0	0	1	19	12	0	0	0	0	0	0	12
20:30	12	1	0	0	0	0	2	15	10	2	0	1	0	0	0	13
20:45	15	1	0	0	0	4	0	20	6	1	1	1	0	0	1	10
21:00	8	5	0	0	0	0	0	13	5	0	1	0	0	0	0	6
21:15	13	1	0	0	0	0	0	14	13	1	0	1	0	0	0	15
21:30	7	1	0	1	0	0	0	9	9	0	0	0	0	0	0	9
21:45	11	2	0	1	0	0	0	14	8	1	0	0	0	0	0	9
22:00	5	1	0	0	0	0	0	6	5	3	0	0	0	0	0	8
22:15	9	1	0	0	0	0	0	10	4	1	0	3	0	0	0	8
22:30	5	0	0	0	1	0	0	6	8	0	0	0	0	0	0	8
22:45	4	0	0	2	0	0	0	6	6	0	0	1	0	1	0	8
23:00	7	0	0	3	0	0	0	10	4	0	0	1	0	0	0	5
23:15	3	0	0	1	0	0	0	4	3	0	0	1	0	0	0	4
23:30	5	1	0	2	0	0	0	8	3	0	0	2	0	0	0	5
23:45	5	0	0	2	0	0	0	7	0	0	0	3	0	0	0	3

Start Time	Rolling Hour							Total	Rolling Hour							Total
00:00	13	3	1	9	0	0	0	26	8	0	0	2	0	0	0	10
00:1:	11	2	1	9	0	0	0	23	:	0	0	2	0	0	0	7
00:30	8	3	1	7	0	0	0	19	4	0	0	1	0	0	0	:
00:4:	:	1	0	6	0	0	0	12	1	0	0	1	0	0	0	2
01:00	6	1	0	9	0	0	0	16	2	0	0	1	0	0	0	3
01:1:	:	1	0	7	0	0	0	13	2	0	0	1	0	0	0	3
01:30	3	0	0	7	0	0	0	10	1	1	0	2	0	0	0	4
01:4:	:	1	0	:	0	1	0	12	2	2	0	1	0	0	0	:
02:00	3	4	1	1	0	1	0	10	3	2	0	2	0	0	0	7
02:1:	4	6	1	1	0	1	0	13	3	2	0	2	0	0	0	7
02:30	3	7	1	1	0	1	0	13	4	1	0	1	0	0	0	6
02:4:	2	6	1	1	0	0	0	10	:	0	0	2	0	0	0	7
03:00	4	:	0	1	0	0	0	10	4	0	0	2	0	0	0	6
03:1:	:	3	0	1	0	0	0	9	:	0	0	2	0	0	0	7
03:30	:	2	0	1	0	0	0	8	:	0	0	:	0	0	0	10
03:4:	:	2	0	2	0	0	0	9	7	2	0	4	0	0	0	13
04:00	4	0	0	2	0	0	0	6	8	3	0	4	0	0	0	1:
04:1:	3	1	1	4	0	0	0	9	14	:	0	7	0	0	0	26
04:30	8	4	1	3	0	0	0	16	37	8	0	:	0	1	0	:1
04:4:	12	:	1	3	0	0	0	21	99	9	1	:	0	1	0	11:
0:<00	19	8	2	4	0	0	0	33	118	10	1	6	0	1	0	136
0:<1:	34	7	1	:	0	0	0	47	128	9	2	3	0	2	0	144
0:<30	43	:	2	7	0	1	0	:8	12:	17	4	2	0	3	1	1:2
0:<4:	:1	13	2	8	0	1	1	76	76	29	3	3	0	3	1	11:
06:00	63	12	2	10	0	1	1	89	103	31	:	:	0	3	1	148
06:1:	69	23	3	9	1	3	1	109	128	:3	6	:	1	2	1	196
06:30	80	29	3	12	1	2	2	129	142	63	6	10	2	3	0	226
06:4:	9:	27	4	14	1	2	1	144	170	68	6	12	2	3	0	261
07:00	108	36	3	11	2	2	1	163	184	80	6	10	2	3	0	28:
07:1:	133	27	8	11	2	0	1	182	173	68	6	11	1	4	0	263
07:30	1:0	29	9	9	2	0	0	199	181	:8	:	6	0	2	0	2:2
07:4:	1:8	28	11	11	2	0	0	210	192	:2	:	6	0	3	1	2:9
08:00	161	27	13	13	1	0	0	21:	170	46	4	10	0	3	1	234
08:1:	14:	32	8	13	0	0	0	198	178	41	:	10	1	2	1	238
08:30	139	31	7	10	0	0	0	187	171	36	:	11	1	1	3	228
08:4:	131	28	:	7	0	1	0	172	148	31	:	11	1	0	3	199
09:00	119	28	4	8	1	1	0	161	141	28	:	8	2	0	3	187
09:1:	123	23	4	8	3	1	0	162	122	32	2	9	1	1	3	170
09:30	129	26	7	12	:	1	0	180	103	34	2	9	1	2	:	1:6
09:4:	13:	30	6	12	:	1	0	189	103	31	4	9	1	2	4	1:4
10:00	140	26	9	13	4	1	0	193	96	32	8	12	0	2	4	1:4
10:1:	140	28	8	1:	2	1	1	19:	100	31	8	18	1	2	4	164
10:30	122	26	6	13	0	1	2	170	104	34	8	19	1	2	0	168
10:4:	123	26	10	1:	0	1	3	178	99	41	6	20	1	2	0	169
11:00	127	27	7	11	0	1	3	176	93	41	3	18	2	2	0	1:9
11:1:	120	32	7	8	0	2	3	172	91	40	4	11	1	1	0	148
11:30	114	37	:	7	0	3	2	168	100	36	3	11	1	0	1	1:2
11:4:	108	32	4	:	1	4	1	1::	104	30	3	10	1	1	1	1:0
12:00	112	31	3	10	1	4	3	164	11:	26	3	8	0	1	1	1:4
12:1:	117	27	3	17	1	4	2	171	124	26	3	9	0	1	1	164
12:30	128	21	4	18	1	3	2	177	118	29	4	12	1	1	0	16:
12:4:	127	28	2	20	0	1	2	180	119	29	7	9	1	0	0	16:
13:00	124	28	4	17	0	1	0	174	118	31	7	14	1	0	0	171
13:1:	130	38	:	10	0	1	1	18:	109	26	7	16	1	1	0	160
13:30	12:	40	4	10	0	3	1	183	106	23	7	13	1	2	0	1:2
13:4:	122	3:	9	6	0	:	1	178	97	28	:	16	1	2	0	149
14:00	10:	33	9	9	0	:	1	162	8:	30	:	12	3	2	0	137
14:1:	100	28	8	11	1	:	0	1:3	96	32	6	11	3	3	0	1:1
14:30	108	32	9	12	1	3	0	16:	103	31	10	13	2	3	0	162
14:4:	127	42	3	1:	1	1	0	189	112	28	9	11	2	3	2	167
1:<00	160	:6	1	14	1	2	0	234	109	24	7	9	0	3	2	1:4
1:<1:	167	62	3	16	0	1	0	249	118	30	8	8	1	2	2	169
1:<30	176	73	3	1:	1	1	0	269	117	33	:	:	1	3	2	166
1:<4:	190	83	3	13	3	2	0	294	118	32	9	4	1	4	0	168
16:00	191	92	:	9	4	3	0	304	142	3:	10	4	1	4	0	196
16:1:	209	98	4	4	4	3	0	322	142	34	8	3	1	3	0	191
16:30	238	96	3	4	3	3	1	348	163	30	7	2	1	1	0	204
16:4:	2:2	8:	3	2	1	4	2	349	17:	26	:	2	1	0	0	209
17:00	269	72	1	3	0	3	2	3:0	172	28	:	1	1	1	0	208
17:1:	313	:9	0	4	0	3	2	381	162	20	4	1	1	3	1	192
17:30	28:	39	0	2	0	4	1	331	138	22	4	2	1	3	1	171
17:4:	26:	31	1	3	0	3	0	303	119	22	2	2	1	3	2	1:1
18:00	222	22	1	3	0	4	0	2:2	11:	14	2	3	1	2	2	139
18:1:	1:6	17	1	2	0	4	7	187	103	1:	2	2	0	0	1	123
18:30	12:	17	1	2	0	3	7	1::	103	13	1	3	0	0	1	121
18:4:	93	1:	0	2	0	3	9	122	88	10	1	3	0	0	0	102
19:00	87	1:	1	1	0	3	10	117	69	13	0	2	0	0	0	84
19:1:	64	12	2	1	0	3	3	8:	64	11	0	3	0	0	0	78
19:30	66	11	3	3	0	3	4	90	:2	6	0	1	0	0	0	:9
19:4:	:8	9	3	2	0	2	4	78	:0	7	0	2	0	0	0	:9
20:00	:4	:	2	2	0	4	3	70	43	4	1	3	0	0	1	:2
20:1:	48	9	1	2	0	4	3	67	33	3	2	2	0	0	1	41
20:30	48	8	0	0	0	4	2	62	34	4	2	3	0	0	1	44
20:4:	43	8	0	1	0	4	0	:6	33	2	2	2	0	0	1	40
21:00	39	9	0	2	0	0	0	:0	3:	2	1	1	0	0	0	39
21:1:	36	:	0	2	0	0	0	43	3:	:	0	1	0	0	0	41
21:30	32	:	0	2	0	0	0	39	26	:	0	3	0	0	0	34
21:4:	30	4	0	1	1	0	0	36	2:	:	0	3	0	0	0	33
22:00	23	2	0	2	1	0	0	28	23	4	0	4	0	1	0	32
22:1:	2:	1	0	:	1	0	0	32	22	1	0	:	0	1	0	29
22:30	19	0	0	6	1	0	0	26	21	0	0	3	0	1	0	2:
22:4:	19	1	0	8	0	0	0	28	16	0	0	:	0	1	0	22
23:00	20	1	0	8	0	0	0	29	10	0	0	7	0	0	0	17

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

	Trm C Approach								Trm C Exit							
Time	Car	LGV	OGV 1	OGV 2	Bus	PSV	Cycle	Total	Car	LGV	OGV 1	OGV 2	Bus	PSV	Cycle	Total
00:00	10	1	0	0	0	1	0	12	26	3	2	1	0	0	0	32
00:15	5	0	1	2	1	0	0	9	19	1	0	1	1	0	0	22
00:30	7	1	0	1	0	0	0	9	14	2	0	0	0	0	0	16
00:45	12	0	0	0	0	0	0	12	11	1	0	0	1	0	0	13
01:00	6	0	0	0	0	0	0	6	13	1	0	1	0	0	0	15
01:15	9	0	0	0	0	0	0	9	21	0	1	0	0	0	0	22
01:30	8	1	0	3	1	0	0	13	12	0	0	0	0	0	0	12
01:45	8	1	0	1	0	0	0	10	17	1	1	1	0	0	0	20
02:00	6	1	1	0	0	0	0	8	25	0	0	1	1	0	0	27
02:15	6	0	0	1	0	0	0	7	12	1	0	1	0	0	0	14
02:30	8	2	0	0	1	0	0	11	25	3	1	1	1	1	0	34
02:45	9	0	0	1	0	0	0	10	23	3	1	1	0	0	0	30
03:00	9	0	0	0	0	0	0	9	18	3	0	0	0	0	0	21
03:15	14	0	0	0	0	0	0	14	28	2	1	3	0	0	0	34
03:30	33	4	0	1	1	0	0	39	3	1	0	0	0	0	0	6
03:45	29	0	0	1	0	0	0	30	20	2	0	0	0	0	0	22
04:00	34	3	0	0	0	0	0	39	22	1	0	1	0	0	0	24
04:15	29	0	1	1	0	0	0	31	15	3	0	1	1	0	0	20
04:30	33	3	0	0	0	2	0	42	14	2	2	2	0	0	0	20
04:45	27	2	0	0	0	0	0	29	15	3	2	2	0	0	0	22
05:00	33	4	0	1	0	0	0	40	19	3	2	2	0	0	0	26
05:15	40	3	0	2	0	0	0	45	12	3	1	0	0	0	0	18
05:30	53	3	0	0	1	0	1	62	19	9	1	0	0	0	0	29
05:45	54	4	0	3	1	1	0	63	23	8	1	4	0	0	0	36
06:00	55	7	1	0	3	0	0	66	24	10	2	4	1	1	0	42
06:15	61	13	3	1	0	2	0	80	26	14	2	2	1	0	0	45
06:30	92	19	1	6	0	0	0	118	44	17	1	3	0	1	0	68
06:45	107	29	1	6	1	1	0	145	24	11	3	4	0	1	0	43
07:00	107	43	3	2	0	0	0	155	32	32	3	9	2	1	0	99
07:15	129	30	1	3	0	1	2	166	48	19	0	4	0	2	1	74
07:30	148	31	2	3	0	3	0	187	56	26	3	6	1	1	0	92
07:45	171	24	2	3	0	4	2	206	72	26	4	4	0	1	0	107
08:00	180	21	3	3	1	3	0	213	77	13	6	4	0	0	0	100
08:15	132	23	0	2	0	3	0	160	89	29	8	3	0	4	0	133
08:30	146	18	3	6	0	3	1	177	73	19	4	6	0	0	0	102
08:45	128	22	3	2	0	2	0	159	78	18	4	2	0	0	0	102
09:00	133	16	3	4	0	2	0	160	91	26	3	6	1	0	0	127
09:15	105	21	3	3	2	0	1	137	96	21	3	3	0	0	2	127
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09:45	93	12	3	4	0	0	0	114	61	17	6	4	1	2	0	91
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12:00	83	17	2	1	0	2	0	105	76	16	7	0	0	1	0	100
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12:45	69	13	6	1	0	0	1	90	99	19	2	6	0	1	0	127
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13:30	98	17	1	7	2	1	1	127	74	15	3	3	1	0	1	99
13:45	90	8	3	3	0	1	2	109	89	16	1	4	0	1	0	111
14:00	76	19	2	0	1	3	0	101	92	20	3	3	0	4	0	124
14:15	92	16	2	0	0	1	1	112	87	15	1	3	0	2	0	110
14:30	90	16	3	2	1	2	0	114	74	11	2	3	3	1	0	96
14:45	90	21	2	3	2	0	0	118	93	15	3	3	0	2	0	116
15:00	86	15	4	3	0	0	0	108	78	16	2	3	3	1	0	103
15:15	109	12	3	9	0	3	2	138	107	17	2	3	0	2	0	131
15:30	101	20	1	6	1	4	2	135	118	21	2	4	0	2	0	147
15:45	77	16	3	3	0	1	0	102	114	21	1	6	0	1	0	143
16:00	113	27	2	1	1	0	0	144	95	18	2	3	0	3	0	123
16:15	97	22	1	2	0	0	0	122	98	24	1	6	0	0	0	129
16:30	91	15	4	3	0	1	1	117	130	24	0	3	0	3	0	160
16:45	112	22	0	3	1	3	0	141	148	28	2	2	1	2	1	184
17:00	91	19	3	2	1	0	0	116	172	23	1	4	0	2	0	204
17:15	121	14	2	2	0	1	0	140	170	32	0	2	0	0	1	205
17:30	111	19	1	0	1	1	0	133	191	16	0	1	0	3	2	213
17:45	108	17	1	1	0	3	0	130	151	23	1	2	0	4	0	181
18:00	105	14	1	4	1	1	2	128	161	13	0	1	1	3	1	182
18:15	101	8	1	0	0	3	0	113	177	13	0	1	0	6	1	198
18:30	77	12	0	0	0	1	2	92	162	16	1	1	0	3	3	190
18:45	85	11	0	1	1	3	0	103	131	21	1	1	2	3	1	160
19:00	50	8	2	1	0	1	3	65	122	3	0	1	1	3	0	130
19:15	65	9	0	1	0	2	0	77	78	7	0	0	0	1	0	86
19:30	44	6	1	0	0	0	1	52	74	9	0	1	1	2	2	89
19:45	34	4	2	1	1	2	0	64	63	6	0	2	1	1	1	74
20:00	38	1	0	1	0	0	0	40	87	10	0	0	0	0	0	97
20:15	39	0	0	0	0	0	0	44	49	0	0	2	0	0	1	57
20:30	40	3	1	1	0	1	0	46	39	6	0	1	0	1	1	48
20:45	29	2	0	2	0	0	0	33	46	4	0	0	1	2	0	53
21:00	33	4	1	1	0	3	0	44	36	4	0	0	0	1	0	41
21:15	37	3	0	1	1	0	0	42	46	2	1	1	0	0	0	50
21:30	33	1	0	0	0	3	0	41	33	1	0	2	0	0	0	38
21:45	32	4	0	0	0	3	0	39	30	4	0	1	0	1	0	36
22:00	26	1	0	0	0	1	0	28	28	0	0	0	1	2	0	31
22:15	29	4	0	3	0	0	0	36	39	4	0	0	1	0	1	45
22:30	33	2	0	0	1	0	0	36	48	2	0	0	0	0	0	50
22:45	23	1	0	1	0	2	0	27	34	1	0	0	0	1	0	36
23:00	19	4	0	0	0	0	0	23	27	3	0	2	0	0	0	32
23:15	17	2	0	1	0	0	0	20	37	2	0	0	0	2	0	41
23:30	17	2	0	1	1	0	0	21	34	2	0	1	0	0	0	37
23:45	11	0	0	2	0	0	0	13	21	1	1	0	0	1	0	24

Start Time	Rolling Hour							Total	Rolling Hour							Total
00:00	34	2	1	3	1	1	0	42	70	7	2	2	2	0	0	83
00:1:	30	1	1	3	1	0	0	36	:7	:	0	2	2	0	0	66
00:30	34	1	0	1	0	0	0	36	:9	4	1	1	1	0	0	66
00:4:	3:	1	0	3	1	0	0	40	:7	2	1	1	1	0	0	62
01:00	31	2	0	4	1	0	0	38	63	2	2	2	0	0	0	69
01:1:	31	3	1	4	1	0	0	40	7:	1	2	2	1	0	0	81
01:30	28	3	1	:	1	0	0	38	66	2	1	3	1	0	0	73
01:4:	28	4	1	2	1	0	0	36	79	7	2	4	2	1	0	9:
02:00	29	3	1	2	1	0	0	36	8:	11	2	4	2	1	0	10:
02:1:	32	2	0	2	1	0	0	37	78	14	2	3	1	1	0	99
02:30	40	2	0	1	1	0	0	44	94	1:	3	:	1	1	0	119
02:4:	6:	4	0	2	1	0	0	72	74	11	2	4	0	0	0	91
03:00	8:	4	0	2	1	0	0	92	71	8	1	3	0	0	0	83
03:1:	110	9	0	2	1	0	0	122	7:	6	1	4	0	0	0	86
03:30	12:	9	1	3	1	0	0	139	62	7	0	2	1	0	0	72
03:4:	127	10	1	2	0	2	0	142	71	8	2	4	1	0	0	86
04:00	12:	12	1	1	0	2	0	141	66	9	4	6	1	0	0	86
04:1:	126	11	1	2	0	2	0	142	63	11	6	7	1	0	0	88
04:30	137	14	0	3	0	2	0	1:6	60	13	7	6	0	0	0	86
04:4:	1:7	14	0	3	1	0	1	176	6:	20	6	4	0	0	0	9:
0:<00	184	16	0	6	2	1	1	210	73	2:	:	6	0	0	0	109
0:<1:	204	19	1	:	2	4	1	236	78	32	:	8	1	1	0	12:
0:<30	22:	29	4	4	2	6	1	271	92	41	6	10	2	1	0	1:2
0:<4:	262	43	:	10	1	6	0	327	117	49	6	1:	2	2	0	191
06:00	31:	68	6	13	1	6	0	409	118	:2	8	1:	2	3	0	198
06:1:	367	104	8	1:	1	3	0	498	146	74	9	20	3	3	0	2::
06:30	43:	121	6	17	1	2	2	:84	168	79	7	22	2	:	1	284
06:4:	491	133	7	14	1	:	2	6:3	180	87	9	23	3	:	1	308
07:00	:::	128	8	11	0	8	4	714	228	102	10	23	3	:	1	372
07:1:	628	106	10	12	1	11	4	772	2:3	83	13	18	1	4	1	373
07:30	631	99	9	11	1	13	2	766	294	93	21	17	1	6	0	432
07:4:	629	86	10	14	1	13	3	7:6	311	87	22	17	0	:	0	442
08:00	:86	84	13	13	1	11	1	709	317	79	22	1:	0	4	0	437
08:1:	:41	79	11	14	0	10	1	6:6	331	92	19	17	1	4	0	464
08:30	:14	77	14	17	2	7	2	633	338	84	16	17	1	0	2	4:8
08:4:	462	7:	13	16	4	4	1	:7:	340	74	17	14	2	1	3	4:1
09:00	427	6:	13	18	4	2	1	:30	323	73	19	16	3	3	3	440
09:1:	380	70	11	22	4	0	2	489	298	:9	19	14	3	3	4	400
09:30	3:6	60	11	18	3	1	1	4:0	2:9	61	21	17	4	3	4	369
09:4:	362	67	11	16	1	1	1	4:9	260	67	21	18	:	3	3	377
10:00	366	74	1:	16	1	2	1	47:	298	71	18	18	4	3	3	41:
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10:30	367	72	19	16	1	1	0	476	320	71	13	14	3	:	1	427
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11:00	344	67	1:	19	2	1	0	448	298	62	13	9	1	:	1	389
11:1:	333	64	14	14	1	3	0	429	298	61	18	6	1	:	1	390
11:30	32:	6:	9	17	1	4	1	422	298	:3	20	7	1	:	0	384
11:4:	324	:4	11	12	0	6	1	408	292	:6	18	17	1	2	1	387
12:00	314	49	11	9	0	:	2	390	314	:9	14	21	1	3	1	413
12:1:	308	46	14	10	1	4	2	38:	32:	63	10	30	1	:	1	43:
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12:4:	317	60	1:	16	3	3	2	416	344	72	8	2:	2	:	1	4:7
13:00	338	::	14	18	3	4	3	43:	334	69	7	23	2	:	1	441
13:1:	337	60	11	16	3	6	3	436	339	69	9	17	2	6	1	443
13:30	3:6	60	10	10	3	6	4	449	342	66	10	17	1	7	1	444
13:4:	348	:9	12	:	2	7	3	436	342	62	9	17	3	8	0	441
14:00	348	72	9	:	4	6	1	44:	346	61	11	16	3	9	0	446
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14:30	37:	64	12	17	3	:	2	478	3:2	:9	9	14	6	6	0	446
14:4:	386	68	10	21	3	7	4	499	396	69	9	13	3	7	0	497
1:<00	373	63	11	23	1	8	4	483	417	7:	7	16	3	6	0	:24
1:<1:	400	7:	9	21	2	8	4	:19	434	77	7	18	0	8	0	:44
1:<30	388	8:	7	14	2	:	2	:03	42:	84	6	21	0	6	0	:42
1:<4:	378	80	10	13	1	2	1	48:	437	87	4	20	0	7	0	:::
16:00	413	86	7	11	2	4	1	:24	471	94	:	16	1	8	1	:96
16:1:	391	78	8	12	2	4	1	496	:48	101	4	1:	1	7	1	677
16:30	41:	70	9	12	2	:	1	:14	620	109	3	11	1	7	2	7:3
16:4:	43:	74	6	7	3	:	0	:30	681	101	3	9	1	9	4	808
17:00	431	69	7	:	2	:	0	:19	684	96	2	9	0	11	3	80:
17:1:	44:	64	:	7	2	6	2	:31	673	84	1	6	1	14	4	783
17:30	42:	:8	4	:	2	10	2	:06	680	6:	:	:	1	20	4	776
17:4:	391	:1	3	:	1	10	4	46:	6:1	6:	2	:	1	20	7	7:1
18:00	368	4:	2	:	2	12	4	438	631	63	2	4	3	19	8	730
18:1:	313	39	3	2	1	12	:	37:	:92	:3	2	4	3	17	7	678
18:30	277	40	2	3	1	9	:	337	493	47	2	3	3	12	6	:66
18:4:	244	34	3	3	1	8	4	297	40:	40	1	3	4	9	3	46:
19:00	213	27	:	3	1	:	4	2:8	337	2:	0	4	3	7	3	379
19:1:	201	20	3	3	1	9	1	238	302	32	0	3	2	4	3	346
19:30	17:	16	3	2	1	7	1	20:	273	30	0	:	2	3	4	317
19:4:	171	13	3	3	1	8	0	199	238	27	0	:	1	2	3	276
20:00	146	11	1	4	0	6	0	168	221	2:	0	3	1	3	2	2::
20:1:	143	14	2	4	0	4	0	167	170	19	0	3	1	4	2	199
20:30	141	12	2	:	1	4	0	16:	167	16	1	2	1	4	1	192
20:4:	136	10	1	4	1	8	0	160	163	11	1	3	1	3	0	182
21:00	139	12	1	2	1	11	0	166	147	11	1	4	0	2	0	16:
21:1:	130	9	0	1	1	9	0	1:0	139	7	1	4	1	3	0	1::
21:30	122	10	0	3	0	9	0	144	132	9	0	3	2	3	1	1:0
21:4:	120	11	0	3	1	4	0	139	14:	10	0	1	2	3	1	162
22:00	111	8	0	4	1	3	0	127	149	7	0	0	2	3	1	162
22:1:	104	11	0	4	1	2	0	122	148	10	0	2	1	1	1	163
22:30	92	9	0	2	1	2	0	106	146	8	0	2	0	3	0	1:9
22:4:	76	9	0	3	1	2	0	91	132	8	0	3	0	3	0	146
23:00	64	8	0	4	1	0	0	77	149	8	1	3	0	3	0	164

" " "#intelligent$data$collection#com

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

	Ifrm D Ipproac)								Ifrm D 78it							
Time	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total
00-00	2	0	0	0	0	0	0	2	9	0	0	0	0	0	0	9
00-1:	:	0	0	0	0	0	0	:	6	0	0	1	0	0	0	7
00-30	1	0	1	0	0	0	0	2	2	2	1	0	0	0	0	:
00-4:	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
01-00	2	0	0	0	0	0	0	2	3	2	0	0	0	0	0	:
01-1:	0	1	0	0	0	0	0	1	:	1	0	0	0	0	0	6
01-30	1	0	0	0	0	0	0	1	0	0	0	1	0	1	0	2
01-4:	0	0	1	0	0	0	0	1	4	0	0	0	0	0	0	4
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02-1:	3	1	0	0	0	0	0	4	1	0	0	0	0	0	0	1
02-30	4	1	0	0	0	0	0	:	4	0	0	0	0	0	0	4
02-4:	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
03-00	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
03-1:	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
03-30	6	1	0	0	0	0	0	7	1	1	0	1	0	0	0	3
03-4:	3	0	0	1	0	0	0	4	2	0	0	0	0	0	0	2
04-00	3	0	1	2	0	0	0	6	2	0	0	0	0	0	0	2
04-1:	7	1	0	2	0	0	0	10	0	0	0	0	0	0	0	0
04-30	4	1	0	0	0	0	0	:	0	1	0	0	0	0	0	1
04-4:	7	2	0	2	0	0	0	11	4	0	0	0	0	0	0	4
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06-00	33	:	0	2	0	2	1	43	19	2	1	2	0	0	0	24
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06-30	40	16	0	3	0	0	0	:9	16	:	0	2	0	0	0	23
06-4:	68	6	1	3	0	2	0	80	29	6	0	1	0	0	0	36
07-00	77	22	1	7	1	0	0	108	26	6	0	2	0	2	1	37
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07-30	8:	21	1	4	0	0	1	112	43	8	2	2	0	1	0	:6
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13-30	4:	10	1	0	0	0	0	:6	44	8	1	2	0	0	0	: :
13-4:	47	10	1	:	3	0	0	66	36	13	2	1	0	0	0	:2
14-00	34	6	1	2	0	0	0	43	:0	14	1	1	2	0	1	69
14-1:	34	9	2	2	2	1	0	:0	39	8	0	1	0	1	0	49
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16-1:	61	12	0	0	0	3	0	76	:7	16	1	3	1	0	0	78
16-30	:0	11	0	1	0	0	0	62	80	23	1	2	2	2	0	110
16-4:	:9	7	1	0	0	1	0	68	7:	24	0	1	1	1	0	102
17-00	63	13	0	1	0	2	0	79	80	18	1	1	0	0	2	102
17-1:	69	10	1	0	0	2	0	82	67	18	1	2	0	1	1	90
17-30	:8	7	2	1	0	0	0	68	87	11	1	0	0	4	2	10:
17-4:	:6	:	1	1	0	0	0	63	92	12	1	0	0	2	0	107
18-00	63	7	0	0	0	3	0	73	127	7	0	3	0	2	4	143
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18-30	44	7	0	0	0	0	0	:1	77	11	1	1	0	1	0	91
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19-4:	33	4	0	1	0	1	0	39	29	6	0	1	0	2	0	38
20-00	3:	0	0	0	0	0	0	3:	28	0	1	1	0	2	0	32
20-1:	23	3	1	0	0	0	1	28	29	:	2	0	0	0	0	36
20-30	22	1	0	0	0	1	0	24	30	3	0	0	0	1	0	34
20-4:	16	3	0	0	0	1	2	22	2:	2	0	1	0	3	0	31
21-00	23	4	0	0	0	0	0	27	14	4	0	0	0	0	0	18
21-1:	2:	1	0	1	0	0	0	27	2:	2	0	1	0	0	1	29
21-30	21	2	0	0	0	1	0	24	19	2	0	0	0	0	0	21
21-4:	1:	1	0	0	0	1	0	17	17	0	0	0	0	1	0	18
22-00	18	2	0	1	0	0	0	21	1:	3	0	0	0	1	0	19
22-1:	6	1	0	0	0	1	0	8	20	3	0	1	0	0	0	24
22-30	10	1	0	0	0	0	0	11	18	2	0	0	1	0	0	21
22-4:	9	1	0	0	0	0	0	10	1:	0	0	0	0	2	0	17
23-00	7	0	0	0	0	0	0	7	10	2	0	0	0	0	0	12
23-1:	:	0	0	0	0	0	0	:	8	0	0	0	0	0	0	8
23-30	11	0	0	1	0	0	0	12	8	1	0	1	0	0	0	10
23-4:	4	0	0	0	0	0	0	4	:	1	0	1	0	0	0	7

Start Time	Rolling Hour							Total	Rolling Hour							Total
00:00	8	0	1	0	0	0	0	9	19	3	1	1	0	0	0	24
00:15	8	0	1	0	0	0	0	9	13	3	1	1	0	0	0	20
00:30	3	1	1	0	0	0	0	5	12	6	1	0	0	0	0	19
00:45	3	1	0	0	0	0	0	4	10	4	0	1	0	1	0	16
01:00	3	1	1	0	0	0	0	5	12	3	0	1	0	1	0	17
01:15	5	2	1	0	0	0	0	8	11	1	0	1	0	1	0	14
01:30	8	2	1	0	0	0	0	11	7	0	0	1	0	1	0	9
01:45	11	3	1	0	0	0	0	15	11	0	0	0	0	0	0	11
02:00	13	3	0	0	0	0	0	16	9	0	0	0	0	0	0	9
02:15	12	2	0	0	0	0	0	14	7	0	0	0	0	0	0	7
02:30	12	2	0	0	0	0	0	14	6	0	0	0	0	0	0	6
02:45	14	2	0	0	0	0	0	16	3	1	0	1	0	0	0	5
03:00	15	2	0	1	0	0	0	18	3	1	0	1	0	0	0	5
03:15	15	2	1	3	0	0	0	21	5	1	0	1	0	0	0	7
03:30	19	2	1	5	0	0	0	27	5	1	0	1	0	0	0	7
03:45	17	2	1	5	0	0	0	25	4	1	0	0	0	0	0	5
04:00	21	4	1	6	0	0	0	32	6	1	0	0	0	0	0	7
04:15	33	7	0	6	0	0	0	46	5	3	0	0	0	0	0	8
04:30	51	10	0	6	0	1	0	68	15	5	0	0	0	0	0	20
04:45	126	15	0	7	0	2	0	150	26	5	0	0	0	0	0	31
05:00	146	16	0	7	0	2	0	171	31	9	1	0	0	0	0	41
05:15	164	18	0	7	0	4	1	194	49	9	2	2	0	0	0	62
05:30	175	25	2	6	0	5	2	215	58	9	3	7	0	1	0	78
05:45	136	35	2	8	0	4	2	187	63	13	3	9	0	1	0	89
06:00	177	38	3	9	0	6	2	235	83	15	2	10	0	1	0	111
06:15	221	55	4	14	1	4	1	300	90	19	1	10	0	3	1	124
06:30	261	69	4	15	3	3	0	355	104	30	1	6	0	2	1	144
06:45	306	74	5	16	3	3	1	408	131	33	3	6	0	3	1	177
07:00	325	89	6	16	4	2	1	443	159	46	4	8	4	5	2	228
07:15	309	80	7	9	5	3	1	414	202	52	8	7	5	3	1	278
07:30	289	65	7	11	3	4	1	380	249	54	8	7	10	3	1	332
07:45	303	61	8	10	3	6	0	391	261	58	7	6	11	2	1	346
08:00	295	51	8	9	2	6	2	373	250	49	8	4	7	0	0	318
08:15	285	49	10	11	1	5	2	363	233	47	5	6	6	1	1	299
08:30	288	52	12	12	2	5	6	377	201	36	6	5	1	1	1	251
08:45	244	41	11	10	2	5	8	321	189	33	6	6	0	1	1	236
09:00	204	38	12	10	3	5	6	278	169	31	5	5	0	2	1	213
09:15	185	36	9	9	2	6	6	253	163	28	5	6	3	1	0	206
09:30	160	34	6	6	1	4	2	213	157	35	4	7	5	1	1	210
09:45	148	37	5	6	1	2	0	199	155	43	3	8	6	2	1	218
10:00	151	42	5	5	0	1	2	206	170	43	3	9	6	1	1	233
10:15	150	45	5	8	1	0	2	211	159	43	3	5	3	1	3	217
10:30	156	48	6	10	2	0	2	224	151	40	4	4	1	1	3	204
10:45	154	51	6	10	2	0	3	226	162	32	4	2	0	0	4	204
11:00	140	47	4	11	2	0	1	205	169	33	5	4	0	0	4	215
11:15	143	39	5	9	1	1	1	199	172	34	7	4	0	1	3	221
11:30	163	35	3	8	0	1	1	211	174	38	5	6	0	2	2	227
11:45	169	31	5	13	0	2	0	220	160	34	10	6	0	4	1	215
12:00	186	32	4	14	0	2	0	238	164	40	9	5	0	5	3	226
12:15	190	36	2	12	0	1	0	241	182	37	8	8	1	5	2	243
12:30	164	36	3	9	1	2	0	215	192	34	10	6	1	6	2	251
12:45	162	38	2	3	1	1	0	207	198	37	6	7	1	4	2	255
13:00	164	38	3	5	4	1	0	215	182	35	7	6	1	3	0	234
13:15	160	36	4	7	4	1	0	212	176	44	6	4	2	2	1	235
13:30	160	35	5	9	5	1	0	215	169	43	4	5	2	1	1	225
13:45	157	35	5	10	5	1	0	213	168	42	6	6	4	4	1	231
14:00	148	35	5	6	5	1	0	200	182	37	7	5	4	4	1	240
14:15	161	40	6	4	5	4	0	220	180	28	7	7	5	6	0	233
14:30	187	40	5	4	3	4	0	243	191	36	8	9	5	5	0	254
14:45	220	41	4	4	7	5	0	281	215	40	6	12	3	3	0	279
15:00	232	43	3	6	6	5	0	295	237	45	4	20	5	3	0	314
15:15	245	46	3	7	9	5	0	325	227	61	5	21	3	1	0	318
15:30	256	49	2	5	9	7	0	328	234	61	5	21	4	1	0	326
15:45	231	49	2	5	5	6	0	298	247	73	5	17	6	2	0	350
16:00	240	44	3	2	3	7	0	299	250	84	4	10	5	3	0	356
16:15	233	43	1	2	0	6	0	285	292	81	3	7	4	3	2	392
16:30	241	41	2	2	0	5	0	291	302	83	3	6	3	4	3	404
16:45	249	37	4	2	0	5	0	297	309	71	3	4	1	6	5	399
17:00	246	35	4	3	0	4	0	292	326	59	4	3	0	7	5	404
17:15	246	29	4	2	0	5	0	286	373	48	3	5	0	9	7	445
17:30	221	24	3	3	0	3	0	254	392	39	3	3	0	9	6	452
17:45	207	24	1	2	0	3	0	237	382	39	3	4	0	6	4	438
18:00	197	22	0	1	0	4	0	224	340	34	2	5	0	7	5	393
18:15	172	18	0	2	0	1	0	193	263	31	2	2	0	6	3	307
18:30	169	23	0	3	0	1	0	196	236	34	1	2	0	6	3	282
18:45	153	18	0	3	0	1	0	175	193	29	0	1	0	5	4	232
19:00	140	19	0	4	0	1	0	164	172	28	0	1	0	4	3	208
19:15	137	16	0	3	0	1	0	157	150	24	1	2	0	5	1	183
19:30	119	9	1	1	0	1	1	132	120	17	3	2	0	4	1	147
19:45	113	8	1	1	0	2	1	126	116	14	3	2	0	5	0	140
20:00	96	7	1	0	0	2	3	109	112	10	3	2	0	6	0	133
20:15	84	11	1	0	0	2	3	101	98	14	2	1	0	4	0	119
20:30	86	9	0	1	0	2	2	100	94	11	0	2	0	4	1	112
20:45	85	10	0	1	0	2	2	100	83	10	0	2	0	3	1	99
21:00	84	8	0	1	0	2	0	95	76	7	0	1	0	1	1	86
21:15	79	6	0	2	0	2	0	89	76	7	0	1	0	2	1	87
21:30	60	6	0	1	0	3	0	70	71	8	0	1	0	2	0	82
21:45	49	5	0	1	0	2	0	57	70	8	0	1	1	2	0	82
22:00	43	5	0	1	0	1	0	50	68	8	0	1	1	3	0	81
22:15	32	3	0	0	0	1	0	36	63	7	0	1	1	2	0	74
22:30	31	2	0	0	0	0	0	33	51	4	0	0	1	2	0	58
22:45	32	1	0	1	0	0	0	34	41	3	0	1	0	2	0	47
23:00	27	0	0	1	0	0	0	28	31	4	0	2	0	0	0	37

Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018
Project Number:	ID04020	Junction Name:	A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Number:	Site 1	Junction Type:	#rossroads

	Total Junction (lo"							
Time	Car	L 1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total
00-00	47	:	2	2	0	1	0	:7
00-1:	3:	1	1	6	2	0	0	4:
00-30	2:	:	2	4	0	0	0	36
00-4:	2:	2	0	1	1	0	0	29
01-00	24	3	0	2	0	0	0	29
01-1:	3:	2	1	1	0	0	0	39
01-30	21	1	0	:	1	1	0	29
01-4:	29	2	1	:	0	0	0	37
02-00	37	2	1	1	1	0	0	42
02-1:	22	2	0	2	0	0	0	26
02-30	41	8	1	1	2	1	0	:4
02-4:	36	:	1	2	0	0	0	44
03-00	30	3	0	0	0	0	0	33
03-1:	4:	3	1	3	0	0	0	:2
03-30	46	7	0	2	1	0	0	:6
03-4:	::	2	0	2	0	0	0	:9
04-00	62	6	1	2	0	0	0	71
04-1:	:1	4	1	:	1	0	0	62
04-30	:3	9	2	3	0	2	0	69
04-4:	:3	7	2	4	0	0	0	66
0:-00	70	12	3	8	0	0	0	93
0:-1:	88	13	1	4	0	1	0	107
0:-30	16:	19	2	2	1	1	1	191
0:-4:	114	19	2	8	1	1	0	14:
06-00	132	24	:	7	1	6	1	176
06-1:	144	41	8	8	1	:	1	208
06-30	19:	62	2	16	0	1	1	277
06-4:	228	:3	:	16	1	4	0	307
07-00	264	104	7	18	3	3	1	400
07-1:	287	86	:	17	2	6	4	407
07-30	333	88	8	17	1	:	1	4:3
07-4:	383	90	10	1:	:	8	2	:13
08-00	380	62	17	9	4	4	0	476
08-1:	349	79	13	10	:	9	0	46:
08-30	368	71	11	22	1	:	1	479
08-4:	340	63	14	14	0	3	2	436
09-00	320	63	11	16	2	3	1	416
09-1:	302	:9	14	13	3	2	:	398
09-30	2::	41	8	14	3	3	2	326
09-4:	218	49	12	14	3	4	0	300
10-00	233	49	6	17	4	1	2	312
10-1:	221	:8	13	13	4	1	7	317
10-30	2:8	64	8	13	3	2	0	348
10-4:	280	61	18	17	0	3	2	381
11-00	242	:6	:	20	3	2	2	330
11-1:	217	:0	12	13	2	2	2	298
11-30	26:	48	6	16	1	3	2	341
11-4:	237	::	16	10	1	1	0	320
12-00	232	46	13	:	0	:	1	302
12-1:	234	48	:	13	1	4	1	306
12-30	2::	3:	10	18	1	6	1	326
12-4:	268	:7	10	14	0	2	3	3:4
13-00	260	46	10	17	2	:	0	340
13-1:	237	:4	6	16	2	4	0	319
13-30	267	:4	8	18	3	1	2	3:3
13-4:	27:	44	9	19	3	2	2	3:4
14-00	2:3	:8	9	11	3	8	1	343
14-1:	2:3	49	4	11	2	6	1	326
14-30	247	4:	14	12	6	6	0	330
14-4:	262	:4	10	13	:	2	0	346
1:-00	2:6	:1	10	14	6	6	0	343
1:-1:	319	:4	10	18	0	6	2	409
1:-30	3:1	62	4	14	:	7	2	44:
1:-4:	30:	61	4	18	4	3	0	39:
16-00	310	80	10	12	:	6	0	423
16-1:	312	80	:	11	2	3	0	413
16-30	344	71	:	11	2	6	1	440
16-4:	377	80	4	6	3	7	1	478
17-00	408	78	:	7	2	4	2	:06
17-1:	430	7:	4	6	0	4	2	:21
17-30	449	::	4	1	1	10	4	:24
17-4:	407	60	4	3	0	9	0	483
18-00	449	43	1	6	2	11	7	:19
18-1:	39:	37	2	3	0	12	1	4:0
18-30	3:9	43	2	3	0	7	8	422
18-4:	311	40	2	3	3	12	2	373
19-00	2:9	19	2	3	1	4	10	298
19-1:	240	36	0	3	0	4	0	283
19-30	179	24	1	1	1	2	4	212
19-4:	180	21	3	3	2	6	2	217
20-00	182	11	1	2	0	7	0	203
20-1:	138	1:	3	3	0	0	2	161
20-30	127	13	1	2	0	4	2	149
20-4:	113	11	1	2	1	6	2	136
21-00	108	1:	1	1	0	4	0	129
21-1:	13:	7	1	3	1	0	1	148
21-30	108	7	0	2	0	6	0	123
21-4:	94	11	0	1	0	4	0	110
22-00	8:	7	0	1	1	4	0	98
22-1:	99	12	0	:	1	1	1	119
22-30	112	7	0	0	2	0	0	121
22-4:	80	3	0	3	0	6	0	92
23-00	66	9	0	:	0	0	0	80
23-1:	68	4	0	2	0	2	0	76
23-30	69	:	0	6	1	0	0	81
23-4:	70	2	1	6	0	1	0	80

Start Time	&olling 6our							Total
00:00	132	13	:	13	3	1	0	167
00:1:	109	11	3	13	3	0	0	139
00:30	109	12	3	8	1	0	0	133
00:4:	10:	8	1	9	2	1	0	126
01:00	109	8	2	13	1	1	0	134
01:1:	122	7	3	12	2	1	0	147
01:30	109	7	2	13	2	1	0	134
01:4:	129	14	3	9	3	1	0	1:9
02:00	136	17	3	6	3	1	0	166
02:1:	129	18	2	:	2	1	0	1:7
02:30	1:2	19	3	6	2	1	0	183
02:4:	1:7	18	2	7	1	0	0	18:
03:00	176	1:	1	7	1	0	0	200
03:1:	208	18	2	9	1	0	0	238
03:30	214	19	2	11	2	0	0	248
03:4:	221	21	4	12	1	2	0	261
04:00	219	26	6	14	1	2	0	268
04:1:	227	32	8	20	1	2	0	290
04:30	264	41	8	19	0	3	0	33:
04:4:	376	:1	8	18	1	2	1	4:7
0::00	437	63	8	22	2	3	1	:36
0::1:	499	7:	10	21	3	9	2	619
0::30	:::	103	17	2:	4	13	3	720
0::4:	:8:	146	17	39	3	13	3	806
06:00	699	180	20	47	3	16	3	968
06:1:	831	260	22	:8	:	13	3	1192
06:30	974	30:	19	67	6	14	6	1391
06:4:	1112	331	2:	68	7	18	6	1:67
07:00	1267	368	30	67	11	22	8	1773
07:1:	1383	326	40	:8	12	23	7	1849
07:30	144:	319	48	:1	1:	26	3	1907
07:4:	1480	302	:1	:6	1:	26	3	1933
08:00	1437	27:	::	::	10	21	3	18:6
08:1:	1377	276	49	62	8	20	4	1796
08:30	1330	2:6	:0	6:	6	13	9	1729
08:4:	1217	226	47	:7	8	11	10	1:76
09:00	109:	212	4:	:7	11	12	8	1440
09:1:	1008	198	40	:8	13	10	9	1336
09:30	927	197	39	:8	14	9	11	12::
09:4:	930	220	39	:7	14	8	9	1277
10:00	992	232	4:	60	11	7	11	13:8
10:1:	1001	239	44	63	10	8	11	1376
10:30	997	231	43	63	8	9	6	13:7
10:4:	1004	21:	41	66	6	10	8	13:0
11:00	961	209	39	:9	7	8	6	1289
11:1:	9:1	199	47	44	4	11	:	1261
11:30	968	197	40	44	3	13	4	1269
11:4:	9:8	184	44	46	3	16	3	12:4
12:00	989	186	38	:0	2	17	6	1288
12:1:	1017	186	3:	62	4	17	:	1326
12:30	1020	192	36	6:	:	17	4	1339
12:4:	1032	211	34	6:	7	12	:	1366
13:00	1039	198	33	70	10	12	4	1366
13:1:	1032	210	32	64	11	1:	:	1369
13:30	1048	20:	30	:9	11	17	6	1376
13:4:	1028	196	36	:3	14	22	4	13:3
14:00	101:	206	37	47	16	22	2	134:
14:1:	1018	199	38	:0	19	20	1	134:
14:30	1084	204	44	:7	17	20	2	1428
14:4:	1188	221	34	:9	16	21	4	1:43
1::00	1231	228	28	64	1:	22	4	1:92
1::1:	128:	2:7	28	62	14	22	4	1672
1::30	1278	283	23	::	16	19	2	1676
1::4:	1271	292	24	:2	13	18	1	1671
16:00	1343	311	24	40	12	22	2	17:4
16:1:	1441	309	19	3:	9	20	4	1837
16:30	1::9	304	18	30	7	21	6	194:
16:4:	1664	288	17	20	6	2:	9	2029
17:00	1694	268	17	17	3	27	8	2034
17:1:	173:	233	13	16	3	34	13	2047
17:30	1700	19:	11	13	3	42	12	1976
17:4:	1610	183	9	1:	2	39	16	1874
18:00	1:14	163	7	1:	:	42	18	1764
18:1:	1324	139	8	12	4	3:	21	1:43
18:30	1169	138	6	12	4	27	20	1376
18:4:	989	119	:	10	:	22	16	1166
19:00	8:8	100	6	10	4	16	16	1010
19:1:	781	92	:	9	3	19	6	91:
19:30	679	71	8	9	3	1:	8	793
19:4:	627	60	8	10	2	17	6	730
20:00	:60	:0	6	9	1	17	6	649
20:1:	486	:4	6	8	1	14	6	:7:
20:30	483	46	4	8	2	14	:	:62
20:4:	464	40	3	8	2	16	3	:36
21:00	44:	40	2	7	1	14	1	:10
21:1:	422	32	1	7	2	14	1	479
21:30	386	37	0	9	2	1:	1	4:0
21:4:	390	37	0	7	4	9	1	448
22:00	376	29	0	9	4	11	1	430
22:1:	3:7	31	0	13	3	7	1	412
22:30	326	23	0	10	2	8	0	369
22:4:	283	21	0	16	1	8	0	329
23:00	273	20	1	19	1	3	0	317

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 1

Date of Survey: 10.07.2018
Junction Name: A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Road
Junction Type: #rossroads

!rm !: A38 Bristol Road 637 !rm B: A368 Bath Road 637 !rm C: A38 New Road 6S7 !rm D: A368 Di !h"rst Road 6;7

PC9 Summary

Time	! to !	! to D	! to C	! to B	B to B	B to !	B to D	B to C	C to C	C to B	C to !	C to D	D to D	D to C	D to B	D to !
00<00	0	7	32	0	0	4	2	4	0	2	9	0	0	0	1	1
00<1:	0	3	23	0	0	6	6	3	0	3	12	0	0	0	2	3
00<30	0	0	14	2	0	9	6	1	0	4	7	0	0	1	0	2
00<4:	0	2	1:	0	0	3	1	0	0	0	12	0	0	0	0	0
01<00	0	4	14	0	0	3	1	3	0	0	6	0	0	0	0	2
01<1:	0	2	23	0	0	3	4	0	0	1	8	0	0	0	0	1
01<30	0	0	12	0	0	6	0	0	0	3	14	3	0	0	0	1
01<4:	0	2	18	0	0	9	2	3	0	1	11	0	0	2	0	0
02<00	0	2	30	0	0	0	0	0	0	0	9	0	0	0	0	:
02<1:	0	0	13	0	0	0	1	3	0	3	6	0	0	0	1	3
02<30	0	2	36	0	0	0	2	1	0	0	13	0	0	0	2	3
02<4:	0	2	28	0	0	0	0	:	0	3	9	0	0	0	2	0
03<00	0	0	18	0	0	0	0	3	0	0	9	0	0	0	0	3
03<1:	0	0	37	0	0	0	0	4	0	0	14	0	0	0	1	3
03<30	0	:	6	0	0	1	0	0	0	4	39	0	0	0	1	6
03<4:	0	1	20	0	0	1	1	2	0	3	29	0	0	0	1	:
04<00	0	2	22	0	0	1	0	1	0	0	39	0	0	3	1	7
04<1:	0	0	21	3	0	0	0	3	0	0	34	0	0	0	7	7
04<30	0	1	2:	0	0	3	0	1	0	3	38	0	0	0	3	2
04<4:	0	2	28	1	0	0	1	0	0	0	28	1	0	0	:	10
0:<00	0	1	26	9	0	:	2	3	0	1	41	0	0	3	8	13
0:<1:	0	7	16	0	0	3	3	2	0	:	42	2	0	1	2:	9
0:<30	0	6	28	3	0	3	6	0	0	:	:8	0	0	2	63	23
0:<4:	0	7	31	4	0	0	8	8	0	9	61	0	0	6	16	14
06<00	0	14	40	3	0	1	1:	9	0	3	62	0	0	4	14	26
06<1:	0	16	48	3	0	2	17	4	0	:	74	:	0	0	29	26
06<30	0	12	69	4	0	11	8	9	0	:	119	7	0	0	26	39
06<4:	0	1:	43	7	0	10	19	4	0	20	134	4	0	6	41	39
07<00	0	22	87	4	0	7	1:	22	0	20	140	2	0	12	47	6:
07<1:	0	23	68	14	0	19	19	10	0	16	14:	9	0	1	49	67
07<30	0	31	86	12	0	16	20	13	0	19	164	10	0	8	43	69
07<4:	0	:6	99	18	0	10	27	10	0	27	167	1:	0	9	43	71
08<00	0	46	8:	7	0	13	36	20	0	19	192	12	0	9	23	:1
08<1:	0	66	112	12	0	19	33	12	0	19	130	13	0	20	2:	37
08<30	0	47	84	14	0	26	19	20	0	26	1:4	8	0	13	39	78
08<4:	0	43	82	26	0	24	14	18	0	18	142	6	0	10	26	64
09<00	0	42	113	9	0	14	14	18	0	21	131	17	0	12	26	40
09<1:	3	32	9:	10	0	6	20	20	0	19	128	4	0	21	18	:9
09<30	0	26	80	13	0	13	19	10	0	14	10:	1:	0	1:	24	28
09<4:	0	17	73	1:	0	13	13	21	0	1:	10:	6	0	11	23	27
10<00	0	34	78	11	0	12	24	14	0	14	104	16	0	6	11	29
10<1:	0	26	82	11	0	19	36	23	0	10	92	1	0	9	9	3:
10<30	0	40	90	13	0	10	22	18	0	18	111	7	0	10	21	24
10<4:	2	26	116	20	0	20	21	14	0	23	11:	7	0	9	18	37
11<00	0	22	76	26	0	18	17	16	0	17	118	:	0	14	16	29
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11<30	3	33	72	11	0	24	23	17	0	23	10:	8	0	6	19	31
11<4:	0	37	90	20	0	9	18	1:	0	16	90	1:	0	:	10	30
12<00	0	30	87	7	0	8	19	13	0	1:	90	3	0	6	13	29
12<1:	1	32	82	7	0	14	11	10	0	8	78	11	0	11	28	40
12<30	0	26	86	18	0	1:	21	13	0	12	91	9	0	18	18	41
12<4:	2	43	112	11	0	14	27	17	0	13	79	:	0	11	21	32
13<00	1	42	109	13	0	9	27	26	0	1:	87	7	0	6	19	21
13<1:	0	30	103	17	0	10	21	14	0	1:	89	8	0	3	22	24
13<30	0	39	93	12	0	21	17	16	0	10	129	4	0	3	24	30
13<4:	0	29	101	22	0	20	17	13	0	12	9:	10	0	:	26	:0
14<00	0	36	111	1:	0	17	27	1:	0	10	82	11	0	6	14	28
14<1:	0	27	96	1:	0	12	16	12	0	8	97	7	0	11	16	31
14<30	0	41	93	1:	0	16	19	10	0	10	100	11	0	8	22	27
14<4:	0	37	106	16	0	1:	17	8	0	9	110	10	0	10	19	32
1:<00	0	40	93	1:	0	1:	2:	16	0	13	97	7	0	:	24	34
1:<1:	0	38	106	16	0	17	27	13	0	17	126	12	0	19	23	3:
1:<30	0	:0	102	11	0	10	31	29	0	12	116	17	0	24	22	:3
1:<4:	0	::	109	4	0	11	4:	24	0	8	90	16	0	22	10	44
16<00	0	31	92	12	0	11	36	29	0	20	119	10	0	12	36	:2
16<1:	0	:1	10:	6	0	20	29	27	0	14	107	6	0	9	24	41
16<30	0	46	128	4	0	:	60	28	0	22	97	10	0	8	24	32
16<4:	0	41	147	:	0	7	46	32	0	19	110	18	0	10	27	31
17<00	0	:3	172	10	0	14	43	26	0	17	100	7	0	13	32	3:
17<1:	0	41	1::	10	0	14	4:	40	0	22	116	7	0	13	23	46
17<30	0	:3	172	4	0	12	44	30	0	19	111	:	0	10	31	31
17<4:	0	:6	142	7	0	11	44	30	0	16	108	7	0	11	24	31
18<00	0	:2	142	:	0	11	76	28	0	14	106	16	0	11	21	39
18<1:	0	:8	173	8	0	2	31	12	0	1:	90	8	0	10	13	29
18<30	0	:4	1:7	4	0	9	32	21	0	11	71	7	0	7	16	28
18<4:	0	36	146	7	0	4	18	12	0	14	83	7	0	:	17	27
19<00	0	32	111	2	0	11	20	10	0	11	:2	2	0	11	10	23
19<1:	0	:7	7:	:	0	2	7	:	0	10	61	7	0	:	20	32
19<30	0	2:	76	2	0	4	13	9	0	6	44	2	0	4	:	21
19<4:	0	19	6:	4	0	9	12	6	0	3	:7	8	0	7	10	23
20<00	0	19	86	3	0	2	10	:	0	:	34	:	0	6	11	18
20<1:	0	21	:1	1	0	:	13	:	0	:	3:	4	0	4	6	18
20<30	0	18	4:	1	0	1	11	1	0	11	33	4	0	2	3	18
20<4:	0	1:	46	2	0	2	10	:	0	4	27	6	0	2	6	11
21<00	0	12	32	0	0	4	:	4	0	3	41	1	0	4	4	19
21<1:	0	17	46	4	0	3	9	2	0	6	36	4	0	:	7	17
21<30	0	16	34	1	0	2	4	:	0	3	34	1	0	3	:	1:
21<4:	0	10	27	3	0	4	:	7	0	1	34	2	0	3	:	8
22<00	0	14	27	1	0	0	4	2	0	1	26	0	0	2	6	1:
22<1:	0	18	43	9	0	3	4	3	0	4	34	4	0	0	1	6
22<30	0	16	49	3	0	1	6	1	0	3	34	1	0	0	2	9
22<4:	0	11	3:	0	0	7	3	0	0	:	21	2	0	0	4	6
23<00	0	8	30	6	0	6	4	6	0	0	23	0	0	0	1	6
23<1:	0	7	39	0	0	:	0	1	0	3	18	1	0	0	3	2
23<30	0	:	33	6	0	1	7	4	0	1	23	0	0	2	2	10
23<4:	0	7	:0	3	0	6	2	3	0	6	11	0	0	1	0	3

Start Time	&olling 6our															
00:00	0	12	83	2	0	21	1:	8	0	9	41	0	0	1	3	6
00:1:	0	9	6:	2	0	20	14	7	0	7	37	0	0	1	2	7
00:30	0	8	6:	2	0	17	12	4	0	:	33	0	0	1	0	:
00:4:	0	8	63	0	0	1:	6	3	0	4	40	3	0	0	0	4
01:00	0	8	67	0	0	20	7	6	0	:	39	3	0	2	0	4
01:1:	0	6	83	0	0	17	6	3	0	:	42	3	0	2	0	7
01:30	0	4	73	0	0	1:	3	6	0	7	40	3	0	2	1	9
01:4:	0	6	98	0	0	9	:	7	0	4	38	0	0	2	3	11
02:00	0	6	108	0	0	0	3	9	0	6	36	0	0	0	:	11
02:1:	0	4	9:	0	0	0	3	12	0	6	37	0	0	0	:	9
02:30	0	4	119	0	0	0	2	13	0	3	4:	0	0	0	:	9
02:4:	0	7	89	0	0	1	0	12	0	7	71	0	0	0	4	12
03:00	0	6	81	0	0	2	1	9	0	7	91	0	0	0	3	17
03:1:	0	8	8:	0	0	3	1	7	0	7	121	0	0	3	4	21
03:30	0	8	69	3	0	3	1	6	0	7	140	0	0	3	10	2:
03:4:	0	4	87	3	0	:	1	7	0	6	140	0	0	3	12	21
04:00	0	:	9:	4	0	4	1	:	0	3	139	1	0	3	16	26
04:1:	0	4	99	13	0	8	3	7	0	4	141	1	0	3	23	32
04:30	0	11	94	10	0	11	6	6	0	9	149	3	0	4	41	34
04:4:	0	16	97	13	0	11	12	:	0	11	168	3	0	6	101	::
0::00	0	21	100	16	0	11	19	13	0	20	201	2	0	12	112	:9
0::1:	0	34	114	10	0	7	32	19	0	22	222	2	0	13	119	73
0::30	0	43	147	13	0	6	46	21	0	22	2:4	:	0	12	122	90
0::4:	0	49	187	14	0	14	48	30	0	22	31:	12	0	10	8:	10:
06:00	0	:7	200	17	0	24	:9	26	0	33	389	16	0	10	110	130
06:1:	0	6:	247	18	0	30	:9	39	0	:0	466	18	0	18	143	168
06:30	0	72	267	28	0	47	61	4:	0	61	:38	22	0	19	163	209
06:4:	0	91	28:	36	0	:2	73	49	0	7:	:83	2:	0	26	180	239
07:00	0	132	340	47	0	:2	80	::	0	82	616	36	0	30	182	271
07:1:	0	1:6	338	:0	0	:8	102	:3	0	81	668	46	0	27	1:8	2:8
07:30	0	199	381	48	0	:7	116	::	0	84	6:3	:0	0	4:	13:	228
07:4:	0	21:	379	:0	0	68	11:	62	0	91	643	48	0	:0	131	237
08:00	0	202	362	:8	0	81	102	70	0	82	618	39	0	:1	114	230
08:1:	0	199	391	60	0	82	80	68	0	84	::7	44	0	:4	117	219
08:30	3	164	373	:8	0	70	67	76	0	84	::6	3:	0	:6	109	240
08:4:	3	143	369	:7	0	:6	67	66	0	72	:06	42	0	:8	94	190
09:00	3	117	360	46	0	46	66	69	0	69	469	42	0	:8	92	1:4
09:1:	3	110	32:	48	0	44	76	6:	0	62	443	40	0	:2	77	143
09:30	0	104	312	49	0	:7	92	68	0	:3	406	37	0	40	68	119
09:4:	0	118	322	49	0	:4	9:	7:	0	:7	412	30	0	36	6:	11:
10:00	2	127	36:	:4	0	60	103	68	0	66	422	31	0	34	:9	124
10:1:	2	114	363	69	0	66	96	70	0	69	43:	20	0	41	64	12:
10:30	2	106	36:	72	0	:7	79	62	0	69	428	28	0	39	71	139
10:4:	:	99	347	70	0	71	80	61	0	74	422	29	0	36	69	146
11:00	3	110	322	71	0	61	77	62	0	66	397	37	0	32	61	139
11:1:	3	118	332	:1	0	:1	79	:9	0	64	369	3:	0	24	:8	139
11:30	4	132	331	4:	0	:6	71	::	0	61	363	37	0	28	70	130
11:4:	1	12:	34:	:2	0	46	70	:1	0	:1	348	37	0	39	69	139
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12:1:	4	144	388	48	0	:2	86	6:	0	48	33:	31	0	4:	86	133
12:30	3	142	408	:8	0	47	96	69	0	::	346	29	0	38	80	118
12:4:	3	1::	416	:2	0	:3	92	72	0	:3	384	24	0	23	8:	107
13:00	1	140	40:	64	0	:9	82	68	0	:2	400	29	0	17	90	126
13:1:	0	134	407	66	0	67	82	:8	0	47	394	33	0	17	8:	132
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13:4:	0	133	401	67	0	64	79	:0	0	40	374	39	0	30	78	136
14:00	0	141	406	60	0	:9	79	4:	0	37	388	39	0	3:	71	118
14:1:	0	14:	389	60	0	:7	77	46	0	40	404	3:	0	34	81	124
14:30	0	1:6	398	60	0	62	87	47	0	49	432	40	0	42	88	128
14:4:	0	16:	406	:7	0	:6	99	66	0	:1	448	4:	0	:8	88	1:4
1::00	0	183	410	4:	0	:3	127	82	0	:0	429	:1	0	70	79	166
1::1:	0	174	408	42	0	49	138	9:	0	:7	4:1	:4	0	77	91	184
1::30	0	188	408	33	0	:2	140	109	0	:4	432	48	0	67	92	190
1::4:	0	184	434	26	0	48	170	108	0	64	413	41	0	:1	94	169
16:00	0	170	472	26	0	43	171	116	0	7:	432	44	0	39	110	1:6
16:1:	0	192	::2	2:	0	47	178	113	0	72	413	41	0	40	107	139
16:30	0	182	602	29	0	40	194	126	0	80	422	42	0	44	106	143
16:4:	0	188	646	29	0	47	178	128	0	77	437	37	0	46	113	143
17:00	0	203	641	31	0	:1	176	126	0	74	43:	26	0	47	110	143
17:1:	0	201	611	26	0	48	209	128	0	71	440	3:	0	4:	99	147
17:30	0	219	629	24	0	36	19:	101	0	64	414	36	0	42	89	130
17:4:	0	220	614	24	0	33	183	92	0	:6	37:	38	0	39	74	127
18:00	0	201	618	24	0	26	1:7	74	0	:4	3:0	38	0	33	67	123
18:1:	0	181	:86	21	0	26	101	:6	0	:1	296	24	0	33	:6	107
18:30	0	180	489	18	0	26	77	48	0	46	266	23	0	28	63	110
18:4:	0	1:1	408	16	0	21	:8	36	0	41	239	18	0	2:	:2	103
19:00	0	133	327	13	0	26	:2	30	0	30	214	19	0	27	4:	99
19:1:	0	120	302	14	0	17	42	2:	0	24	196	22	0	22	46	94
19:30	0	84	278	10	0	20	48	2:	0	19	170	19	0	21	32	80
19:4:	0	77	247	9	0	17	46	17	0	24	1:9	21	0	19	30	78
20:00	0	73	228	7	0	10	44	16	0	2:	129	19	0	14	26	6:
20:1:	0	66	17:	4	0	12	39	1:	0	23	136	1:	0	12	19	66
20:30	0	62	170	7	0	10	3:	12	0	24	137	1:	0	13	20	6:
20:4:	0	60	1:8	7	0	11	28	16	0	16	138	12	0	14	22	62
21:00	0	::	139	8	0	13	23	18	0	13	144	8	0	1:	21	:9
21:1:	0	:7	134	9	0	9	22	16	0	11	130	7	0	13	23	::
21:30	0	:8	131	14	0	9	17	17	0	9	128	7	0	8	17	4:
21:4:	0	:8	146	16	0	8	19	13	0	9	128	7	0	:	14	38
22:00	0	:9	1:4	13	0	11	17	6	0	13	11:	7	0	2	13	36
22:1:	0	:3	1:7	18	0	17	17	10	0	12	111	7	0	0	8	27
22:30	0	42	1:3	9	0	19	13	8	0	11	9:	4	0	0	10	23
22:4:	0	31	137	12	0	19	14	11	0	9	8:	3	0	2	10	24
23:00	0	27	1:2	1:	0	18	13	14	0	10	7:	1	0	3	6	21

Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018		
Project Number:	ID04020	Junction Name:	A38 Bristol Road / A368 Bath Road / A38 New Road / A368 Di !h"rst Ro	!rm !:	A38 Bristol Road 637
Junction Number:	Site 1	Junction Type:	#rossroads	!rm B:	A368 Bath Road 637
				!rm C:	A38 New Road 6S7
				!rm D:	A368 Di !h"rst Road 6 ; 7

Count -et)od: =ehicles Cla e Included: All #lasses *Select the co" t /ethod a d desired "ser classes 1ro/ the dro'2dow s i cells D10 a d >10*

-a8imum 3:$minute Junction (lo":

! - Pea+	from:	07<4:	until:	08<00	flo":	:13
Inter$Pea+	from:	1:<30	until:	1:<4:	flo":	44:
P - Pea+	from:	17<30	until:	17<4:	flo":	:24

A) Pea co&ers 06<00 " til 10<00*
I ter2Pea co&ers 10<00 " til 16<00*
P) Pea co&ers 16<00 " til 20<00*

Period Starting: 00<00 *Select the ti/e 1ro/ the dro'2dow i cell D18 to show the 1:2/i "te data 1or that 'eriod*

-ovement Count

Oro / \ Bo	!	B	C	D	Total
!	0	0	;<	7	;=
B	2	0	2	2	6
C	10	2	0	0	12
D	1	1	0	0	2
Total	13	3	;4	9	:7

61/ Proportion

Oro / \ Bo	!	B	C	D	Total
!	0.0 ?	0.0 ?	6.7 ?	0.0 ?	:.4 ?
B	:<#< >	0.0 ?	:<#< >	0.0 ?	;;#; >
C	0.0 ?	0.0 ?	0.0 ?	0.0 ?	0.0 ?
D	0.0 ?	0.0 ?	0.0 ?	0.0 ?	0.0 ?
Total	7.7 ?	0.0 ?	?#@ >	0.0 ?	7.0 ?

-a8imum 6ourly Junction (lo":

! - Pea+	from:	07<4:	until:	08<4:	flo":	1933
Inter$Pea+	from:	1:<30	until:	16<30	flo":	1676
P - Pea+	from:	17<1:	until:	18<1:	flo":	2047

Period Starting: 00<00 *Select the ti/e 1ro/ the dro'2dow i cell D3: to show the ho"rl% data 1or that 'eriod*

-ovement Count

Oro / \ Bo	!	B	C	D	Total
!	0	2	=A	10	?<
B	8	0	4	14	26
C	37	:	0	0	42
D	:	3	1	0	9
Total	:0	10	A;	24	167

61/ Proportion

Oro / \ Bo	!	B	C	D	Total
!	0.0 ?	0.0 ?	:.1 ?	10.0 ?	:.6 ?
B	A=#: >	0.0 ?	:0.0 ?	7.1 ?	;A#: >
C	8.1 ?	40.0 ?	0.0 ?	0.0 ?	11.9 ?
D	20.0 ?	0.0 ?	0.0 ?	0.0 ?	11.1 ?
Total	44#< >	20.0 ?	7.2 ?	8.3 ?	12.6 ?

Bold e tries i the a(o&e ta(les i dicate the /a@i/"/ /o&e/e t! a''roach a d e@it 1lows 1or the selected ti/e 'eriod! a d si/ilarl% with the 8>= 'ro'ortio s

Intelligent Data Collection Limited
Bri tol !irport

Client:	Peter Brett Associates
Project Number:	ID04020
Junction Number:	Site 2
Date of Survey:	10.07.2018
Junction Name:	A370 / Brockley Combe Roa / Brockley !a"e
Junction Type:	Crossroa s

%uality ! urance and I ue &ecord

#$ality Ass$ra"ce

Re%isio"	Re% A			
Date	08.08.2018			
Pre&are by	'abriela (ele"ko%a			
Si)"at$re				
C*ecke by	!$ke +arti"			
Si)"at$re				
Pro,ect Director	Pa$l -./eill			
Si)"at$re				
Pro,ect "$mber	ID04020			
0ile Re1	ID04020 Bristol Air&ort 2 +CC Site 2 2 10.07.2018			

Iss$e S*eet

Iss$e to	Date			
	08.08.2018			
Peter Brett Associates	32mail			

Content Page

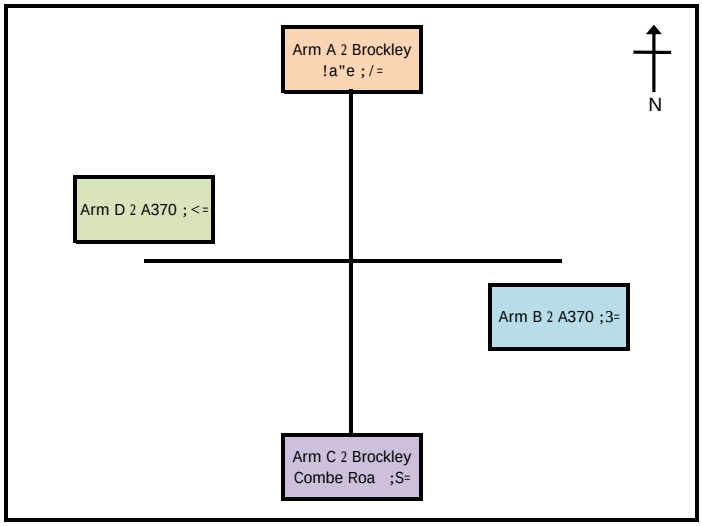
!ocatio" Pla" 4 S$mmary
+CC Data
PC5 Data
+o%eme"t +atrices

Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018
Project Number:	ID04020	Junction Name:	A370 / Brockley Combe Roa / Brockley !a"e
Junction Number:	Site 2	Junction Type:	Crossroa s

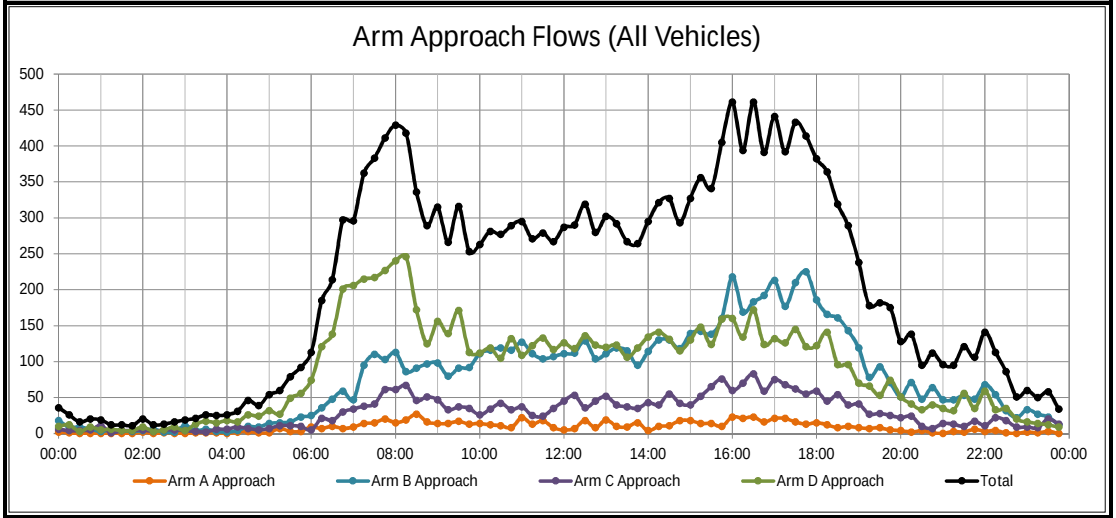
. Coordinate	0 Coordinate	/oogle - ap Lin+	
71.387388382773229	22.7789078810233937	Click 6ere	
! - Pea+ Condition	Inter$Pea+ Condition	P - Pea+ Condition	
Dry	Dry	Dry	

Junction Layout



!erial - apping and 1n$ ite Camera 2ie"

Junction (lo" Profile



!dditional Note '(actor ")ic) may impact on urvey re ult uc) a accident *road"or+ * pecial event ,:

0oota)e start at 00:07.

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

!rm !: Brockley !a"e ;/=
!rm B: A370 ;3=
!rm C: Brockley Combe Roa ;S=
!rm D: A370 ;<=

	! to !								! to D								! to C							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00								0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
00:17								0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:30								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:47								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:17								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:47								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00								0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
02:17								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30								0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:47								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:17								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:30								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:47								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:17								0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
04:30								0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
04:47								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:00								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:17								0	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3
07:30								0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
07:47								0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
09:00								0	2	1	0	0	0	0	0	3	7	1	0	0	0	0	0	9
09:17								0	1	0	0	0	0	0	0	1	4	1	0	0	0	0	0	7
09:30								0	1	1	0	0	0	0	0	2	7	0	0	0	0	0	1	9
09:47								0	4	1	0	0	0	0	0	7	1	0	0	0	0	0	0	1
07:00								0	0	1	0	0	0	0	0	1	7	1	0	0	0	0	0	9
07:17								0	3	0	0	0	0	0	0	3	8	2	0	0	0	0	0	10
07:30								0	4	1	0	0	0	0	0	7	8	0	0	0	0	1	0	8
07:47								0	4	0	0	0	0	0	0	4	8	1	0	0	0	0	0	8
08:00								0	7	0	0	0	0	0	0	7	4	3	0	1	0	0	0	8
08:17								0	7	2	0	0	0	0	0	8	7	2	0	0	0	0	0	8
08:30								0	13	2	0	0	0	0	0	17	7	1	0	0	0	0	0	8
08:47								0	4	1	0	0	0	0	0	7	7	2	0	0	0	0	1	10
08:00								0	7	0	0	0	0	0	0	7	9	1	0	0	0	0	0	7
08:17								0	7	0	0	0	0	0	0	7	9	0	0	0	0	0	1	7
08:30								0	9	2	0	0	0	0	0	8	2	1	0	0	0	0	0	3
08:47								0	3	0	0	0	0	0	0	3	7	0	0	0	0	0	4	8
10:00								0	2	2	0	0	0	0	0	4	9	1	0	0	0	0	1	8
10:17								0	7	1	0	0	0	0	0	9	7	1	0	0	0	0	0	9
10:30								0	7	1	0	0	0	0	0	9	0	1	1	0	0	0	0	2
10:47								0	4	0	1	0	0	0	0	7	2	0	0	0	0	0	0	2
11:00								0	8	1	0	0	0	0	0	8	4	3	1	0	0	0	0	8
11:17								0	3	0	0	1	0	0	1	7	9	1	0	0	0	0	0	7
11:30								0	8	1	0	0	0	0	0	8	3	0	0	0	0	0	2	7
11:47								0	3	0	0	0	0	0	0	3	2	1	0	0	0	0	0	3
12:00								0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
12:17								0	9	0	0	0	0	0	0	9	1	0	0	0	0	0	0	1
12:30								0	8	0	0	0	0	0	0	8	4	3	0	0	0	0	0	7
12:47								0	1	1	0	0	0	0	0	2	2	1	1	1	0	0	1	9
13:00								0	4	4	0	0	0	0	0	8	7	0	0	2	0	0	1	10
13:17								0	4	1	0	0	0	0	0	7	4	1	0	0	0	0	0	7
13:30								0	1	2	0	0	0	0	0	3	7	0	0	0	0	0	0	7
13:47								0	8	0	0	0	0	0	0	8	7	0	0	0	0	0	0	7
14:00								0	2	1	0	0	0	0	0	3	0	1	0	0	0	0	0	1
14:17								0	7	1	0	0	0	0	0	9	3	0	1	0	0	0	0	4
14:30								0	7	2	0	0	0	0	0	7	3	0	0	0	0	0	0	3
14:47								0	4	1	0	0	0	0	0	7	8	2	0	1	0	0	0	11
17:00								0	8	0	0	0	0	0	0	8	9	0	0	0	0	0	0	9
17:17								0	4	2	0	0	0	0	0	9	9	0	0	0	0	0	0	9
17:30								0	9	1	0	0	0	0	0	7	7	2	0	0	0	0	0	7
17:47								0	4	1	0	0	0	0	0	7	3	0	0	0	0	0	0	3
19:00								0	10	0	0	0	0	0	0	10	8	0	0	0	0	0	1	10
19:17								0	9	2	0	0	0	0	0	8	8	2	0	0	0	0	0	11
19:30								0	8	0	0	0	0	0	0	8	8	7	0	0	0	0	1	14
19:47								0	9	0	0	0	0	0	0	9	8	0	0	0	0	0	1	10
17:00								0	8	3	0	0	0	1	0	13	7	1	0	0	0	0	0	8
17:17								0	13	2	0	0	0	0	0	17	7	0	0	0	0	0	0	7
17:30								0	9	1	0	0	0	0	0	7	9	2	0	0	0	0	0	8
17:47								0	9	1	0	0	0	0	0	7	7	1	0	0	0	0	0	9
18:00								0	3	0	0	0	0	0	0	3	8	0	0	0	0	1	0	8
18:17								0	3	0	0	0	0	0	0	3	7	2	0	0	0	0	1	8
18:30								0	2	0	0	0	0	0	0	2	3	0	0	0	0	2	1	9
18:47								0	7	1	0	0	0	0	0	8	0	1	0	0	0	0	0	1
18:00								0	1	1	0	0	0	0	0	2	4	0	0	0	0	0	1	7
18:17								0	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1
18:30								0	7	0	0	0	0	0	0	7	1	0	0	0	0	0	0	1
18:47								0	4	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
20:00								0	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1
20:17								0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
20:30								0	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3
20:47								0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
21:00								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:17								0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
21:30								0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
21:47								0	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
22:00								0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
22:17								0	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
22:30								0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
22:47								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00								0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
23:17								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
23:30								0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
23:47								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
00:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1
00:17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
01:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
02:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
02:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
03:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
03:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	1	3
03:47	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4	0	0	0	0	0	1	7
04:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4	0	0	0	0	0	1	7
04:17	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	7	0	0	0	0	0	1	9
04:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	8
04:47	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	7	0	0	0	0	0	0	7
07:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	7	0	0	0	0	0	0	7
07:17	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	9	11	1	0	0	0	0	0	12
07:30	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	9	12	2	0	0	0	0	0	14
07:47	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	7	17	2	0	0	0	0	1	18
09:00	0	0	0	0	0	0	0	0	8	3	0	0	0	0	0	11	17	2	0	0	0	0	1	18
09:17	0	0	0	0	0	0	0	0	9	3	0	0	0	0	0	8	17	2	0	0	0	0	1	18
09:30	0	0	0	0	0	0	0	0	8	3	0	0	0	0	0	11	18	3	0	0	0	0	1	23
09:47	0	0	0	0	0	0	0	0	11	3	0	0	0	0	0	14	22	3	0	0	0	1	0	29
07:00	0	0	0	0	0	0	0	0	11	2	0	0	0	0	0	13	28	4	0	0	0	1	0	34
07:17	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	17	28	9	0	1	0	1	0	39
07:30	0	0	0	0	0	0	0	0	20	3	0	0	0	0	0	23	27	9	0	1	0	1	0	37
07:47	0	0	0	0	0	0	0	0	28	4	0	0	0	0	0	33	29	7	0	1	0	0	0	34
08:00	0	0	0	0	0	0	0	0	28	7	0	0	0	0	0	34	27	8	0	1	0	0	1	37
08:17	0	0	0	0	0	0	0	0	28	7	0	0	0	0	0	34	27	9	0	0	0	0	1	34
08:30	0	0	0	0	0	0	0	0	27	3	0	0	0	0	0	30	29	4	0	0	0	0	2	32
08:47	0	0	0	0	0	0	0	0	20	3	0	0	0	0	0	23	21	4	0	0	0	0	2	27
08:00	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	21	18	2	0	0	0	0	7	29
08:17	0	0	0	0	0	0	0	0	19	4	0	0	0	0	0	20	18	2	0	0	0	0	9	27
08:30	0	0	0	0	0	0	0	0	19	7	0	0	0	0	0	21	18	3	0	0	0	0	7	29
08:47	0	0	0	0	0	0	0	0	17	4	0	0	0	0	0	18	19	3	1	0	0	0	7	27
10:00	0	0	0	0	0	0	0	0	19	4	1	0	0	0	0	21	13	3	1	0	0	0	1	18
10:17	0	0	0	0	0	0	0	0	22	3	1	0	0	0	0	29	11	7	2	0	0	0	0	18
10:30	0	0	0	0	0	0	0	0	20	2	1	1	0	0	1	27	12	7	2	0	0	0	0	18
10:47	0	0	0	0	0	0	0	0	23	2	1	1	0	0	1	28	17	4	1	0	0	0	2	22
11:00	0	0	0	0	0	0	0	0	22	2	0	1	0	0	1	29	17	7	1	0	0	0	2	23
11:17	0	0	0	0	0	0	0	0	18	1	0	1	0	0	1	21	11	2	0	0	0	0	2	17
11:30	0	0	0	0	0	0	0	0	21	1	0	0	0	0	0	22	9	1	0	0	0	0	2	8
11:47	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	21	7	4	0	0	0	0	0	11
12:00	0	0	0	0	0	0	0	0	18	1	0	0	0	0	0	20	7	4	1	1	0	0	1	14
12:17	0	0	0	0	0	0	0	0	18	7	0	0	0	0	0	24	14	4	1	3	0	0	2	24
12:30	0	0	0	0	0	0	0	0	17	9	0	0	0	0	0	23	17	7	1	3	0	0	2	28
12:47	0	0	0	0	0	0	0	0	10	8	0	0	0	0	0	18	18	2	1	3	0	0	2	29
13:00	0	0	0	0	0	0	0	0	18	7	0	0	0	0	0	27	21	1	0	2	0	0	1	27
13:17	0	0	0	0	0	0	0	0	19	4	0	0	0	0	0	20	14	2	0	0	0	0	0	19
13:30	0	0	0	0	0	0	0	0	17	4	0	0	0	0	0	21	13	1	1	0	0	0	0	17
13:47	0	0	0	0	0	0	0	0	21	4	0	0	0	0	0	27	11	1	1	0	0	0	0	13
14:00	0	0	0	0	0	0	0	0	19	7	0	0	0	0	0	21	14	3	1	1	0	0	0	18
14:17	0	0	0	0	0	0	0	0	22	4	0	0	0	0	0	29	20	2	1	1	0	0	0	24
14:30	0	0	0	0	0	0	0	0	21	7	0	0	0	0	0	29	23	2	0	1	0	0	0	29
14:47	0	0	0	0	0	0	0	0	22	4	0	0	0	0	0	29	27	4	0	1	0	0	0	30
17:00	0	0	0	0	0	0	0	0	22	4	0	0	0	0	0	29	20	2	0	0	0	0	0	22
17:17	0	0	0	0	0	0	0	0	24	4	0	0	0	0	0	28	23	2	0	0	0	0	1	29
17:30	0	0	0	0	0	0	0	0	29	4	0	0	0	0	0	30	29	4	0	0	0	0	1	31
17:47	0	0	0	0	0	0	0	0	28	3	0	0	0	0	0	31	28	7	0	0	0	0	2	38
19:00	0	0	0	0	0	0	0	0	30	2	0	0	0	0	0	32	37	7	0	0	0	0	3	47
19:17	0	0	0	0	0	0	0	0	28	7	0	0	0	1	0	37	33	8	0	0	0	0	2	43
19:30	0	0	0	0	0	0	0	0	39	7	0	0	0	1	0	42	28	9	0	0	0	0	2	37
19:47	0	0	0	0	0	0	0	0	34	9	0	0	0	1	0	41	27	3	0	0	0	0	1	31
17:00	0	0	0	0	0	0	0	0	34	7	0	0	0	1	0	42	23	4	0	0	0	0	0	27
17:17	0	0	0	0	0	0	0	0	28	4	0	0	0	0	0	32	24	3	0	0	0	1	0	28
17:30	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	20	24	7	0	0	0	1	1	31
17:47	0	0	0	0	0	0	0	0	14	1	0	0	0	0	0	17	21	3	0	0	0	3	2	28
18:00	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	19	19	3	0	0	0	3	2	24
18:17	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	17	12	3	0	0	0	2	3	20
18:30	0	0	0	0	0	0	0	0	14	2	0	0	0	0	0	19	8	1	0	0	0	2	2	13
18:47	0	0	0	0	0	0	0	0	17	2	0	0	0	0	0	18	9	1	0	0	0	0	1	8
18:00	0	0	0	0	0	0	0	0	14	2	0	0	0	0	0	19	9	0	0	0	0	0	1	7
18:17	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	17	3	0	0	0	0	0	0	3
18:30	0	0	0	0	0	0	0	0	13	1	0	0	0	0	0	14	3	0	0	0	0	0	0	3
18:47	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	10	7	0	0	0	0	0	0	7
20:00	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9	7	0	0	0	0	0	0	7
20:17	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	4	0	0	0	0	0	0	4
20:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	7	0	0	0	0	0	0	7
20:47	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	2	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7
21:17	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7
21:30	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7
21:47	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9	7	0	0	0	0	0	0	7
22:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	4	0	0	0	0	0	0	4
22:17	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	3	0	0	0	0	0	0	3
22:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	1	2
22:47	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	2	0	0	0	0	0	1	3
23:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	2	0	0	0	0	0	1	3

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

!rm !: Brockley !a"e ;/=
!rm B: A370 ;3=
!rm C: Brockley Combe Roa ;5=
!rm D: A370 ;<=

	! to B								B to B								B to !							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00	0	0	0	0	0	0	0	0								0	0	1	0	0	0	0	0	1
00:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
00:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
01:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
01:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
02:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
02:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
03:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
03:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
04:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
04:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
07:17	3	0	0	0	0	0	0	3								0	1	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
07:47	1	0	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
09:17	1	0	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
09:30	2	0	0	0	0	0	0	2								0	1	0	0	0	0	0	0	1
09:47	1	0	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
07:00	2	0	0	0	0	0	0	2								0	0	0	0	0	0	0	0	0
07:17	1	0	0	0	0	0	0	1								0	2	0	0	0	0	0	0	2
07:30	0	0	1	0	0	0	0	1								0	1	1	1	0	0	0	0	3
07:47	7	2	0	0	0	0	0	7								0	1	0	0	0	0	0	0	1
08:00	2	0	0	0	0	0	0	2								0	1	0	1	0	0	0	0	2
08:17	1	0	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
08:30	1	1	0	0	0	0	2	4								0	0	0	0	0	0	0	0	0
08:47	1	0	0	0	0	0	0	1								0	1	0	0	0	0	0	0	1
08:00	2	0	0	0	0	0	0	2								0	0	0	0	0	0	0	0	0
08:17	1	1	0	0	0	0	0	2								0	0	1	0	0	0	0	0	1
08:30	3	2	1	0	0	0	0	9								0	3	1	0	0	0	0	0	4
08:47	1	0	0	0	0	0	0	1								0	2	1	0	0	0	0	0	3
10:00	2	0	0	0	0	0	0	2								0	1	0	0	0	0	0	0	1
10:17	0	0	0	0	0	0	0	0								0	1	0	0	0	0	0	0	1
10:30	3	0	0	0	0	0	0	3								0	1	2	0	0	0	0	0	3
10:47	1	0	0	0	0	0	0	1								0	3	0	0	0	0	0	0	3
11:00	3	1	1	0	0	0	0	7								0	1	0	0	0	0	0	0	1
11:17	1	0	0	0	0	0	0	1								0	1	0	0	0	0	0	0	1
11:30	4	0	0	0	0	0	0	4								0	0	0	0	0	0	0	0	0
11:47	2	0	0	0	0	0	0	2								0	2	0	0	0	0	0	0	2
12:00	1	0	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
12:17	0	0	0	0	0	0	0	0								0	1	1	0	0	0	0	0	2
12:30	2	1	0	0	0	0	0	3								0	0	0	0	0	0	0	0	0
12:47	0	0	0	0	0	0	0	0								0	1	0	0	0	0	0	0	1
13:00	1	0	0	0	0	0	0	1								0	2	1	0	0	0	0	0	3
13:17	0	0	0	0	0	0	0	0								0	2	0	0	0	0	0	0	2
13:30	0	1	0	0	0	0	0	1								0	1	0	0	0	0	0	0	1
13:47	1	0	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0								0	0	0	0	1	0	0	0	1
14:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
14:30	1	0	0	0	0	0	0	1								0	1	3	0	0	0	0	0	4
14:47	2	0	0	0	0	0	0	2								0	0	0	0	0	0	0	0	0
17:00	3	0	1	0	0	0	0	4								0	1	0	0	0	0	0	0	1
17:17	0	2	0	0	0	0	0	2								0	1	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0								0	2	0	0	0	0	0	0	2
17:47	2	0	0	0	0	0	0	2								0	0	0	0	0	0	0	0	0
19:00	1	2	0	0	0	0	0	3								0	4	0	0	0	0	0	0	4
19:17	1	1	0	0	0	0	0	2								0	3	0	0	0	0	0	0	3
19:30	0	1	0	0	0	0	0	1								0	2	0	0	0	0	0	0	2
19:47	0	0	0	0	0	0	0	0								0	1	1	0	0	0	0	2	4
17:00	0	0	0	0	0	0	0	0								0	1	0	0	0	0	0	0	1
17:17	1	0	0	0	0	0	0	1								0	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	1								0	3	0	0	0	0	0	0	3
17:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
18:00	3	0	0	0	0	0	0	3								0	2	0	0	0	0	0	0	2
18:17	1	0	0	0	0	0	0	1								0	3	1	1	0	0	0	0	7
18:30	0	0	0	0	0	0	0	0								0	2	0	0	0	0	0	0	2
18:47	1	0	0	0	0	0	0	1								0	1	0	0	0	0	0	0	1
18:00	1	0	0	0	0	0	0	1								0	2	0	0	0	0	0	0	2
18:17	2	0	0	0	0	0	0	2								0	2	0	0	0	0	0	0	2
18:30	1	1	0	0	0	0	0	2								0	0	0	0	0	0	0	0	0
18:47	0	0	0	0	0	0	0	0								0	1	0	0	0	0	0	0	1
20:00	0	0	0	0	0	0	0	0								0	1	0	0	0	0	0	0	1
20:17	0	0	0	0	0	0	0	0								0	2	0	0	0	0	0	0	2
20:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
20:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
21:17	0	0	0	0	0	1	0	1								0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
21:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
22:00	1	0	0	0	0	0	0	1								0	2	0	0	0	0	0	0	2
22:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
22:47	0	0	0	0	0	0	0	0								0	1	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
23:17	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0								0	1	0	0	0	0	0	0	1
23:47	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0	0	0

Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
00:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:47	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:17	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:47	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
09:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
09:17	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
09:30	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
09:47	4	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	7
07:00	8	2	1	0	0	0	0	11	0	0	0	0	0	0	0	0	4	1	1	0	0	0	0	9
07:17	8	2	1	0	0	0	0	11	0	0	0	0	0	0	0	0	7	1	2	0	0	0	0	8
07:30	8	2	1	0	0	0	0	11	0	0	0	0	0	0	0	0	3	1	2	0	0	0	0	9
07:47	8	3	0	0	0	0	2	14	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3
08:00	7	1	0	0	0	0	2	8	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3
08:17	7	1	0	0	0	0	2	8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
08:30	7	2	0	0	0	0	2	8	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
08:47	7	3	1	0	0	0	0	11	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	9
08:00	7	3	1	0	0	0	0	11	0	0	0	0	0	0	0	0	7	3	0	0	0	0	0	8
08:17	7	3	1	0	0	0	0	11	0	0	0	0	0	0	0	0	9	3	0	0	0	0	0	8
08:30	9	2	1	0	0	0	0	8	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	8
08:47	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	7	3	0	0	0	0	0	8
10:00	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	8
10:17	7	1	1	0	0	0	0	8	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	8
10:30	8	1	1	0	0	0	0	10	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	8
10:47	8	1	1	0	0	0	0	11	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
11:00	10	1	1	0	0	0	0	12	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
11:17	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
11:30	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
11:47	7	1	0	0	0	0	0	9	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
12:00	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
12:17	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	9
12:30	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	9
12:47	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	7
13:00	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	9
13:17	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	4
13:30	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
13:47	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	3	0	1	0	0	0	7
14:00	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	3	0	1	0	0	0	7
14:17	9	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	7
14:30	9	2	1	0	0	0	0	8	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	9
14:47	7	2	1	0	0	0	0	8	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
17:00	7	2	1	0	0	0	0	8	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
17:17	3	4	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
17:30	4	3	0	0	0	0	0	7	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8
17:47	4	4	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8
19:00	2	4	0	0	0	0	0	9	0	0	0	0	0	0	0	0	10	1	0	0	0	0	2	13
19:17	1	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	7	1	0	0	0	0	2	10
19:30	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	1	0	0	0	0	2	7
19:47	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	7	1	0	0	0	0	2	8
17:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
17:17	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
17:30	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	8	1	1	0	0	0	0	10
17:47	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	7	1	1	0	0	0	0	8
18:00	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	8	1	1	0	0	0	0	10
18:17	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	8	1	1	0	0	0	0	10
18:30	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
18:47	7	1	0	0	0	0	0	9	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
18:00	4	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
18:17	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
18:30	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
18:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
20:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
20:30	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:47	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:17	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
21:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
21:47	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
22:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
22:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
22:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

!rm !: Brockley !a"e ;/=
!rm B: A370 ;3=
!rm C: Brockley Combe Roa ;S=
!rm D: A370 ;<=

	B to D								B to C								C to C							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00	13	1	1	0	0	0	0	17	2	0	0	0	0	0	0	2								0
00:17	9	2	0	1	0	0	0	8	0	0	0	0	0	0	0	0								0
00:30	7	0	0	1	1	0	0	7	2	0	0	0	0	0	0	2								0
00:47	3	1	0	2	0	0	0	9	0	0	0	0	0	0	0	0								0
01:00	1	0	0	1	0	0	0	2	1	0	0	0	0	0	0	1								0
01:17	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0								0
01:30	3	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0								0
01:47	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1								0
02:00	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0								0
02:17	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4								0
02:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0								0
02:47	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0								0
03:00	9	1	0	0	0	0	0	7	4	0	0	0	0	0	0	4								0
03:17	1	1	1	0	0	0	0	3	1	0	0	0	0	0	0	1								0
03:30	2	1	1	0	0	0	0	4	2	0	0	0	0	0	0	2								0
03:47	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1								0
04:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1								0
04:17	2	0	1	1	0	0	0	4	0	0	0	0	0	0	0	0								0
04:30	3	1	1	2	0	0	0	7	3	0	0	0	0	0	0	3								0
04:47	2	1	2	1	0	0	0	9	1	2	0	0	0	0	0	3								0
07:00	4	9	2	0	0	0	0	12	1	1	0	0	0	0	0	2								0
07:17	4	3	1	0	0	1	0	8	4	0	1	0	0	0	0	7								0
07:30	12	1	1	0	0	0	0	14	1	0	1	0	0	0	0	2								0
07:47	11	2	2	0	0	3	0	18	2	1	1	1	0	0	0	7								0
09:00	10	8	3	0	0	0	1	22	3	0	0	0	0	0	0	3								0
09:17	20	8	1	1	0	0	0	31	7	0	0	0	0	0	0	7								0
09:30	27	8	2	2	0	7	0	44	3	0	0	0	0	0	0	3								0
09:47	29	19	4	4	0	0	0	70	4	2	1	0	1	0	1	8								0
07:00	28	8	1	1	1	1	0	41	7	1	0	0	0	0	0	9								0
07:17	47	23	2	2	0	0	0	74	13	3	0	2	1	0	0	18								0
07:30	99	17	1	2	3	2	1	82	12	1	1	1	0	0	0	17								0
07:47	98	17	0	3	1	2	0	88	8	2	0	2	1	0	0	13								0
08:00	70	18	0	4	1	1	1	87	12	1	0	3	0	0	0	19								0
08:17	73	17	0	2	0	0	0	70	13	1	2	0	0	0	0	19								0
08:30	78	19	0	0	1	0	0	77	14	1	1	0	0	0	0	19								0
08:47	70	14	3	3	2	2	0	74	18	3	0	0	0	0	0	22								0
08:00	77	8	1	0	2	1	1	81	9	1	0	0	0	0	0	7								0
08:17	90	8	1	1	1	0	0	71	7	3	0	0	0	0	0	8								0
08:30	77	10	1	0	1	1	0	98	17	2	2	0	0	0	0	18								0
08:47	74	11	4	2	1	0	0	72	19	1	0	0	0	0	0	17								0
10:00	97	14	7	4	1	0	3	82	13	3	1	0	0	0	1	18								0
10:17	88	18	1	1	1	1	0	110	3	1	1	0	0	0	0	7								0
10:30	98	18	7	2	2	0	0	89	19	2	1	0	0	1	0	20								0
10:47	70	18	4	2	0	0	0	87	18	0	0	0	0	0	0	18								0
11:00	87	8	2	2	1	2	1	101	20	3	2	0	0	0	0	27								0
11:17	78	20	2	2	2	1	0	109	2	1	0	1	0	0	0	4								0
11:30	99	18	7	0	1	0	0	80	8	3	1	1	0	0	0	14								0
11:47	79	17	2	1	1	1	0	89	8	0	0	0	0	0	1	8								0
12:00	80	18	2	1	1	1	0	103	9	2	0	0	0	0	0	8								0
12:17	83	12	3	3	1	2	0	104	7	1	0	0	0	0	0	9								0
12:30	87	14	4	2	1	1	0	117	11	0	1	0	0	0	0	12								0
12:47	99	21	1	0	1	2	0	81	8	3	0	0	0	0	0	12								0
13:00	78	19	1	1	1	2	0	100	7	1	0	0	0	0	0	8								0
13:17	79	19	7	3	0	2	0	102	12	2	1	0	0	0	0	17								0
13:30	78	17	1	0	2	3	0	102	8	3	0	0	0	0	0	12								0
13:47	94	11	2	4	1	0	0	82	11	1	0	1	0	0	0	13								0
14:00	74	17	2	1	2	1	0	87	14	0	3	1	0	0	0	18								0
14:17	87	21	1	3	3	3	0	118	11	1	0	0	0	0	0	12								0
14:30	80	19	3	1	1	2	0	113	8	2	1	0	1	0	0	13								0
14:47	80	18	2	0	1	2	0	113	4	1	0	0	0	0	0	7								0
17:00	88	18	2	2	1	0	0	122	12	3	1	0	0	0	0	19								0
17:17	104	20	2	0	1	1	0	128	10	3	0	0	0	0	0	13								0
17:30	87	20	0	1	4	1	0	123	8	3	1	0	0	0	0	13								0
17:47	119	23	2	1	3	1	0	149	11	2	1	0	0	0	0	14								0
19:00	170	22	2	1	4	3	0	202	8	2	1	0	0	0	0	12								0
19:17	131	24	1	0	0	3	0	178	9	0	0	0	1	0	0	7								0
19:30	133	37	0	0	1	4	0	173	9	1	1	0	0	0	0	8								0
19:47	143	22	1	1	2	3	2	174	11	3	0	0	0	0	0	14								0
17:00	199	28	2	1	1	2	1	201	8	2	0	0	0	0	0	11								0
17:17	141	20	0	0	2	7	2	172	7	0	0	0	0	0	0	7								0
17:30	198	17	0	0	1	11	1	187	8	2	0	0	0	0	0	10								0
17:47	183	19	1	1	2	7	9	214	11	0	0	0	0	0	0	11								0
18:00	178	10	0	2	0	4	0	177	8	1	0	0	0	0	0	8								0
18:17	137	11	0	1	2	7	0	174	9	0	0	0	0	0	1	7								0
18:30	139	11	1	0	1	3	3	177	4	0	0	0	0	0	0	4								0
18:47	121	7	0	0	1	2	0	128	12	1	0	0	0	0	0	13								0
18:00	84	8	1	1	1	3	1	110	7	2	0	0	0	0	0	7								0
18:17	98	3	0	0	0	2	1	74	2	0	0	0	0	0	0	2								0
18:30	73	7	0	1	2	1	3	87	8	0	0	0	0	0	0	8								0
18:47	78	3	0	2	0	2	0	97	7	0	0	0	0	0	0	7								0
20:00	38	3	0	0	3	0	0	47	3	0	0	1	0	1	0	7								0
20:17	90	3	0	0	1	0	1	97	3	1	0	0	0	0	0	4								0
20:30	37	7	3	1	1	0	0	47	1	0	0	0	0	0	0	1								0
20:47	77	9	0	0	1	1	0	93	1	0	0	0	0	0	0	1								0
21:00	37	9	0	1	1	0	1	49	0	1	0	0	0	0	0	1								0
21:17	38	7	1	0	0	1	0	47	2	0	0	0	0	0	0	2								0
21:30	42	4	0	0	1	1	1	48	4	0	0	0	0	0	0	4								0
21:47	38	2	0	1	0	0	0	41	7	0	0	0	0	0	0	7								0
22:00	78	3	0	0	0	2	0	93	3	0	0	0	0	0	0	3								0
22:17	70	2	0	1	0	0	0	73	1	0	0	0	0	0	0	1								0
22:30	28	0	1	0	0	1	0	30	1	1	0	0	0	0	0	2								0
22:47	17	2	0	0	0	0	0	18	2	0	0	0	0	0	0	2								0
23:00	27	1	1	2	0	0	0	28	2	0	0	2	0	0	0	4								0
23:17	22	2	0	1	0	0	0	27	2	0	0	0	0	0	0	2								0
23:30	17	1	1	1	0	0	0	20	2	0	0	0	0	0	0	2								0
23:47	8	2	1	0	0	0	0	12	0	0	0	0	0	0	0	0								0

Start Time	&olling &our							Total	&olling &our							Total	&olling &our							Total
00:00	27	4	1	4	1	0	0	37	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
00:17	17	3	0	7	1	0	0	24	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
00:30	14	1	0	4	1	0	0	20	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
00:47	12	1	1	3	0	0	0	17	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:00	10	1	1	1	0	0	0	13	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
01:17	12	2	1	0	0	0	0	17	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:30	8	2	1	0	0	0	0	12	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
01:47	8	2	0	0	0	0	0	10	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
02:00	8	2	0	0	0	0	0	10	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
02:17	11	2	0	0	0	0	0	13	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
02:30	10	3	1	0	0	0	0	14	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
02:47	10	4	2	0	0	0	0	19	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
03:00	10	4	2	0	0	0	0	19	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
03:17	7	3	2	0	0	0	0	10	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
03:30	9	2	2	1	0	0	0	11	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
03:47	7	2	2	3	0	0	0	14	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
04:00	8	2	4	4	0	0	0	18	7	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0
04:17	11	8	9	4	0	0	0	28	7	3	0	0	0	0	0	8	0	0	0	0	0	0	0	0
04:30	13	11	9	3	0	1	0	34	8	3	1	0	0	0	0	13	0	0	0	0	0	0	0	0
04:47	22	11	9	1	0	1	0	41	7	3	2	0	0	0	0	12	0	0	0	0	0	0	0	0
07:00	31	12	9	0	0	4	0	73	8	2	3	1	0	0	0	14	0	0	0	0	0	0	0	0
07:17	37	14	7	0	0	4	1	93	10	1	3	1	0	0	0	17	0	0	0	0	0	0	0	0
07:30	73	20	7	1	0	3	1	87	11	1	2	1	0	0	0	17	0	0	0	0	0	0	0	0
07:47	98	27	8	3	0	8	1	117	13	1	1	1	0	0	0	19	0	0	0	0	0	0	0	0
09:00	83	41	10	7	0	7	1	147	17	2	1	0	1	0	1	20	0	0	0	0	0	0	0	0
09:17	101	42	8	8	1	9	0	199	17	3	1	0	1	0	1	23	0	0	0	0	0	0	0	0
09:30	128	79	8	8	1	9	0	208	27	9	1	2	2	0	1	37	0	0	0	0	0	0	0	0
09:47	197	97	8	8	4	3	1	277	34	7	2	3	2	0	1	48	0	0	0	0	0	0	0	0
07:00	208	94	4	8	7	7	1	289	38	7	1	7	2	0	0	73	0	0	0	0	0	0	0	0
07:17	271	73	3	11	7	7	2	370	47	7	1	8	2	0	0	93	0	0	0	0	0	0	0	0
07:30	277	97	1	11	7	7	2	349	47	7	3	9	1	0	0	90	0	0	0	0	0	0	0	0
07:47	248	94	0	8	3	3	1	328	47	7	3	7	1	0	0	91	0	0	0	0	0	0	0	0
08:00	231	93	3	8	4	3	1	314	78	9	3	3	0	0	0	70	0	0	0	0	0	0	0	0
08:17	238	74	4	7	7	3	1	310	72	9	3	0	0	0	0	91	0	0	0	0	0	0	0	0
08:30	247	47	7	4	9	3	1	311	44	8	1	0	0	0	0	73	0	0	0	0	0	0	0	0
08:47	242	41	9	4	9	4	1	304	47	8	2	0	0	0	0	79	0	0	0	0	0	0	0	0
08:00	249	38	7	3	7	2	1	302	42	7	2	0	0	0	0	71	0	0	0	0	0	0	0	0
08:17	234	43	11	7	4	1	3	303	48	8	3	0	0	0	1	92	0	0	0	0	0	0	0	0
08:30	292	73	11	7	4	2	3	342	47	7	4	0	0	0	1	78	0	0	0	0	0	0	0	0
08:47	279	91	17	8	7	1	3	370	48	7	3	0	0	1	1	90	0	0	0	0	0	0	0	0
10:00	282	98	17	8	4	1	3	383	70	9	3	0	0	1	1	91	0	0	0	0	0	0	0	0
10:17	312	93	12	7	4	3	1	402	77	9	4	0	0	1	0	98	0	0	0	0	0	0	0	0
10:30	303	97	13	8	7	3	1	388	79	9	3	1	0	1	0	97	0	0	0	0	0	0	0	0
10:47	300	97	13	9	4	3	1	382	48	7	3	2	0	0	0	91	0	0	0	0	0	0	0	0
11:00	309	91	11	7	7	4	1	383	38	7	3	2	0	0	1	72	0	0	0	0	0	0	0	0
11:17	301	71	11	4	7	3	0	387	27	9	1	2	0	0	1	37	0	0	0	0	0	0	0	0
11:30	307	93	12	7	4	4	0	383	28	9	1	1	0	0	1	37	0	0	0	0	0	0	0	0
11:47	334	78	11	7	4	7	0	420	30	3	1	0	0	0	1	37	0	0	0	0	0	0	0	0
12:00	324	97	10	9	4	9	0	417	31	9	1	0	0	0	0	38	0	0	0	0	0	0	0	0
12:17	323	93	8	9	4	7	0	412	32	7	1	0	0	0	0	38	0	0	0	0	0	0	0	0
12:30	319	97	11	9	3	7	0	410	38	9	2	0	0	0	0	47	0	0	0	0	0	0	0	0
12:47	300	70	8	4	4	8	0	387	37	8	1	0	0	0	0	47	0	0	0	0	0	0	0	0
13:00	288	90	8	8	4	7	0	389	38	7	1	1	0	0	0	48	0	0	0	0	0	0	0	0
13:17	283	78	10	8	7	9	0	381	49	9	4	2	0	0	0	78	0	0	0	0	0	0	0	0
13:30	304	94	9	8	8	7	0	387	47	7	3	2	0	0	0	77	0	0	0	0	0	0	0	0
13:47	317	93	8	8	7	9	0	408	47	4	4	2	1	0	0	79	0	0	0	0	0	0	0	0
14:00	341	70	8	7	7	8	0	438	38	4	4	1	1	0	0	48	0	0	0	0	0	0	0	0
14:17	397	74	8	9	9	7	0	499	39	7	2	0	1	0	0	49	0	0	0	0	0	0	0	0
14:30	382	73	8	3	4	7	0	479	37	8	2	0	1	0	0	47	0	0	0	0	0	0	0	0
14:47	388	77	9	3	7	4	0	489	37	10	2	0	0	0	0	47	0	0	0	0	0	0	0	0
17:00	417	82	9	4	8	3	0	718	42	11	3	0	0	0	0	79	0	0	0	0	0	0	0	0
17:17	487	87	9	3	12	9	0	788	38	10	3	0	0	0	0	72	0	0	0	0	0	0	0	0
17:30	714	88	7	3	11	8	0	930	37	7	3	0	1	0	0	49	0	0	0	0	0	0	0	0
17:47	770	104	7	2	8	11	0	980	32	7	3	0	1	0	0	41	0	0	0	0	0	0	0	0
19:00	777	103	4	2	7	13	2	708	32	9	2	0	1	0	0	41	0	0	0	0	0	0	0	0
19:17	773	108	4	2	4	12	3	707	32	9	1	0	1	0	0	40	0	0	0	0	0	0	0	0
19:30	783	107	3	2	9	19	7	720	31	9	1	0	0	0	0	38	0	0	0	0	0	0	0	0
19:47	918	87	3	2	9	23	9	744	33	7	0	0	0	0	0	40	0	0	0	0	0	0	0	0
17:00	978	78	3	2	9	27	10	784	33	4	0	0	0	0	0	37	0	0	0	0	0	0	0	0
17:17	972	91	1	3	7	27	8	778	32	3	0	0	0	0	0	37	0	0	0	0	0	0	0	0
17:30	949	72	1	4	7	27	7	740	33	3	0	0	0	0	1	37	0	0	0	0	0	0	0	0
17:47	913	48	2	4	7	17	8	988	28	1	0	0	0	0	1	31	0	0	0	0	0	0	0	0
18:00	771	37	1	3	4	14	3	913	30	2	0	0	0	0	1	33	0	0	0	0	0	0	0	0
18:17	489	39	2	2	7	13	4	748	27	3	0	0	0	0	1	31	0	0	0	0	0	0	0	0
18:30	418	28	2	1	3	10	7	498	23	3	0	0	0	0	0	29	0	0	0	0	0	0	0	0
18:47	379	22	1	2	4	8	7	388	27	3	0	0	0	0	0	30	0	0	0	0	0	0	0	0
18:00	283	20	1	4	3	8	7	334	20	2	0	0	0	0	0	22	0	0	0	0	0	0	0	0
18:17	238	14	0	3	7	7	4	298	18	0	0	1	0	1	0	20	0	0	0	0	0	0	0	0
18:30	230	14	0	3	9	3	4	290	18	1	0	1	0	1	0	22	0	0	0	0	0	0	0	0
18:47	184	14	3	3	7	2	1	222	12	1	0	1	0	1	0	17	0	0	0	0	0	0	0	0
20:00	181	17	3	1	9	1	1	220	8	1	0	1	0	1	0	11	0	0	0	0	0	0	0	0
20:17	188	20	3	2	4	1	2	221	7	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0
20:30	197	22	4	2	3	2	1	201	4	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
20:47	172	21	1	1	3	3	2	203	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0
21:00	177	17	1	2	2	2	2	181	13	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0
21:17	179	14	1	1	1	4	1	188	19	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0
21:30	188	11	0	2	1	3	1	209	17	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0
21:47	174	7	1	2	0	3	0	187	12	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0
22:00	173	7	1	1	0	3	0	197	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0
22:17	120	7	2	3	0	1	0	131	9	1	0	2	0	0	0	8	0	0	0	0	0	0	0	0
22:30	82	7	2	3	0	1	0	103	7	1	0	2	0	0	0	10	0	0	0	0	0	0	0	0
22:47	81	9	2	4	0	0	0	83	8	0	0	2	0	0	0	10	0	0	0	0	0	0	0	0
23:00	73	9	3	4	0	0	0	89	9	0	0	2	0	0	0	8	0	0	0	0	0	0	0	0

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

!rm !: Brockley !a"e ;/=
!rm B: A370 ;3=
!rm C: Brockley Combe Roa ;5=
!rm D: A370 ;<=

	C to B								C to !								C to D							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	7	0	0	0	0	0	0	7
00:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
00:47	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
01:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	8	0	0	0	0	1	0	10
01:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
01:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	1	0	0	0	0	0	3
01:47	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
02:17	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
02:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
02:47	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
03:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
03:47	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
04:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4
04:17	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	1	0	0	8
04:30	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4
04:47	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4
07:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	7	1	0	0	0	0	0	9
07:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	1	0	0	11
07:30	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9
07:47	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	7	3	0	0	0	0	0	8
09:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
09:17	3	1	0	0	0	0	1	7	2	0	0	0	0	0	0	2	7	7	0	0	1	0	1	14
09:30	1	1	0	0	0	0	0	2	2	1	0	0	0	0	1	4	10	2	0	0	0	0	0	12
09:47	9	1	0	0	0	0	0	7	2	1	0	0	0	0	0	3	17	7	0	0	0	0	0	20
07:00	7	0	0	0	0	0	0	7	3	0	0	0	0	0	0	3	22	2	0	0	0	0	0	24
07:17	7	2	0	0	0	0	0	7	9	0	0	0	0	0	0	9	18	3	2	0	1	1	0	27
07:30	3	3	0	0	0	0	0	9	3	4	0	0	0	0	0	7	22	7	1	0	0	0	0	28
07:47	9	7	2	2	0	0	0	17	7	1	0	0	0	0	0	9	32	4	0	1	1	2	0	40
08:00	9	1	2	0	0	0	0	8	9	7	0	0	0	0	1	12	32	9	1	1	0	0	0	40
08:17	10	2	1	1	0	0	0	14	11	2	0	0	0	0	0	13	32	7	0	0	1	0	0	40
08:30	7	1	0	1	0	0	0	8	4	0	0	0	0	0	0	4	27	8	0	0	0	0	0	33
08:47	9	0	1	4	0	0	0	11	9	2	0	0	0	0	0	8	24	8	0	0	0	0	0	32
08:00	4	3	1	1	0	0	0	8	7	2	0	0	0	0	0	8	22	7	0	0	0	0	0	28
08:17	4	3	0	0	0	0	0	7	4	1	0	0	0	0	0	7	18	1	1	0	1	0	0	21
08:30	7	9	0	0	0	0	0	13	2	1	0	0	0	0	0	3	17	3	1	0	0	0	0	21
08:47	11	3	0	0	0	0	0	14	7	0	0	0	0	0	0	7	17	1	0	0	0	0	0	19
10:00	7	3	2	0	0	0	0	10	0	1	0	0	0	0	3	4	8	2	0	0	0	1	0	12
10:17	3	9	0	0	0	0	0	8	3	1	0	0	0	0	0	4	18	1	0	1	0	0	0	21
10:30	3	3	2	0	0	0	0	8	9	0	0	0	0	0	0	9	22	7	1	0	0	0	0	28
10:47	7	3	1	0	0	0	0	8	4	0	0	0	0	0	0	4	18	1	1	0	0	0	0	20
11:00	7	3	0	0	0	0	0	8	1	2	0	1	0	0	0	4	21	2	2	0	0	0	0	27
11:17	4	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0	17	2	0	0	1	1	0	18
11:30	4	2	1	0	0	0	0	7	2	1	0	0	0	0	1	4	11	2	0	0	0	0	0	13
11:47	7	0	0	0	0	0	0	7	3	1	0	0	0	0	0	4	20	7	0	1	0	0	0	29
12:00	8	1	1	0	0	0	0	10	0	0	0	0	0	0	0	0	31	4	0	0	0	0	0	37
12:17	9	1	0	0	0	0	0	7	4	0	2	0	0	0	4	10	24	8	2	0	1	0	0	39
12:30	4	3	0	0	0	0	0	7	7	1	0	0	0	0	0	9	22	1	0	0	0	0	0	23
12:47	8	1	1	0	0	0	0	11	3	1	0	0	0	0	2	9	23	7	0	0	0	0	0	28
13:00	11	3	0	0	0	0	0	14	4	0	0	0	0	0	0	4	27	7	0	0	0	0	0	34
13:17	9	1	1	0	0	0	0	8	3	0	0	0	0	0	0	3	27	3	0	0	1	0	0	28
13:30	9	1	1	0	0	0	1	8	1	1	1	0	0	0	1	4	14	8	0	0	0	1	0	24
13:47	2	2	0	0	0	0	0	4	7	0	0	0	0	0	0	7	23	2	0	1	0	0	0	29
14:00	8	0	1	1	0	0	0	11	7	0	0	0	0	0	0	7	23	1	1	1	1	0	0	27
14:17	18	0	0	1	0	0	0	18	1	2	0	0	0	0	0	3	19	2	0	0	0	0	0	18
14:30	18	1	1	1	0	0	0	22	9	1	0	0	0	0	1	8	24	1	0	0	0	0	0	27
14:47	8	1	1	0	0	0	0	11	3	1	0	0	0	0	0	4	23	2	1	0	0	1	0	27
17:00	9	1	1	0	0	0	0	8	3	0	0	0	0	0	0	3	27	3	1	0	0	0	0	28
17:17	7	2	1	0	0	0	0	10	3	1	0	0	0	0	0	4	34	3	0	0	1	0	0	38
17:30	17	2	0	0	0	0	0	17	10	2	0	0	0	0	0	12	32	4	0	0	0	0	0	39
17:47	11	2	0	0	0	0	0	13	7	2	0	0	0	3	0	10	41	11	0	0	0	1	0	73
19:00	13	3	0	0	0	0	0	19	8	3	0	0	0	0	0	11	29	7	0	0	0	2	0	33
19:17	8	1	0	0	0	0	0	10	8	2	0	0	0	0	1	11	38	8	0	0	1	0	0	48
19:30	14	1	0	0	0	0	0	17	9	3	0	0	0	0	0	8	74	4	1	0	0	0	0	78
19:47	8	2	0	0	0	0	0	10	7	1	0	0	0	1	0	7	38	4	0	0	0	0	0	42
17:00	19	0	0	0	0	0	0	19	8	2	0	0	0	0	0	10	41	7	0	0	0	3	0	48
17:17	8	2	0	0	0	0	0	10	7	0	0	0	0	0	0	7	43	4	0	0	1	3	0	71
17:30	8	1	1	0	0	0	0	11	8	3	0	0	0	0	0	11	37	7	0	0	0	0	0	40
17:47	7	2	0	0	0	0	0	8	7	1	0	0	0	0	0	9	37	7	0	0	0	0	0	40
18:00	8	1	0	0	1	0	0	11	11	2	0	0	0	0	0	13	31	4	0	0	0	0	0	37
18:17	11	0	0	0	0	0	0	11	4	2	0	0	0	0	0	9	27	2	0	0	1	0	0	28
18:30	9	3	0	0	0	0	0	8	8	0	0	0	0	0	3	12	28	3	0	0	0	1	0	33
18:47	9	1	0	0	0	0	0	7	2	2	0	0	0	0	0	4	27	2	0	0	0	0	0	28
18:00	3	0	1	0	1	0	0	7	7	0	0	0	0	0	0	7	28	0	1	0	0	0	0	28
18:17	9	0	0	0	0	0	0	9	2	1	0	0	0	0	0	3	17	2	0	0	1	0	0	18
18:30	9	0	0	0	0	0	0	9	2	0	0	0	0	0	0	2	19	4	0	0	0	0	0	20
18:47	4	0	0	0	0	0	0	4	2	1	0	0	0	0	0	3	18	0	0	0	0	0	0	18
20:00	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	18	1	0	0	0	0	0	18
20:17	3	0	0	0	0	0	0	3	3	3	0	0	0	0	1	7	13	0	0	0	1	0	0	14
20:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8
20:47	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	7	0	0	0	0	0	0	7
21:00	3	0	0	0	0	1	0	4	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	8
21:17	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	10	0	0	0	1	1	0	12
21:30	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	9	0	0	0	0	0	0	9
21:47	4	0	0	0	0	0	0	4	3	0	0	0	0	0	0	3	10	0	0	0	0	0	0	10
22:00	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	7	0	0	0	0	0	0	7
22:17	7	0	0	0	0	0	0	7	0	0	0	0	1	0	0	1	14	1	0	0	1	0	0	19
22:30	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	17	0	0	0	0	0	0	17
22:47	3	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
23:00	2	1	0	0	0	0	0	3	1	0	0	0	0	0	0	1	7	0	0	0	0	0	0	7
23:17	2	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	4	0	0	0	1	0	0	7
23:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	2	17	0	0	0	0	0	0	17
23:47	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	8	1	0	0	0	0	0	10

Start Time	&olling 6our							Total	&olling 6our							Total	&olling 6our							Total
00:00	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	17	1	0	0	1	0	0	17
00:17	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	18	1	0	0	1	1	0	22
00:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	17	1	0	0	0	1	0	18
00:47	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	19	1	0	0	0	1	0	18
01:00	3	0	0	0	0	0	0	3	2	0	0	0	0	0	0	2	13	1	0	0	0	1	0	17
01:17	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4	7	1	0	0	0	0	0	8
01:30	3	0	0	0	0	0	0	3	7	0	0	0	0	0	0	7	7	1	0	0	0	0	0	8
01:47	4	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4	8	0	0	0	0	0	0	8
02:00	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	12	0	0	0	0	0	0	12
02:17	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	12	1	0	0	0	0	0	13
02:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	14	1	0	0	0	0	0	17
02:47	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	13
03:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	13	1	0	0	0	0	0	14
03:17	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	14	0	0	0	0	0	0	14
03:30	2	1	0	0	0	0	0	3	1	0	0	0	0	0	0	1	18	0	0	0	1	0	0	18
03:47	3	2	0	0	0	0	0	7	2	0	0	0	0	0	0	2	20	0	0	0	1	0	0	21
04:00	2	2	0	0	0	0	0	4	3	0	0	0	0	0	0	3	18	0	0	0	1	0	0	20
04:17	1	2	0	0	0	0	0	3	3	0	0	0	0	0	0	3	20	1	0	0	1	0	0	22
04:30	1	1	0	0	0	0	0	2	3	0	0	0	0	0	0	3	22	2	0	0	1	0	0	27
04:47	7	0	0	0	0	0	0	7	2	0	0	0	0	0	0	2	24	2	0	0	1	0	0	27
07:00	7	0	0	0	0	0	0	7	3	0	0	0	0	0	0	3	27	7	0	0	1	0	0	31
07:17	9	0	0	0	0	0	0	9	2	0	0	0	0	0	0	2	24	4	0	0	1	0	0	28
07:30	8	1	0	0	0	0	1	11	4	0	0	0	0	0	0	4	22	8	0	0	1	0	1	32
07:47	7	2	0	0	0	0	1	8	9	1	0	0	0	0	1	8	29	10	0	0	1	0	1	38
09:00	11	3	0	0	0	0	1	17	9	2	0	0	0	0	1	8	39	12	0	0	1	0	1	70
09:17	17	3	0	0	0	1	0	21	8	2	0	0	0	0	1	12	74	14	0	0	1	0	1	70
09:30	18	4	0	0	0	0	0	23	13	2	0	0	0	0	1	19	97	12	2	0	1	1	0	81
09:47	21	9	0	0	0	0	0	27	14	7	0	0	0	0	0	18	77	17	3	0	1	1	0	87
07:00	21	10	2	2	0	0	0	37	17	7	0	0	0	0	0	22	84	14	3	1	2	3	0	117
07:17	20	11	4	2	0	0	0	37	20	10	0	0	0	0	1	31	104	18	4	2	2	3	0	133
07:30	27	11	7	3	0	0	0	44	27	12	0	0	0	0	1	38	118	22	2	2	2	2	0	148
07:47	28	8	7	4	0	0	0	47	29	8	0	0	0	0	1	37	121	27	1	2	2	2	0	173
08:00	28	4	4	9	0	0	0	43	27	8	0	0	0	0	1	37	113	28	1	1	1	0	0	147
08:17	27	9	3	7	0	0	0	43	28	9	0	0	0	0	0	34	103	30	0	0	1	0	0	134
08:30	21	7	2	9	0	0	0	39	21	7	0	0	0	0	0	29	88	24	1	0	1	0	0	117
08:47	21	12	2	7	0	0	0	40	18	9	0	0	0	0	0	27	81	18	2	0	1	0	0	103
08:00	29	17	1	1	0	0	0	43	18	4	0	0	0	0	0	22	72	12	2	0	1	0	0	87
08:17	27	17	2	0	0	0	0	44	11	3	0	0	0	0	3	17	78	7	2	0	1	1	0	70
08:30	29	18	2	0	0	0	0	49	10	3	0	0	0	0	3	19	90	7	1	1	0	1	0	70
08:47	22	17	4	0	0	0	0	41	14	2	0	0	0	0	3	18	97	8	1	1	0	1	0	77
10:00	19	17	7	0	0	0	0	39	13	2	0	0	0	0	3	18	98	8	2	1	0	1	0	81
10:17	19	17	3	0	0	0	0	34	14	3	0	1	0	0	0	18	80	8	4	1	0	0	0	84
10:30	17	11	3	0	0	0	0	31	11	2	0	1	0	0	0	14	79	10	4	0	1	1	0	82
10:47	18	10	2	0	0	0	0	30	7	3	0	1	0	0	1	12	97	7	3	0	1	1	0	77
11:00	18	7	1	0	0	0	0	29	9	4	0	1	0	0	1	12	97	11	2	1	1	1	0	83
11:17	21	7	2	0	0	0	0	28	7	2	0	0	0	0	1	8	77	13	0	1	1	1	0	83
11:30	23	4	2	0	0	0	0	28	8	2	2	0	0	0	7	18	89	20	2	1	1	0	0	110
11:47	23	7	1	0	0	0	0	28	12	2	2	0	0	0	4	20	87	18	2	1	1	0	0	120
12:00	27	9	2	0	0	0	0	37	12	2	2	0	0	0	9	22	100	18	2	0	1	0	0	122
12:17	30	8	1	0	0	0	0	38	19	2	2	0	0	0	9	29	89	22	2	0	1	0	0	121
12:30	30	8	2	0	0	0	0	40	17	2	0	0	0	0	2	18	87	19	0	0	1	0	0	114
12:47	32	9	3	0	0	0	1	42	11	2	1	0	0	0	3	17	88	24	0	0	1	1	0	117
13:00	27	7	2	0	0	0	1	37	13	1	1	0	0	0	1	19	88	21	0	1	1	1	0	113
13:17	23	4	3	1	0	0	1	32	14	1	1	0	0	0	1	17	87	17	1	2	2	1	0	109
13:30	37	3	2	2	0	0	1	43	12	3	1	0	0	0	1	17	79	14	1	2	1	1	0	87
13:47	48	3	2	3	0	0	0	79	17	3	0	0	0	0	1	21	89	9	1	2	1	0	0	89
14:00	77	2	3	3	0	0	0	93	17	4	0	0	0	0	1	20	89	9	2	1	1	1	0	87
14:17	72	3	3	2	0	0	0	90	13	4	0	0	0	0	1	18	88	8	2	0	0	1	0	88
14:30	41	7	4	1	0	0	0	71	17	3	0	0	0	0	1	18	109	8	2	0	1	1	0	118
14:47	37	9	3	0	0	0	0	49	18	4	0	0	0	0	0	23	114	12	2	0	1	1	0	130
17:00	38	7	2	0	0	0	0	48	21	7	0	0	0	3	0	28	132	21	1	0	1	1	0	179
17:17	49	8	1	0	0	0	0	79	29	8	0	0	0	3	0	37	133	23	0	0	1	3	0	190
17:30	48	8	0	0	0	0	0	79	31	8	0	0	0	3	1	44	138	28	0	0	1	3	0	171
17:47	47	7	0	0	0	0	0	74	27	10	0	0	0	3	1	41	190	28	1	0	1	3	0	184
19:00	44	7	0	0	0	0	0	71	27	8	0	0	0	1	1	38	177	22	1	0	1	2	0	183
19:17	47	4	0	0	0	0	0	71	27	8	0	0	0	1	1	37	172	22	1	0	1	3	0	188
19:30	49	7	0	0	0	0	0	71	29	9	0	0	0	1	0	33	179	17	1	0	1	9	0	201
19:47	41	7	1	0	0	0	0	47	28	9	0	0	0	1	0	37	177	18	0	0	1	9	0	182
17:00	40	7	1	0	0	0	0	49	28	9	0	0	0	0	0	34	174	18	0	0	1	9	0	180
17:17	33	9	1	0	1	0	0	41	31	9	0	0	0	0	0	37	144	18	0	0	1	3	0	199
17:30	39	4	1	0	1	0	0	42	28	8	0	0	0	0	0	39	129	19	0	0	1	0	0	143
17:47	33	9	0	0	1	0	0	40	28	7	0	0	0	0	3	37	120	14	0	0	1	1	0	139
18:00	32	7	0	0	1	0	0	38	29	9	0	0	0	0	3	37	112	11	0	0	1	1	0	127
18:17	29	4	1	0	1	0	0	32	22	4	0	0	0	0	3	28	108	7	1	0	1	1	0	118
18:30	21	4	1	0	1	0	0	27	20	3	0	0	0	0	3	29	88	7	1	0	1	1	0	108
18:47	21	1	1	0	1	0	0	24	13	3	0	0	0	0	0	19	89	8	1	0	1	0	0	89
18:00	18	0	1	0	1	0	0	21	13	2	0	0	0	0	0	17	77	9	1	0	1	0	0	87
18:17	18	0	0	0	0	0	0	18	7	2	0	0	0	0	0	8	97	7	0	0	1	0	0	77
18:30	17	0	0	0	0	0	0	17	8	4	0	0	0	0	1	13	97	7	0	0	1	0	0	71
18:47	11	0	0	0	0	0	0	11	9	4	0	0	0	0	1	11	77	1	0	0	1	0	0	78
20:00	8	0	0	0	0	0	0	8	7	3	0	0	0	0	1	8	44	1	0	0	1	0	0	49
20:17	8	0	0	0	0	1	0	10	7	3	0	0	0	0	1	8	37	0	0	0	1	0	0	39
20:30	9	0	0	0	0	1	0	7	3	0	0	0	0	0	0	3	32	0	0	0	1	1	0	34
20:47	9	0	0	0	0	1	0	7	7	0	0	0	0	0	0	7	30	0	0	0	1	1	0	32
21:00	8	0	0	0	0	1	0	10	7	0	0	0	0	0	0	7	37	0	0	0	1	1	0	37
21:17	8	0	0	0	0	0	0	8	8	0	0	0	0	0	0	8	31	0	0	0	1	1	0	33
21:30	14	0	0	0	0	0	0	14	8	0	0	0	1	0	0	8	37	1	0	0	1	0	0	37
21:47	14	0	0	0	0	0	0	14	7	0	0	0	1	0	0	8	44	1	0	0	1	0	0	49
22:00	13	0	0	0	0	1	0	14	4	0	0	0	1	0	0	7	38	1	0	0	1	0	0	41
22:17	12	1	0	0	0	1	0	14	2	0	0	0	1	0	0	3	38	1	0	0	1	0	0	41
22:30	8	1	0	0	0	1	0	11	2	1	0	0	0	0	0	3	28	0	0	0	1	0	0	30
22:47	8	1	0	0	0	1	0	10	2	1	0	0	0	0	1	4	31	0	0	0	1	0	0	32
23:00	7	1	0	0	0	0	0	8	3	1	0	0	0	0	1	7	37	1	0	0	1	0	0	37

" " "#intelligent$data$collection#com

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

!rm !: Brockley !a"e ;/=
!rm B: A370 ;3=
!rm C: Brockley Combe Roa ;5=
!rm D: A370 ;<=

	D to D								D to C								D to B							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00								0	2	0	0	0	0	0	0	2	8	0	0	0	0	0	0	8
00:17								0	3	0	0	0	0	0	0	3	7	2	0	0	0	0	0	8
00:30								0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
00:47								0	3	1	0	0	0	0	0	4	4	0	0	0	1	0	2	7
01:00								0	1	0	0	0	0	0	0	1	3	1	0	0	0	0	0	4
01:17								0	2	0	0	0	0	0	0	2	3	0	0	1	0	0	0	4
01:30								0	0	1	0	0	0	0	0	1	3	0	0	0	0	0	0	3
01:47								0	2	1	0	0	0	0	0	3	0	1	0	0	0	0	0	1
02:00								0	3	0	0	0	0	0	0	3	7	1	0	0	0	0	0	9
02:17								0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
02:30								0	1	0	0	0	0	0	0	1	0	1	0	3	0	0	0	4
02:47								0	7	0	0	0	0	0	0	7	1	1	0	2	0	0	0	4
03:00								0	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1
03:17								0	11	0	0	0	0	0	0	11	0	0	0	1	0	1	0	2
03:30								0	11	0	0	0	1	0	0	12	7	0	0	0	0	0	0	7
03:47								0	10	1	0	0	0	0	0	11	3	1	0	0	0	0	0	4
04:00								0	8	0	0	0	0	0	0	8	7	2	0	0	0	0	0	8
04:17								0	10	0	0	0	0	0	0	10	4	1	0	0	0	1	0	9
04:30								0	13	0	0	0	1	0	0	14	8	1	0	0	0	2	0	11
04:47								0	12	1	0	0	0	1	0	14	7	3	0	0	1	0	0	8
07:00								0	14	1	0	0	0	0	0	17	8	2	1	2	0	3	0	17
07:17								0	8	0	0	0	0	1	0	10	10	4	0	1	0	0	1	19
07:30								0	19	1	0	0	1	0	0	18	29	2	1	1	0	1	0	31
07:47								0	12	2	0	0	0	0	0	14	28	7	0	3	1	1	0	41
09:00								0	13	3	0	0	0	1	0	17	44	8	0	3	1	1	0	77
09:17								0	24	3	0	0	0	0	0	27	99	14	1	7	1	4	3	84
09:30								0	32	3	0	0	1	1	0	37	77	12	1	0	2	9	2	100
09:47								0	39	8	0	0	0	0	1	49	123	18	2	4	1	7	0	174
07:00								0	31	8	0	1	0	2	0	42	133	20	3	0	1	4	2	193
07:17								0	73	9	0	0	0	0	0	78	118	24	1	1	1	9	0	172
07:30								0	48	8	0	0	1	3	0	91	123	17	2	0	1	4	1	148
07:47								0	73	14	1	0	0	1	0	98	129	14	0	0	2	7	1	148
08:00								0	47	8	2	0	0	0	0	77	131	30	0	2	2	7	7	177
08:17								0	72	7	0	0	0	0	0	78	123	18	7	1	9	7	2	191
08:30								0	47	7	0	1	1	0	0	72	89	12	4	1	1	2	1	107
08:47								0	34	8	0	0	0	0	2	44	92	8	1	0	2	3	1	77
08:00								0	23	1	1	0	0	0	0	27	88	18	2	1	0	2	1	123
08:17								0	27	4	0	0	0	0	0	31	78	22	0	1	1	1	0	103
08:30								0	24	7	3	1	0	0	0	37	107	17	1	7	2	1	0	131
08:47								0	21	8	1	0	0	0	0	31	99	8	3	1	1	0	0	78
10:00								0	18	2	0	0	0	0	0	21	97	13	1	1	3	1	1	87
10:17								0	20	3	1	0	0	0	0	24	79	12	3	1	2	0	0	84
10:30								0	17	3	0	0	1	0	0	18	71	7	0	1	2	0	0	81
10:47								0	21	3	0	0	0	0	0	24	80	17	3	3	1	0	1	103
11:00								0	24	2	2	0	0	0	0	28	77	12	4	1	1	0	0	77
11:17								0	23	4	0	0	0	0	1	28	71	13	2	0	0	1	0	87
11:30								0	24	9	0	0	1	0	0	31	74	17	4	1	1	1	0	88
11:47								0	14	1	0	0	0	0	0	17	77	14	3	1	2	1	1	87
12:00								0	27	3	0	0	0	0	0	30	73	11	3	0	1	0	1	88
12:17								0	19	9	1	0	0	0	0	23	77	12	1	2	0	1	0	81
12:30								0	28	7	2	0	1	0	0	39	80	10	3	1	3	0	0	87
12:47								0	23	3	0	0	0	0	0	29	73	11	3	2	1	1	0	81
13:00								0	17	7	0	1	0	0	0	21	99	21	1	2	1	0	1	82
13:17								0	21	4	0	0	0	0	0	27	77	10	2	2	2	3	0	89
13:30								0	21	9	0	0	1	0	0	28	78	8	2	2	1	0	0	72
13:47								0	28	3	1	0	0	0	1	33	99	10	2	2	1	1	0	82
14:00								0	28	10	0	0	0	2	0	41	93	22	1	2	1	1	0	80
14:17								0	29	4	0	0	0	0	0	30	79	22	3	0	1	1	1	104
14:30								0	30	9	1	0	1	0	0	38	73	7	2	1	1	2	0	89
14:47								0	27	4	0	0	0	0	0	28	93	11	4	0	2	3	0	83
17:00								0	21	2	0	0	0	0	0	23	83	10	4	4	1	1	1	104
17:17								0	27	14	0	0	0	0	1	42	81	13	2	0	1	0	0	87
17:30								0	27	9	0	0	1	0	0	32	93	14	1	0	2	2	0	82
17:47								0	78	8	1	0	0	0	0	98	79	7	0	2	0	2	0	87
19:00								0	38	4	0	0	1	1	0	44	83	18	3	1	2	0	0	108
19:17								0	29	8	0	0	0	1	0	39	98	19	2	1	2	0	0	88
19:30								0	47	4	0	0	1	1	0	73	80	18	2	1	2	1	0	114
19:47								0	41	3	0	0	0	0	0	44	78	13	0	0	0	1	1	74
17:00								0	37	4	0	0	0	0	0	38	98	12	0	0	2	3	1	89
17:17								0	29	3	0	0	0	0	0	28	79	8	0	3	1	1	0	80
17:30								0	37	0	1	0	1	0	0	37	82	12	1	1	2	3	0	101
17:47								0	28	1	0	0	0	0	0	28	77	4	0	1	1	2	0	83
18:00								0	23	1	0	0	0	1	0	27	87	7	1	0	0	1	0	84
18:17								0	33	3	0	0	0	0	0	39	80	1	1	0	1	1	2	89
18:30								0	20	3	0	0	1	0	0	24	90	2	1	4	1	1	0	98
18:47								0	17	1	0	0	0	0	1	18	92	7	0	2	1	1	0	73
18:00								0	13	4	0	0	0	0	0	17	44	3	0	1	0	1	0	48
18:17								0	17	1	0	0	0	0	0	19	47	1	0	1	1	0	1	48
18:30								0	8	0	0	0	1	0	1	10	37	1	0	1	0	1	0	40
18:47								0	18	3	0	0	0	1	0	23	40	9	0	0	1	1	1	48
20:00								0	12	1	0	0	0	0	0	13	27	3	0	1	0	1	1	33
20:17								0	7	0	0	0	0	1	0	8	28	1	0	1	0	0	0	31
20:30								0	12	1	0	0	1	1	0	17	14	1	0	0	0	0	0	17
20:47								0	10	1	0	0	0	0	0	11	23	2	1	0	1	2	0	28
21:00								0	9	0	0	0	0	0	0	9	29	1	0	0	0	0	0	27
21:17								0	10	0	0	0	0	0	0	10	19	2	0	1	0	2	0	21
21:30								0	10	0	0	0	1	0	0	11	37	3	0	1	0	0	0	41
21:47								0	7	2	0	0	0	0	0	7	24	1	0	0	0	2	0	27
22:00								0	7	0	0	0	0	0	0	7	44	2	0	0	1	2	0	48
22:17								0	7	0	0	0	0	0	0	7	22	3	0	1	0	0	0	29
22:30								0	9	0	0	0	1	0	0	7	24	0	0	0	0	2	0	29
22:47								0	4	1	0	0	0	0	0	7	12	1	1	0	1	0	0	17
23:00								0	4	1	0	0	0	0	0	7	9	3	0	1	0	1	0	11
23:17								0	9	0	0	0	0	0	0	9	7	0	0	0	0	0	0	7
23:30								0	3	0	0	0	1	0	0	4	9	2	0	0	0	0	0	8
23:47								0	3	1	0	0	0	0	0	4	4	1	0	0	0	0	0	7

Start Time	&olling 6our							Total	&olling 6our							Total	&olling 6our							Total
00:00	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	11	20	2	0	0	0	1	0	23
00:17	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	10	17	3	0	0	0	1	0	18
00:30	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	8	11	1	0	1	0	1	0	14
00:47	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	8	13	1	0	1	0	1	0	19
01:00	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	7	8	2	0	1	0	0	0	12
01:17	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	8	11	2	0	1	0	0	0	14
01:30	0	0	0	0	0	0	0	0	8	2	0	0	0	0	0	10	8	2	0	0	0	0	0	10
01:47	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	10	7	3	0	3	0	0	0	11
02:00	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	9	3	0	7	0	0	0	14
02:17	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	2	2	0	7	0	0	0	8
02:30	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20	2	2	0	9	0	1	0	11
02:47	0	0	0	0	0	0	0	0	30	0	0	0	1	0	0	31	7	1	0	3	0	1	0	12
03:00	0	0	0	0	0	0	0	0	37	1	0	0	1	0	0	37	8	1	0	1	0	1	0	12
03:17	0	0	0	0	0	0	0	0	41	1	0	0	1	0	0	43	13	3	0	3	0	1	0	20
03:30	0	0	0	0	0	0	0	0	40	1	0	0	1	0	0	42	17	4	0	2	0	1	0	24
03:47	0	0	0	0	0	0	0	0	42	1	0	0	1	0	0	44	20	7	0	2	0	3	0	30
04:00	0	0	0	0	0	0	0	0	44	1	0	0	1	1	0	47	22	7	0	2	1	3	0	37
04:17	0	0	0	0	0	0	0	0	48	2	0	0	1	1	0	73	29	7	1	2	1	9	0	43
04:30	0	0	0	0	0	0	0	0	48	2	0	0	1	2	0	73	32	10	1	3	1	7	1	73
04:47	0	0	0	0	0	0	0	0	71	3	0	0	1	2	0	77	70	11	2	4	1	4	1	73
07:00	0	0	0	0	0	0	0	0	71	4	0	0	1	1	0	77	74	17	2	7	1	7	1	107
07:17	0	0	0	0	0	0	0	0	70	9	0	0	1	2	0	78	108	21	1	8	2	3	1	147
07:30	0	0	0	0	0	0	0	0	97	8	0	0	1	1	0	79	197	31	2	12	3	7	3	223
07:47	0	0	0	0	0	0	0	0	81	11	0	0	1	2	0	87	219	41	2	11	7	12	7	282
09:00	0	0	0	0	0	0	0	0	107	18	0	0	1	2	1	127	310	73	4	12	7	19	7	407
09:17	0	0	0	0	0	0	0	0	123	23	0	1	1	3	1	172	388	97	7	8	7	18	7	711
09:30	0	0	0	0	0	0	0	0	172	29	0	1	1	3	1	184	472	77	7	7	7	21	4	798
09:47	0	0	0	0	0	0	0	0	198	31	0	1	1	7	1	208	488	80	8	7	4	18	3	917
07:00	0	0	0	0	0	0	0	0	189	39	1	1	1	9	0	231	701	77	9	1	7	18	4	911
07:17	0	0	0	0	0	0	0	0	200	39	3	0	1	4	0	244	488	87	3	3	9	22	7	927
07:30	0	0	0	0	0	0	0	0	218	37	3	0	1	4	0	294	703	80	7	3	11	21	8	934
07:47	0	0	0	0	0	0	0	0	217	34	3	1	1	1	0	277	499	77	8	4	11	18	8	783
08:00	0	0	0	0	0	0	0	0	189	28	2	1	1	0	2	230	402	98	10	4	11	17	8	722
08:17	0	0	0	0	0	0	0	0	174	21	1	1	1	0	2	200	370	77	12	3	8	12	7	498
08:30	0	0	0	0	0	0	0	0	128	18	1	1	1	0	2	172	327	90	7	3	4	8	3	410
08:47	0	0	0	0	0	0	0	0	108	20	4	1	0	0	2	137	344	97	4	7	7	7	2	434
08:00	0	0	0	0	0	0	0	0	87	21	7	1	0	0	0	122	348	97	9	8	4	4	1	439
08:17	0	0	0	0	0	0	0	0	81	22	4	1	0	0	0	118	314	90	7	8	7	3	1	388
08:30	0	0	0	0	0	0	0	0	84	21	7	1	0	0	0	111	312	70	8	8	8	2	1	388
08:47	0	0	0	0	0	0	0	0	77	17	2	0	1	0	0	87	278	40	7	4	8	1	1	338
10:00	0	0	0	0	0	0	0	0	77	11	1	0	1	0	0	88	282	47	7	9	8	1	2	393
10:17	0	0	0	0	0	0	0	0	80	11	3	0	1	0	0	87	284	49	10	9	9	0	1	373
10:30	0	0	0	0	0	0	0	0	83	12	2	0	1	0	1	88	278	47	8	7	4	1	1	349
10:47	0	0	0	0	0	0	0	0	82	17	2	0	1	0	1	111	282	77	13	7	3	2	1	393
11:00	0	0	0	0	0	0	0	0	87	13	2	0	1	0	1	102	277	79	13	3	4	3	1	377
11:17	0	0	0	0	0	0	0	0	88	14	0	0	1	0	1	104	283	77	12	2	4	3	2	371
11:30	0	0	0	0	0	0	0	0	81	19	1	0	1	0	0	88	287	74	11	4	4	3	2	377
11:47	0	0	0	0	0	0	0	0	87	17	3	0	1	0	0	104	303	47	10	4	9	2	2	374
12:00	0	0	0	0	0	0	0	0	84	17	3	0	1	0	0	117	301	44	10	7	7	2	1	398
12:17	0	0	0	0	0	0	0	0	82	18	3	1	1	0	0	109	284	74	8	7	7	2	1	371
12:30	0	0	0	0	0	0	0	0	87	17	2	1	1	0	0	108	289	72	8	7	7	4	1	379
12:47	0	0	0	0	0	0	0	0	80	18	0	1	1	0	0	100	274	71	8	8	7	4	1	371
13:00	0	0	0	0	0	0	0	0	87	18	1	1	1	0	1	107	297	70	7	8	7	4	1	342
13:17	0	0	0	0	0	0	0	0	88	23	1	0	1	2	1	127	294	71	7	8	7	7	0	340
13:30	0	0	0	0	0	0	0	0	104	23	1	0	1	2	1	132	293	93	8	9	4	3	1	348
13:47	0	0	0	0	0	0	0	0	113	23	2	0	1	2	1	142	278	91	8	7	4	7	1	392
14:00	0	0	0	0	0	0	0	0	110	24	1	0	1	2	0	138	277	92	10	3	7	7	1	393
14:17	0	0	0	0	0	0	0	0	102	19	1	0	1	0	0	120	287	70	13	7	7	7	2	377
14:30	0	0	0	0	0	0	0	0	103	29	1	0	1	0	1	132	300	41	12	7	7	9	1	370
14:47	0	0	0	0	0	0	0	0	88	29	0	0	1	0	1	129	280	48	11	4	9	9	1	399
17:00	0	0	0	0	0	0	0	0	132	31	1	0	1	0	1	199	303	44	7	9	4	7	1	370
17:17	0	0	0	0	0	0	0	0	148	33	1	0	2	1	1	187	303	73	9	3	7	4	0	374
17:30	0	0	0	0	0	0	0	0	148	28	1	0	2	2	0	181	280	79	9	4	9	4	0	399
17:47	0	0	0	0	0	0	0	0	170	29	1	0	2	3	0	202	317	90	7	7	9	3	0	388
19:00	0	0	0	0	0	0	0	0	172	20	0	0	2	3	0	177	300	99	7	3	9	2	1	387
19:17	0	0	0	0	0	0	0	0	148	20	0	0	1	2	0	172	287	78	4	2	9	7	2	393
19:30	0	0	0	0	0	0	0	0	148	14	0	0	1	1	0	197	283	72	2	4	7	9	2	394
19:47	0	0	0	0	0	0	0	0	137	10	1	0	1	0	0	148	287	49	1	4	7	8	2	371
17:00	0	0	0	0	0	0	0	0	124	8	1	0	1	0	0	134	301	37	1	7	9	8	1	390
17:17	0	0	0	0	0	0	0	0	112	7	1	0	1	1	0	120	318	32	2	7	4	7	0	398
17:30	0	0	0	0	0	0	0	0	118	7	1	0	1	1	0	127	332	24	3	2	4	7	2	374
17:47	0	0	0	0	0	0	0	0	104	8	0	0	1	1	0	114	310	14	3	7	3	7	2	342
18:00	0	0	0	0	0	0	0	0	83	8	0	0	1	1	1	104	287	17	3	9	3	4	2	332
18:17	0	0	0	0	0	0	0	0	83	11	0	0	1	0	1	89	279	13	2	7	3	4	2	287
18:30	0	0	0	0	0	0	0	0	97	8	0	0	1	0	1	79	211	13	1	8	3	3	1	240
18:47	0	0	0	0	0	0	0	0	73	9	0	0	1	0	2	92	188	12	0	7	2	3	1	211
18:00	0	0	0	0	0	0	0	0	77	8	0	0	1	1	1	99	199	11	0	3	2	3	2	187
18:17	0	0	0	0	0	0	0	0	74	7	0	0	1	1	1	92	148	11	0	3	2	3	3	171
18:30	0	0	0	0	0	0	0	0	49	4	0	0	1	2	1	74	133	11	0	3	1	3	2	173
18:47	0	0	0	0	0	0	0	0	70	7	0	0	1	3	0	78	110	11	0	2	1	2	2	128
20:00	0	0	0	0	0	0	0	0	41	3	0	0	1	2	0	47	83	7	1	2	1	3	1	108
20:17	0	0	0	0	0	0	0	0	37	2	0	0	1	2	0	40	82	7	1	1	1	2	0	102
20:30	0	0	0	0	0	0	0	0	38	2	0	0	1	1	0	42	78	9	1	1	1	4	0	82
20:47	0	0	0	0	0	0	0	0	39	1	0	0	1	0	0	38	102	8	1	2	1	4	0	118
21:00	0	0	0	0	0	0	0	0	31	2	0	0	1	0	0	34	103	7	0	2	0	4	0	119
21:17	0	0	0	0	0	0	0	0	32	2	0	0	1	0	0	37	121	8	0	2	1	9	0	138
21:30	0	0	0	0	0	0	0	0	28	2	0	0	1	0	0	32	127	8	0	2	1	4	0	143
21:47	0	0	0	0	0	0	0	0	27	2	0	0	1	0	0	28	114	9	0	1	1	9	0	128
22:00	0	0	0	0	0	0	0	0	24	1	0	0	1	0	0	29	102	9	1	1	2	4	0	119
22:17	0	0	0	0	0	0	0	0	21	2	0	0	1	0	0	24	94	7	1	2	1	3	0	78
22:30	0	0	0	0	0	0	0	0	20	2	0	0	1	0	0	23	48	4	1	1	1	3	0	78
22:47	0	0	0	0	0	0	0	0	17	2	0	0	1	0	0	20	31	9	1	1	1	1	0	41
23:00	0	0	0	0	0	0	0	0	19	2	0	0	1	0	0	18	23	9	0	1	0	1	0	31

" " "#intelligent$data$collection#com

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

!rm !: Brockley !a"e ;/=
!rm B: A370 ;3=
!rm C: Brockley Combe Roa ;S=
!rm D: A370 ;<=

	D to !							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00	0	0	0	0	0	0	0	0
00:17	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0
00:47	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0
01:17	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0
01:47	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0
02:17	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0
02:47	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0
03:17	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0
03:47	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0
04:17	0	0	0	0	0	0	0	0
04:30	1	0	0	0	0	0	0	1
04:47	0	1	0	0	0	0	0	1
07:00	0	0	0	0	0	0	0	0
07:17	1	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0
07:47	1	0	0	0	0	0	0	1
09:00	0	0	0	0	0	0	0	0
09:17	0	0	0	0	0	0	0	0
09:30	1	0	0	0	0	0	0	1
09:47	1	0	0	0	0	0	0	1
07:00	1	0	0	0	0	0	0	1
07:17	2	0	0	0	0	1	1	4
07:30	9	2	0	0	0	0	0	8
07:47	7	3	0	0	0	0	2	10
08:00	7	1	0	0	0	0	0	8
08:17	7	1	0	0	0	0	0	9
08:30	11	2	0	0	0	0	0	13
08:47	2	1	1	0	0	0	0	4
08:00	8	0	0	0	0	0	0	8
08:17	4	1	0	0	0	0	0	7
08:30	7	0	0	0	0	0	0	7
08:47	2	0	0	0	0	0	1	3
10:00	4	1	1	0	0	0	0	9
10:17	0	0	1	0	0	0	0	1
10:30	3	2	0	0	0	0	0	7
10:47	2	1	1	1	0	0	0	7
11:00	4	2	0	0	0	0	0	9
11:17	9	0	1	0	0	0	0	7
11:30	2	2	0	0	0	0	0	4
11:47	4	1	0	0	0	0	0	7
12:00	7	0	0	0	0	0	0	7
12:17	4	0	0	0	0	0	0	4
12:30	2	0	0	1	0	0	0	3
12:47	9	0	0	0	0	0	0	9
13:00	9	1	0	0	0	0	0	7
13:17	2	0	0	0	0	0	0	2
13:30	2	1	0	0	0	0	3	9
13:47	4	0	0	0	0	0	0	4
14:00	2	1	0	0	0	0	0	3
14:17	9	1	0	0	0	0	0	7
14:30	9	1	0	0	0	0	0	7
14:47	3	0	0	0	0	0	0	3
17:00	3	0	0	0	0	0	0	3
17:17	9	3	0	0	0	0	0	8
17:30	8	1	0	0	0	0	0	10
17:47	3	0	0	0	0	0	0	3
19:00	7	1	0	0	0	0	0	8
19:17	7	2	0	0	0	0	0	8
19:30	3	2	0	0	0	0	0	7
19:47	7	1	0	0	0	0	0	9
17:00	9	1	0	0	0	0	0	7
17:17	7	0	0	0	0	0	0	7
17:30	9	1	0	0	0	0	0	7
17:47	8	1	0	0	0	0	0	8
18:00	3	0	0	0	0	0	0	3
18:17	8	0	0	0	0	0	1	8
18:30	3	0	0	0	0	0	0	3
18:47	2	1	0	0	0	0	1	4
18:00	3	1	0	0	0	0	0	4
18:17	1	0	0	0	0	0	0	1
18:30	2	1	0	0	0	0	0	3
18:47	2	0	0	0	0	0	0	2
20:00	4	1	0	0	0	0	0	7
20:17	2	0	0	0	0	0	0	2
20:30	3	0	0	0	0	0	0	3
20:47	0	0	0	0	0	0	0	0
21:00	2	0	0	0	0	0	0	2
21:17	1	0	0	0	0	0	0	1
21:30	2	2	0	0	0	0	0	4
21:47	1	0	0	0	0	0	0	1
22:00	3	0	0	0	0	0	0	3
22:17	0	0	0	0	0	0	0	0
22:30	2	0	0	0	0	0	0	2
22:47	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0
23:17	1	0	0	0	0	0	0	1
23:30	0	0	0	0	0	0	0	0
23:47	0	0	0	0	0	0	0	0

Start Time	&olling 6our							Total
00:00	0	0	0	0	0	0	0	0
00:17	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0
00:47	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0
01:17	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0
01:47	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0
02:17	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0
02:47	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0
03:17	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0
03:47	1	0	0	0	0	0	0	1
04:00	1	1	0	0	0	0	0	2
04:17	1	1	0	0	0	0	0	2
04:30	2	1	0	0	0	0	0	3
04:47	1	1	0	0	0	0	0	2
07:00	2	0	0	0	0	0	0	2
07:17	2	0	0	0	0	0	0	2
07:30	1	0	0	0	0	0	0	1
07:47	2	0	0	0	0	0	0	2
09:00	2	0	0	0	0	0	0	2
09:17	3	0	0	0	0	0	0	3
09:30	7	0	0	0	0	1	1	7
09:47	10	2	0	0	0	1	1	14
07:00	14	7	0	0	0	1	3	23
07:17	20	9	0	0	0	1	3	30
07:30	23	7	0	0	0	0	2	32
07:47	28	7	0	0	0	0	2	37
08:00	27	7	1	0	0	0	0	31
08:17	29	4	1	0	0	0	0	31
08:30	27	4	1	0	0	0	0	30
08:47	18	2	1	0	0	0	0	22
08:00	18	1	0	0	0	0	1	21
08:17	17	2	1	0	0	0	1	18
08:30	11	1	2	0	0	0	1	17
08:47	8	3	2	0	0	0	1	17
10:00	8	4	3	1	0	0	0	17
10:17	8	7	2	1	0	0	0	17
10:30	17	7	2	1	0	0	0	23
10:47	14	7	2	1	0	0	0	22
11:00	19	7	1	0	0	0	0	22
11:17	18	3	1	0	0	0	0	23
11:30	17	3	0	0	0	0	0	20
11:47	17	1	0	1	0	0	0	18
12:00	18	0	0	1	0	0	0	20
12:17	18	1	0	1	0	0	0	20
12:30	19	1	0	1	0	0	0	18
12:47	19	2	0	0	0	0	3	21
13:00	14	2	0	0	0	0	3	18
13:17	10	2	0	0	0	0	3	17
13:30	14	3	0	0	0	0	3	20
13:47	18	3	0	0	0	0	0	21
14:00	17	3	0	0	0	0	0	20
14:17	18	2	0	0	0	0	0	20
14:30	18	4	0	0	0	0	0	22
14:47	21	4	0	0	0	0	0	27
17:00	21	4	0	0	0	0	0	27
17:17	27	7	0	0	0	0	0	30
17:30	29	4	0	0	0	0	0	30
17:47	20	7	0	0	0	0	0	27
19:00	22	9	0	0	0	0	0	28
19:17	21	9	0	0	0	0	0	27
19:30	21	4	0	0	0	0	0	27
19:47	24	3	0	0	0	0	0	27
17:00	27	3	0	0	0	0	0	30
17:17	24	2	0	0	0	0	0	29
17:30	27	2	0	0	0	0	1	28
17:47	22	1	0	0	0	0	1	24
18:00	19	1	0	0	0	0	2	18
18:17	19	2	0	0	0	0	2	20
18:30	8	2	0	0	0	0	1	12
18:47	8	3	0	0	0	0	1	12
18:00	8	2	0	0	0	0	0	10
18:17	8	2	0	0	0	0	0	11
18:30	10	2	0	0	0	0	0	12
18:47	11	1	0	0	0	0	0	12
20:00	8	1	0	0	0	0	0	10
20:17	7	0	0	0	0	0	0	7
20:30	9	0	0	0	0	0	0	9
20:47	7	2	0	0	0	0	0	7
21:00	9	2	0	0	0	0	0	8
21:17	7	2	0	0	0	0	0	8
21:30	9	2	0	0	0	0	0	8
21:47	9	0	0	0	0	0	0	9
22:00	7	0	0	0	0	0	0	7
22:17	2	0	0	0	0	0	0	2
22:30	3	0	0	0	0	0	0	3
22:47	1	0	0	0	0	0	0	1
23:00	1	0	0	0	0	0	0	1

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

	Arm 1 (Approach)								Arm 2 (Exit)							
Time	Car	LGV	1/23	1/24	Bus	5-7C	Cycle	Total	Car	LGV	1/23	1/24	Bus	5-7C	Cycle	Total
00:00	2	0	0	0	0	0	0	2	0	1	0	1	0	0	0	2
00:17	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
01:47	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:00	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
02:17	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
02:47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:17	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
03:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
03:47	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:17	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0
04:30	3	0	0	0	0	0	0	3	2	0	0	0	0	0	0	2
04:47	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
07:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
07:17	7	0	0	0	0	0	0	7	2	0	0	0	0	0	0	2
07:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
07:47	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
09:00	7	2	0	0	0	0	0	8	0	0	0	0	0	0	0	0
09:17	9	1	0	0	0	0	0	7	2	0	0	0	0	0	0	2
09:30	8	1	0	0	0	0	1	10	4	1	0	0	0	0	1	9
09:47	9	1	0	0	0	0	0	7	3	1	0	0	0	0	0	4
07:00	7	2	0	0	0	0	0	8	4	0	0	0	0	0	0	4
07:17	12	2	0	0	0	0	0	14	10	0	0	0	0	1	1	12
07:30	12	1	1	0	0	1	0	17	10	7	1	0	0	0	0	18
07:47	17	3	0	0	0	0	0	20	11	4	0	0	0	0	2	17
08:00	11	3	0	1	0	0	0	17	14	9	1	0	0	0	1	22
08:17	17	4	0	0	0	0	0	18	19	3	0	0	0	0	0	18
08:30	21	4	0	0	0	0	2	27	17	2	0	0	0	0	0	17
08:47	12	3	0	0	0	0	1	19	8	3	1	0	0	0	0	13
08:00	13	1	0	0	0	0	0	14	17	2	0	0	0	0	0	17
08:17	12	1	0	0	0	0	1	14	8	3	0	0	0	0	0	11
08:30	11	7	1	0	0	0	0	17	10	2	0	0	0	0	0	12
08:47	8	0	0	0	0	0	4	13	8	1	0	0	0	0	1	11
10:00	10	3	0	0	0	0	1	14	7	2	1	0	0	0	3	11
10:17	10	2	0	0	0	0	0	12	4	1	1	0	0	0	0	9
10:30	8	2	1	0	0	0	0	11	10	4	0	0	0	0	0	14
10:47	7	0	1	0	0	0	0	8	8	1	1	1	0	0	0	12
11:00	17	7	2	0	0	0	0	22	9	4	0	1	0	0	0	11
11:17	10	1	0	1	0	0	1	13	7	0	1	0	0	0	0	8
11:30	17	1	0	0	0	0	2	18	4	3	0	0	0	0	1	8
11:47	7	1	0	0	0	0	0	8	8	2	0	0	0	0	0	11
12:00	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7
12:17	7	0	0	0	0	0	0	7	8	1	2	0	0	0	4	19
12:30	14	4	0	0	0	0	0	18	7	1	0	1	0	0	0	8
12:47	3	2	1	1	0	0	1	8	10	1	0	0	0	0	2	13
13:00	12	4	0	2	0	0	1	18	12	2	0	0	0	0	0	14
13:17	8	2	0	0	0	0	0	10	7	0	0	0	0	0	0	7
13:30	9	3	0	0	0	0	0	8	4	2	1	0	0	0	4	11
13:47	17	0	0	0	0	0	0	17	8	0	0	0	0	0	0	8
14:00	2	2	0	0	0	0	0	4	7	1	0	1	0	0	0	8
14:17	8	1	1	0	0	0	0	10	7	3	0	0	0	0	0	10
14:30	8	2	0	0	0	0	0	11	13	7	0	0	0	0	1	18
14:47	14	3	0	1	0	0	0	18	9	1	0	0	0	0	0	7
17:00	17	0	1	0	0	0	0	18	7	0	0	0	0	0	0	7
17:17	10	4	0	0	0	0	0	14	10	4	0	0	0	0	0	14
17:30	11	3	0	0	0	0	0	14	21	3	0	0	0	0	0	24
17:47	8	1	0	0	0	0	0	10	8	2	0	0	0	3	0	13
19:00	20	2	0	0	0	0	1	23	18	4	0	0	0	0	0	23
19:17	19	7	0	0	0	0	0	21	18	4	0	0	0	0	1	23
19:30	19	9	0	0	0	0	1	23	11	7	0	0	0	0	0	19
19:47	17	0	0	0	0	0	1	19	11	3	0	0	0	1	2	17
17:00	19	4	0	0	0	1	0	21	17	3	0	0	0	0	0	18
17:17	18	2	0	0	0	0	0	21	14	0	0	0	0	0	0	14
17:30	13	3	0	0	0	0	0	19	17	4	0	0	0	0	0	21
17:47	11	2	0	0	0	0	0	13	13	2	0	0	0	0	0	17
18:00	14	0	0	0	0	1	0	17	19	2	0	0	0	0	0	18
18:17	8	2	0	0	0	0	1	12	17	3	1	0	0	0	1	20
18:30	7	0	0	0	0	2	1	8	14	0	0	0	0	0	3	17
18:47	8	2	0	0	0	0	0	10	7	3	0	0	0	0	1	8
18:00	9	1	0	0	0	0	1	8	12	1	0	0	0	0	0	13
18:17	7	0	0	0	0	0	0	7	7	1	0	0	0	0	0	9
18:30	7	1	0	0	0	0	0	8	4	1	0	0	0	0	0	7
18:47	4	1	0	0	0	0	0	7	7	1	0	0	0	0	0	9
20:00	4	0	0	0	0	0	0	4	9	1	0	0	0	0	0	7
20:17	2	0	0	0	0	0	0	2	7	3	0	0	0	0	1	11
20:30	4	0	0	0	0	0	0	4	3	0	0	0	0	0	0	3
20:47	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
21:17	2	0	0	0	0	1	0	3	2	0	0	0	0	0	0	2
21:30	2	0	0	0	0	0	0	2	4	2	0	0	0	0	0	9
21:47	9	0	0	0	0	0	0	9	4	0	0	0	0	0	0	4
22:00	3	0	0	0	0	0	0	3	8	0	0	0	0	0	0	8
22:17	4	0	0	0	0	0	0	4	0	0	0	0	1	0	0	1
22:30	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3
22:47	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
23:00	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
23:17	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	2
23:30	3	0	0	0	0	0	0	3	2	0	0	0	0	0	1	3
23:47	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1

Start Time	Rolling Hour							Total	Rolling Hour							Total
00:00	2	1	0	0	0	0	0	3	0	1	0	1	0	0	0	2
00:17	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:47	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
01:17	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4
01:30	2	0	0	0	0	0	0	2	7	0	0	0	0	0	0	7
01:47	2	1	0	0	0	0	0	3	4	0	0	0	0	0	0	4
02:00	2	1	0	0	0	0	0	3	3	0	0	0	0	0	0	3
02:17	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1
02:30	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
02:47	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
03:00	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
03:17	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1
03:30	3	0	0	0	0	0	1	4	1	0	0	0	0	0	0	1
03:47	7	0	0	0	0	0	1	9	3	0	0	0	0	0	0	3
04:00	7	0	0	0	0	0	1	9	4	1	0	0	0	0	0	7
04:17	9	0	0	0	0	0	1	7	4	1	0	0	0	0	0	7
04:30	12	0	0	0	0	0	0	12	9	1	0	0	0	0	0	7
04:47	12	0	0	0	0	0	0	12	4	1	0	0	0	0	0	7
07:00	14	0	0	0	0	0	0	14	9	0	0	0	0	0	0	9
07:17	20	2	0	0	0	0	0	22	7	0	0	0	0	0	0	7
07:30	18	3	0	0	0	0	0	22	7	0	0	0	0	0	0	7
07:47	24	4	0	0	0	0	1	28	8	1	0	0	0	0	1	11
09:00	27	7	0	0	0	0	1	33	8	2	0	0	0	0	1	12
09:17	27	7	0	0	0	0	1	33	13	2	0	0	0	0	1	19
09:30	33	9	0	0	0	0	1	40	21	2	0	0	0	1	2	29
09:47	37	9	1	0	0	1	0	47	27	8	1	0	0	1	1	38
07:00	48	8	1	0	0	1	0	78	37	11	1	0	0	1	3	71
07:17	72	8	1	1	0	1	0	94	47	17	2	0	0	1	4	98
07:30	77	11	1	1	0	1	0	98	71	20	2	0	0	0	3	79
07:47	94	14	0	1	0	0	2	81	79	17	1	0	0	0	3	77
08:00	78	14	0	1	0	0	3	77	74	14	2	0	0	0	1	71
08:17	91	12	0	0	0	0	3	79	77	10	1	0	0	0	0	99
08:30	78	8	0	0	0	0	4	71	47	10	1	0	0	0	0	78
08:47	48	10	1	0	0	0	2	91	42	10	1	0	0	0	0	73
08:00	47	7	1	0	0	0	7	78	42	8	0	0	0	0	1	71
08:17	42	8	1	0	0	0	9	78	32	8	1	0	0	0	4	47
08:30	40	10	1	0	0	0	7	79	28	9	2	0	0	0	4	40
08:47	37	7	1	0	0	0	7	70	28	8	2	0	0	0	4	42
10:00	37	7	2	0	0	0	1	47	28	8	3	1	0	0	3	43
10:17	40	8	4	0	0	0	0	73	28	10	2	2	0	0	0	43
10:30	40	8	4	1	0	0	1	74	32	8	2	2	0	0	0	47
10:47	47	7	3	1	0	0	3	91	29	8	2	2	0	0	1	38
11:00	47	8	2	1	0	0	3	91	29	8	1	1	0	0	1	38
11:17	37	3	0	1	0	0	3	44	27	7	1	0	0	0	1	34
11:30	34	2	0	0	0	0	2	38	28	9	2	0	0	0	7	42
11:47	33	7	0	0	0	0	0	38	32	4	2	1	0	0	4	43
12:00	28	9	1	1	0	0	1	38	33	3	2	1	0	0	9	47
12:17	39	10	1	3	0	0	2	72	38	7	2	1	0	0	9	72
12:30	37	12	1	3	0	0	2	77	39	4	0	1	0	0	2	43
12:47	28	11	1	3	0	0	2	49	33	7	1	0	0	0	9	47
13:00	41	8	0	2	0	0	1	73	32	4	1	0	0	0	4	41
13:17	31	7	0	0	0	0	0	38	27	3	1	1	0	0	4	39
13:30	31	9	1	0	0	0	0	38	27	9	1	1	0	0	4	38
13:47	34	7	1	0	0	0	0	40	39	8	0	1	0	0	1	47
14:00	33	8	1	1	0	0	0	43	33	10	0	1	0	0	1	47
14:17	48	9	2	1	0	0	0	77	33	8	0	0	0	0	1	43
14:30	70	8	1	1	0	0	0	91	39	10	0	0	0	0	1	47
14:47	72	10	1	1	0	0	0	94	44	8	0	0	0	0	0	72
17:00	47	8	1	0	0	0	0	79	49	8	0	0	0	3	0	78
17:17	70	10	0	0	0	0	1	91	78	13	0	0	0	3	0	74
17:30	79	11	0	0	0	0	1	98	99	13	0	0	0	3	1	83
17:47	91	14	0	0	0	0	2	77	79	17	0	0	0	3	1	77
19:00	97	13	0	0	0	0	3	83	78	19	0	0	0	1	3	78
19:17	93	17	0	0	0	1	2	81	77	17	0	0	0	1	3	74
19:30	99	12	0	0	0	1	2	81	71	11	0	0	0	1	2	97
19:47	93	8	0	0	0	1	1	74	77	10	0	0	0	1	2	70
17:00	78	11	0	0	0	1	0	71	78	8	0	0	0	0	0	98
17:17	77	7	0	0	0	1	0	97	90	8	0	0	0	0	0	98
17:30	47	7	0	0	0	1	1	79	91	11	1	0	0	0	1	74
17:47	38	4	0	0	0	3	2	48	78	7	1	0	0	0	4	70
18:00	39	4	0	0	0	3	2	47	70	8	1	0	0	0	7	94
18:17	28	7	0	0	0	2	3	38	49	7	1	0	0	0	7	78
18:30	29	3	0	0	0	2	2	33	39	7	0	0	0	0	4	47
18:47	28	4	0	0	0	0	1	33	29	9	0	0	0	0	1	33
18:00	24	3	0	0	0	0	1	28	29	4	0	0	0	0	0	30
18:17	22	2	0	0	0	0	0	24	20	4	0	0	0	0	0	24
18:30	17	2	0	0	0	0	0	18	22	9	0	0	0	0	1	28
18:47	14	1	0	0	0	0	0	17	21	7	0	0	0	0	1	27
20:00	11	0	0	0	0	0	0	11	17	4	0	0	0	0	1	22
20:17	7	0	0	0	0	0	0	7	14	3	0	0	0	0	1	18
20:30	7	0	0	0	0	1	0	8	8	0	0	0	0	0	0	8
20:47	7	0	0	0	0	1	0	9	10	2	0	0	0	0	0	12
21:00	10	0	0	0	0	1	0	11	13	2	0	0	0	0	0	17
21:17	13	0	0	0	0	1	0	14	18	2	0	0	0	0	0	20
21:30	17	0	0	0	0	0	0	17	19	2	0	0	1	0	0	18
21:47	14	0	0	0	0	0	0	14	17	0	0	0	1	0	0	19
22:00	8	0	0	0	0	0	0	8	12	0	0	0	1	0	0	13
22:17	7	0	0	0	0	0	0	7	7	0	0	0	1	0	0	9
22:30	3	0	0	0	0	0	1	4	9	1	0	0	0	0	0	7
22:47	7	0	0	0	0	0	1	9	7	1	0	0	0	0	1	7
23:00	7	0	0	0	0	0	1	9	7	1	0	0	0	0	1	7

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

	frm B (pproac)								frm B 78it							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00	17	2	1	0	0	0	0	18	8	0	0	0	0	0	0	8
00:17	9	2	0	1	0	0	0	8	7	2	0	0	0	0	0	8
00:30	7	0	0	1	1	0	0	8	1	0	0	0	0	0	0	1
00:47	3	1	0	2	0	0	0	9	7	0	0	0	0	1	0	9
01:00	2	0	0	1	0	0	0	3	4	1	0	0	0	0	0	7
01:17	7	0	0	0	0	0	0	7	3	0	0	1	0	0	0	4
01:30	3	0	1	0	0	0	0	4	3	0	0	0	0	0	0	3
01:47	2	1	0	0	0	0	0	3	2	1	0	0	0	0	0	3
02:00	3	1	0	0	0	0	0	4	7	1	0	0	0	0	0	9
02:17	9	0	0	0	0	0	0	9	1	0	0	0	0	0	0	1
02:30	2	0	0	0	0	0	0	2	1	1	0	3	0	0	0	7
02:47	1	1	0	0	0	0	0	2	2	1	0	2	0	0	0	7
03:00	10	1	0	0	0	0	0	11	1	0	0	0	0	0	0	1
03:17	2	1	1	0	0	0	0	4	0	0	0	1	0	1	0	2
03:30	4	1	1	0	0	0	0	9	7	0	0	0	0	0	0	7
03:47	2	1	0	0	0	0	0	3	4	1	0	0	0	0	0	7
04:00	2	0	0	0	0	0	0	2	9	2	0	2	0	0	0	10
04:17	2	0	1	1	0	0	0	4	4	2	0	0	0	1	0	7
04:30	9	1	1	2	0	0	0	10	8	2	0	0	0	2	0	13
04:47	3	3	2	1	0	0	0	8	7	3	0	0	1	0	0	8
07:00	7	7	2	0	0	0	0	14	8	2	1	2	0	3	0	17
07:17	8	3	2	0	0	1	0	17	13	4	0	1	0	0	1	18
07:30	13	1	2	0	0	0	0	19	31	2	1	1	0	1	0	39
07:47	13	3	3	1	0	3	0	23	30	7	0	3	1	1	0	42
09:00	13	8	3	0	0	0	1	27	47	8	0	3	1	1	0	78
09:17	27	8	1	1	0	0	0	39	70	17	1	7	1	4	4	100
09:30	31	8	2	2	0	7	0	48	80	13	1	0	2	9	2	104
09:47	30	18	7	4	1	0	1	78	130	20	2	4	1	7	0	192
07:00	33	10	1	1	1	1	0	47	142	20	3	0	1	4	2	172
07:17	92	29	2	4	1	0	0	87	127	29	1	1	1	9	0	190
07:30	78	18	3	3	3	2	1	110	129	20	3	0	1	4	1	177
07:47	77	17	0	7	2	2	0	103	137	21	2	2	2	7	1	170
08:00	83	18	1	7	1	1	1	113	138	31	2	2	2	7	7	188
08:17	99	19	2	2	0	0	0	89	134	21	9	2	9	7	2	179
08:30	72	17	1	0	1	0	0	81	84	14	4	2	1	2	3	120
08:47	70	17	3	3	2	2	0	87	98	8	2	4	2	3	1	88
08:00	83	10	1	0	2	1	1	88	107	21	3	2	0	2	1	134
08:17	97	12	1	1	1	0	0	80	83	29	0	1	1	1	0	112
08:30	73	13	3	0	1	1	0	81	117	27	2	7	2	1	0	170
08:47	72	13	4	2	1	0	0	82	78	11	3	1	1	0	0	84
10:00	78	17	9	4	1	0	4	111	72	19	3	1	3	1	1	87
10:17	82	18	2	1	1	1	0	119	78	18	3	1	2	0	0	103
10:30	89	22	9	2	2	1	0	118	77	10	2	1	2	0	0	82
10:47	81	18	4	2	0	0	0	119	89	18	4	3	1	0	1	113
11:00	109	11	4	2	1	2	1	127	97	19	7	1	1	0	0	88
11:17	82	21	2	3	2	1	0	111	79	17	2	0	0	1	0	84
11:30	77	21	9	1	1	0	0	104	82	18	7	1	1	1	0	108
11:47	89	17	2	1	1	1	1	107	82	14	3	1	2	1	1	104
12:00	89	20	2	1	1	1	0	111	82	12	4	0	1	0	1	100
12:17	88	14	3	3	1	2	0	112	81	13	1	2	0	1	0	88
12:30	109	14	7	2	1	1	0	128	89	14	3	1	3	0	0	107
12:47	79	24	1	0	1	2	0	104	82	12	4	2	1	1	0	102
13:00	88	18	1	1	1	2	0	111	78	24	1	2	1	0	1	107
13:17	80	18	9	3	0	2	0	118	83	11	3	2	2	3	0	104
13:30	88	20	1	0	2	3	0	117	94	11	3	2	1	0	1	82
13:47	77	12	2	7	1	0	0	87	98	12	2	2	1	1	0	87
14:00	88	17	7	3	2	1	0	114	72	22	2	3	1	1	0	101
14:17	88	22	1	3	3	3	0	130	84	22	3	1	1	1	1	123
14:30	100	21	4	1	2	2	0	130	83	8	3	2	1	2	0	108
14:47	84	18	2	0	1	2	0	118	74	12	7	0	2	3	0	89
17:00	111	22	3	2	1	0	0	138	82	11	9	4	1	1	1	119
17:17	117	23	2	0	1	1	0	142	88	17	3	0	1	0	0	108
17:30	108	23	1	1	4	1	0	138	78	19	1	0	2	2	0	88
17:47	127	27	3	1	3	1	0	190	88	8	0	2	0	2	0	102
19:00	183	24	3	1	4	3	0	218	87	24	3	1	2	0	0	127
19:17	140	24	1	0	1	3	0	198	78	18	2	1	2	0	0	101
19:30	141	39	1	0	1	4	0	183	104	20	2	1	2	1	0	130
19:47	177	29	1	1	2	3	4	182	97	17	0	0	0	1	1	84
17:00	179	30	2	1	1	2	1	213	84	12	0	0	2	3	1	102
17:17	149	20	0	0	2	7	2	177	87	11	0	3	1	1	0	101
17:30	180	17	0	0	1	11	1	210	82	13	2	1	2	3	0	113
17:47	184	19	1	1	2	7	9	227	82	9	0	1	1	2	0	82
18:00	198	11	0	2	0	4	0	189	87	8	1	0	1	1	0	108
18:17	144	12	1	1	2	7	1	199	102	1	1	0	1	1	2	108
18:30	142	11	1	0	1	3	3	191	99	7	1	4	1	1	0	78
18:47	134	9	0	0	1	2	0	143	98	8	0	2	1	1	0	81
18:00	101	11	1	1	1	3	1	118	48	3	1	1	1	1	0	77
18:17	72	3	0	0	0	2	1	78	73	1	0	1	1	0	1	77
18:30	81	7	0	1	2	1	3	83	44	2	0	1	0	1	0	48
18:47	94	3	0	2	0	2	0	71	44	9	0	0	1	1	1	73
20:00	43	3	0	1	3	1	0	71	28	3	0	1	0	1	1	37
20:17	97	4	0	0	1	0	1	71	32	1	0	1	0	0	0	34
20:30	38	7	3	1	1	0	0	48	19	1	0	0	0	0	0	17
20:47	79	9	0	0	1	1	0	94	24	2	1	0	1	2	0	30
21:00	37	7	0	1	1	0	1	47	28	1	0	0	0	1	0	31
21:17	40	7	1	0	0	1	0	47	19	2	0	1	0	3	0	22
21:30	49	4	0	0	1	1	1	73	38	3	0	1	0	0	0	43
21:47	47	2	0	1	0	0	0	48	28	1	0	0	0	2	0	31
22:00	93	3	0	0	0	2	0	98	48	2	0	0	1	2	0	73
22:17	71	2	0	1	0	0	0	74	27	3	0	1	0	0	0	31
22:30	28	1	1	0	0	1	0	32	29	0	0	0	0	2	0	28
22:47	20	2	0	0	0	0	0	22	17	1	1	0	1	1	0	18
23:00	27	1	1	4	0	0	0	33	8	4	0	1	0	1	0	14
23:17	24	2	0	1	0	0	0	27	8	0	0	0	0	0	0	8
23:30	20	1	1	1	0	0	0	23	7	2	0	0	0	0	0	8
23:47	8	2	1	0	0	0	0	12	9	1	0	0	0	0	0	7

Start Time	&olling 6our							Total	&olling 6our							Total
00:00	31	7	1	4	1	0	0	42	21	2	0	0	0	1	0	24
00:17	18	3	0	7	1	0	0	27	17	3	0	0	0	1	0	21
00:30	17	1	0	4	1	0	0	23	13	1	0	1	0	1	0	19
00:47	13	1	1	3	0	0	0	18	17	1	0	1	0	1	0	18
01:00	12	1	1	1	0	0	0	17	12	2	0	1	0	0	0	17
01:17	13	2	1	0	0	0	0	19	13	2	0	1	0	0	0	19
01:30	14	2	1	0	0	0	0	17	11	2	0	0	0	0	0	13
01:47	13	2	0	0	0	0	0	17	8	3	0	3	0	0	0	17
02:00	12	2	0	0	0	0	0	14	8	3	0	7	0	0	0	17
02:17	18	2	0	0	0	0	0	21	7	2	0	7	0	0	0	12
02:30	17	3	1	0	0	0	0	18	4	2	0	9	0	1	0	13
02:47	17	4	2	0	0	0	0	23	8	1	0	3	0	1	0	13
03:00	18	4	2	0	0	0	0	24	10	1	0	1	0	1	0	13
03:17	10	3	2	0	0	0	0	17	17	3	0	3	0	1	0	22
03:30	10	2	2	1	0	0	0	17	18	7	0	2	0	1	0	27
03:47	12	2	2	3	0	0	0	18	23	7	0	2	0	3	0	37
04:00	13	4	4	4	0	0	0	27	24	8	0	2	1	3	0	38
04:17	19	11	9	4	0	0	0	37	27	8	1	2	1	9	0	49
04:30	23	14	7	3	0	1	0	48	39	11	1	3	1	7	1	78
04:47	30	14	8	1	0	1	0	74	78	11	2	4	1	4	1	81
07:00	40	14	8	1	0	4	0	98	83	17	2	7	1	7	1	114
07:17	48	17	10	1	0	4	1	78	118	21	1	8	2	3	1	177
07:30	94	21	8	2	0	3	1	100	179	32	2	12	3	7	4	239
07:47	82	28	8	4	0	8	1	132	227	43	2	11	7	12	9	304
09:00	88	43	11	7	1	7	2	198	327	79	4	12	7	19	9	424
09:17	118	47	8	8	2	9	1	180	422	98	7	8	7	18	8	738
09:30	179	92	10	11	3	9	1	248	477	78	7	7	7	21	4	788
09:47	204	73	11	12	9	3	2	311	723	89	8	7	4	18	3	948
07:00	271	72	9	13	7	7	1	377	730	87	8	3	7	18	4	977
07:17	301	81	9	18	7	7	2	421	727	88	8	7	9	22	7	973
07:30	307	71	9	17	9	7	2	412	739	83	13	9	11	21	8	988
07:47	288	98	4	14	4	3	1	383	704	87	14	8	11	18	11	974
08:00	281	98	7	12	4	3	1	387	439	74	14	10	11	17	11	773
08:17	281	90	7	7	7	3	1	372	402	94	17	10	8	12	7	718
08:30	280	79	9	4	9	3	1	399	371	98	8	8	4	8	7	477
08:47	281	72	8	4	9	4	1	399	372	80	7	12	7	7	2	487
08:00	283	48	8	3	7	2	1	391	381	83	8	8	4	4	1	480
08:17	288	77	14	7	4	1	4	374	348	78	8	8	7	3	1	473
08:30	319	92	17	7	4	2	4	410	344	70	11	8	8	2	1	444
08:47	328	71	18	8	7	2	4	438	309	77	11	4	8	1	1	389
10:00	348	77	18	8	4	2	4	492	314	92	12	9	8	1	2	407
10:17	377	71	19	7	4	4	1	478	307	92	14	9	9	0	1	389
10:30	397	73	19	8	7	4	1	473	304	78	13	7	4	1	1	387
10:47	374	72	19	8	4	3	1	478	308	98	19	7	3	2	1	404
11:00	348	98	14	7	7	4	2	448	307	94	17	3	4	3	1	387
11:17	328	77	12	9	7	3	1	433	322	90	14	2	4	3	2	407
11:30	339	70	13	9	4	4	1	434	327	78	13	4	4	3	2	411
11:47	397	93	12	7	4	7	1	478	331	73	11	4	9	2	2	408
12:00	377	72	11	9	4	9	0	479	331	71	12	7	7	2	1	407
12:17	378	70	10	9	4	7	0	479	327	93	8	7	7	2	1	414
12:30	390	74	13	9	3	7	0	493	328	91	11	7	7	4	1	420
12:47	343	80	8	4	4	8	0	448	307	78	11	8	7	4	2	387
13:00	342	98	10	8	4	7	0	440	284	78	8	8	7	4	2	380
13:17	342	97	14	11	7	9	0	443	288	79	10	8	7	7	1	374
13:30	370	98	8	11	8	7	0	474	288	97	10	8	4	3	2	383
13:47	391	70	12	12	8	9	0	498	328	94	10	8	4	7	1	420
14:00	380	77	12	7	8	8	0	482	333	94	13	9	7	7	1	428
14:17	403	84	10	9	7	7	0	717	373	73	17	7	7	7	2	444
14:30	420	87	11	3	7	7	0	728	347	48	17	9	7	9	1	430
14:47	428	87	8	3	7	4	0	737	332	79	17	4	9	9	1	420
17:00	491	83	8	4	8	3	0	778	347	73	10	9	4	7	1	429
17:17	733	87	8	3	12	9	0	978	372	99	7	3	7	4	0	437
17:30	778	89	8	3	12	8	0	987	342	97	9	4	9	4	0	428
17:47	781	108	8	2	8	11	0	730	398	71	7	7	9	3	0	490
19:00	918	110	9	2	8	13	4	792	349	77	7	3	9	2	1	442
19:17	912	119	7	2	7	12	7	777	333	97	4	2	9	7	2	417
19:30	918	112	4	2	9	19	7	797	340	78	2	4	7	9	2	417
19:47	977	83	3	2	9	23	8	782	328	71	2	4	7	8	2	400
17:00	989	83	3	2	9	27	10	827	343	42	2	7	9	8	1	408
17:17	988	94	1	3	7	27	8	788	379	38	3	7	7	7	0	414
17:30	987	79	2	4	7	27	8	787	373	28	4	2	7	7	2	421
17:47	948	70	3	4	7	17	10	738	347	20	3	7	4	7	2	389
18:00	788	40	2	3	4	14	4	979	334	22	3	9	4	4	2	377
18:17	721	40	3	2	7	13	7	788	287	17	3	7	4	4	2	322
18:30	448	31	2	1	3	10	7	701	239	17	2	8	4	3	1	271
18:47	388	27	1	2	4	8	7	433	214	14	1	7	3	3	1	241
18:00	318	22	1	4	3	8	7	391	188	12	1	3	3	3	2	213
18:17	290	14	0	4	7	9	4	283	170	12	0	3	2	3	3	183
18:30	273	17	0	4	9	4	4	289	148	12	0	3	1	3	2	170
18:47	210	17	3	4	7	3	1	241	121	11	0	2	1	2	2	138
20:00	202	18	3	2	9	2	1	234	101	7	1	2	1	3	1	119
20:17	189	22	3	2	4	1	2	230	101	7	1	1	1	3	0	112
20:30	171	23	4	2	3	2	1	209	87	9	1	1	1	9	0	100
20:47	178	22	1	1	3	3	2	211	108	8	1	2	1	9	0	129
21:00	198	18	1	2	2	2	2	187	112	7	0	2	0	9	0	127
21:17	184	14	1	1	1	4	1	219	131	8	0	2	1	7	0	148
21:30	207	11	0	2	1	3	1	223	142	8	0	2	1	4	0	178
21:47	188	8	1	2	0	3	0	202	128	9	0	1	1	9	0	143
22:00	193	8	1	1	0	3	0	179	119	9	1	1	2	7	0	131
22:17	127	9	2	7	0	1	0	141	79	8	1	2	1	4	0	82
22:30	100	9	2	7	0	1	0	114	78	7	1	1	1	4	0	70
22:47	81	9	2	9	0	0	0	107	38	7	1	1	1	2	0	71
23:00	80	9	3	9	0	0	0	87	30	7	0	1	0	1	0	38

" " "#intelligent$data$collection#com

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

	Arm C (Approach)								Arm C (Exit)							
Time	Car	L/2	1/23	1/24	Bus	5C+	Cycle	Total	Car	L/2	1/23	1/24	Bus	5C+	Cycle	Total
00:00	7	0	0	1	0	0	0	9	7	0	0	0	0	0	0	7
00:17	3	0	0	0	1	0	0	4	3	0	0	0	0	0	0	3
00:30	3	1	0	0	0	0	0	4	4	0	0	0	0	0	0	4
00:47	7	0	0	0	0	0	0	7	3	1	0	0	0	0	0	4
01:00	10	0	0	0	0	1	0	11	2	0	0	0	0	0	0	2
01:17	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
01:30	3	1	0	0	0	0	0	4	0	1	0	0	0	0	0	1
01:47	4	0	0	0	0	0	0	4	3	1	0	0	0	0	0	4
02:00	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7
02:17	3	0	0	0	0	0	0	3	7	0	0	0	0	0	0	7
02:30	7	0	0	0	0	0	0	7	1	1	0	0	0	0	0	2
02:47	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7
03:00	3	1	0	0	0	0	0	4	7	0	0	0	0	0	0	7
03:17	3	0	0	0	0	0	0	3	13	0	0	0	0	0	0	13
03:30	2	0	0	0	0	0	0	2	14	0	0	0	1	0	0	17
03:47	9	0	0	0	0	0	0	9	12	1	0	0	0	0	0	13
04:00	9	0	0	0	0	0	0	9	10	0	0	0	0	0	0	10
04:17	7	1	0	0	1	0	0	8	10	0	0	0	0	0	1	11
04:30	9	1	0	0	0	0	0	7	18	0	0	0	1	0	0	20
04:47	7	0	0	0	0	0	0	7	14	3	0	0	0	1	0	18
07:00	9	1	0	0	0	0	0	7	19	2	0	0	0	0	0	18
07:17	8	1	0	0	1	0	0	11	19	0	1	0	0	1	0	18
07:30	11	0	0	0	0	0	0	11	18	1	1	0	1	0	0	22
07:47	7	3	0	0	0	0	0	10	17	3	1	1	0	0	0	20
09:00	7	0	0	0	0	0	0	7	21	4	0	0	0	1	0	29
09:17	12	9	0	0	1	0	2	21	33	4	0	0	0	0	0	37
09:30	13	4	0	0	0	0	1	18	40	3	0	0	1	1	1	49
09:47	23	7	0	0	0	0	0	30	41	11	1	0	1	0	2	79
07:00	32	2	0	0	0	0	0	34	41	10	0	1	0	2	0	74
07:17	28	7	2	0	1	1	0	38	74	11	0	2	1	0	0	88
07:30	28	12	1	0	0	0	0	41	98	8	1	1	1	4	0	87
07:47	43	10	2	3	1	2	0	91	98	17	1	2	1	1	0	81
08:00	44	12	3	1	0	0	1	91	91	12	2	4	0	0	0	78
08:17	73	11	1	1	1	0	0	97	82	10	2	0	0	0	0	104
08:30	39	8	0	1	0	0	0	49	99	7	1	1	1	0	0	79
08:47	39	10	1	4	0	0	0	71	90	13	0	0	0	0	3	79
08:00	33	12	1	1	0	0	0	47	37	3	1	0	0	0	0	38
08:17	29	7	1	0	1	0	0	33	38	7	0	0	0	0	1	49
08:30	29	10	1	0	0	0	0	37	41	10	7	1	0	0	0	77
08:47	31	4	0	0	0	0	0	37	42	10	1	0	0	0	4	77
10:00	14	9	2	0	0	1	3	29	38	9	1	0	0	0	2	47
10:17	27	8	0	1	0	0	0	34	28	7	2	0	0	0	0	37
10:30	31	8	3	0	0	0	0	42	31	9	2	0	1	1	0	41
10:47	27	4	2	0	0	0	0	33	41	3	0	0	0	0	0	44
11:00	27	7	2	1	0	0	0	37	48	8	7	0	0	0	0	91
11:17	18	4	0	0	1	1	0	27	31	9	0	1	0	0	1	38
11:30	17	7	1	0	0	0	1	24	39	8	1	1	1	0	2	70
11:47	28	9	0	1	0	0	0	37	24	2	0	0	0	0	1	27
12:00	38	7	1	0	0	0	0	47	33	7	0	0	0	0	0	38
12:17	34	10	4	0	1	0	4	73	22	7	1	0	0	0	0	30
12:30	31	7	0	0	0	0	0	39	43	8	3	0	1	0	0	77
12:47	37	7	1	0	0	0	2	47	34	7	1	1	0	0	1	44
13:00	42	10	0	0	0	0	0	72	28	9	0	3	0	0	1	38
13:17	34	4	1	0	1	0	0	40	37	7	1	0	0	0	0	47
13:30	21	11	2	0	0	1	2	37	37	8	0	0	1	0	0	47
13:47	30	4	0	1	0	0	0	37	44	4	1	1	0	0	1	71
14:00	37	1	2	2	1	0	0	43	43	11	3	1	0	2	0	90
14:17	37	4	0	1	0	0	0	40	40	7	1	0	0	0	0	49
14:30	48	3	1	1	0	0	1	77	42	8	2	0	2	0	0	74
14:47	37	4	2	0	0	1	0	42	37	7	0	1	0	0	0	47
17:00	34	4	2	0	0	0	0	40	38	7	1	0	0	0	0	47
17:17	44	9	1	0	1	0	0	72	43	17	0	0	0	0	1	91
17:30	77	8	0	0	0	0	0	97	38	11	1	0	1	0	0	72
17:47	77	17	0	0	0	4	0	79	73	11	2	0	0	0	0	89
19:00	47	11	0	0	0	2	0	90	79	9	1	0	1	1	1	99
19:17	79	12	0	0	1	0	1	70	41	11	0	0	1	1	0	74
19:30	74	8	1	0	0	0	0	83	91	10	1	0	1	1	1	77
19:47	71	7	0	0	0	1	0	78	91	9	0	0	0	0	1	98
17:00	97	7	0	0	0	3	0	77	71	7	0	0	0	0	0	78
17:17	78	9	0	0	1	3	0	98	39	3	0	0	0	0	0	38
17:30	72	8	1	0	0	0	0	92	48	4	1	0	1	0	0	77
17:47	47	8	0	0	0	0	0	77	44	2	0	0	0	0	0	49
18:00	71	7	0	0	1	0	0	78	38	2	0	0	0	2	0	43
18:17	40	4	0	0	1	0	0	47	44	7	0	0	0	0	2	71
18:30	44	9	0	0	0	1	3	74	27	3	0	0	1	2	1	34
18:47	37	7	0	0	0	0	0	40	28	3	0	0	0	0	1	33
18:00	38	0	2	0	1	0	0	41	22	9	0	0	0	0	1	28
18:17	23	3	0	0	1	0	0	27	18	1	0	0	0	0	0	18
18:30	24	4	0	0	0	0	0	28	17	0	0	0	1	0	1	18
18:47	24	1	0	0	0	0	0	27	24	3	0	0	0	1	0	28
20:00	21	1	0	0	0	0	0	22	19	1	0	1	0	1	0	18
20:17	18	3	0	0	1	0	1	24	11	1	0	0	0	1	0	13
20:30	10	0	0	0	0	0	0	10	19	1	0	0	1	1	0	18
20:47	7	0	0	0	0	0	0	7	11	1	0	0	0	0	0	12
21:00	13	0	0	0	0	1	0	14	9	1	0	0	0	0	0	7
21:17	11	0	0	0	1	1	0	13	14	0	0	0	0	0	0	14
21:30	10	0	0	0	0	0	0	10	14	0	0	0	1	0	0	17
21:47	17	0	0	0	0	0	0	17	17	2	0	0	0	0	0	17
22:00	11	0	0	0	0	0	0	11	12	0	0	0	0	0	0	12
22:17	18	1	0	0	2	0	0	22	10	0	0	0	0	0	0	10
22:30	18	0	0	0	0	0	0	18	7	1	0	0	1	0	0	8
22:47	8	0	0	0	0	1	0	8	9	1	0	0	0	0	0	7
23:00	8	1	0	0	0	0	0	8	7	1	0	2	0	0	0	10
23:17	9	1	0	0	1	0	0	8	8	0	0	0	0	0	1	8
23:30	18	0	0	0	0	0	1	20	9	0	0	0	1	0	0	7
23:47	12	1	0	0	0	0	0	13	3	1	0	0	0	0	0	4

Start Time	Rolling Hour							Total	Rolling Hour							Total
00:00	19	1	0	1	1	0	0	18	17	1	0	0	0	0	0	19
00:17	21	1	0	0	1	1	0	24	12	1	0	0	0	0	0	13
00:30	18	1	0	0	0	1	0	21	11	1	0	0	0	0	0	12
00:47	18	1	0	0	0	1	0	21	7	2	0	0	0	0	0	8
01:00	18	1	0	0	0	1	0	20	7	2	0	0	0	0	0	8
01:17	13	1	0	0	0	0	0	14	10	2	0	0	0	0	0	12
01:30	17	1	0	0	0	0	0	19	17	2	0	0	0	0	0	17
01:47	17	0	0	0	0	0	0	17	19	2	0	0	0	0	0	18
02:00	18	0	0	0	0	0	0	18	18	1	0	0	0	0	0	18
02:17	19	1	0	0	0	0	0	17	20	1	0	0	0	0	0	21
02:30	19	1	0	0	0	0	0	17	29	1	0	0	0	0	0	27
02:47	13	1	0	0	0	0	0	14	38	0	0	0	1	0	0	40
03:00	14	1	0	0	0	0	0	17	49	1	0	0	1	0	0	48
03:17	17	0	0	0	0	0	0	17	48	1	0	0	1	0	0	71
03:30	21	1	0	0	1	0	0	23	49	1	0	0	1	0	1	48
03:47	27	2	0	0	1	0	0	28	71	1	0	0	1	0	1	74
04:00	24	2	0	0	1	0	0	27	73	3	0	0	1	1	1	78
04:17	24	3	0	0	1	0	0	28	78	7	0	0	1	1	1	97
04:30	29	3	0	0	1	0	0	30	97	7	1	0	1	2	0	74
04:47	31	2	0	0	1	0	0	34	97	9	2	0	1	2	0	79
07:00	33	7	0	0	1	0	0	38	99	9	3	1	1	1	0	78
07:17	32	4	0	0	1	0	0	37	71	8	3	1	1	2	0	89
07:30	37	8	0	0	1	0	2	47	88	12	2	1	1	1	0	107
07:47	37	13	0	0	1	0	3	74	108	14	1	1	1	2	1	128
09:00	73	17	0	0	1	0	3	74	137	22	1	0	2	2	3	197
09:17	80	18	0	0	1	0	3	103	177	28	1	1	2	3	3	183
09:30	87	18	2	0	1	1	1	120	189	37	1	3	3	3	3	244
09:47	112	29	3	0	1	1	0	143	227	41	2	4	3	9	2	283
07:00	132	28	7	3	2	3	0	174	273	47	2	9	3	7	0	318
07:17	144	38	8	4	2	3	1	201	273	48	4	8	3	7	0	343
07:30	198	47	7	7	2	2	1	230	281	48	9	7	2	7	0	378
07:47	179	42	9	9	2	2	1	237	288	49	9	7	2	1	0	370
08:00	198	42	7	7	1	0	1	227	278	42	7	7	1	0	3	337
08:17	178	42	3	7	1	0	0	211	273	33	4	1	1	0	3	287
08:30	131	39	3	9	1	0	0	177	188	30	2	1	1	0	4	237
08:47	121	37	4	7	1	0	0	198	174	33	9	1	0	0	4	218
08:00	119	31	3	1	1	0	0	172	179	30	7	1	0	0	7	188
08:17	87	27	4	0	1	1	3	131	178	33	7	1	0	0	7	207
08:30	89	28	3	1	0	1	3	132	148	31	8	1	0	0	9	189
08:47	101	29	7	1	0	1	3	137	138	27	9	0	1	1	9	180
10:00	87	29	7	1	0	1	3	137	138	20	7	0	1	1	2	197
10:17	110	27	7	2	0	0	0	149	148	22	8	0	1	1	0	181
10:30	104	23	7	1	1	1	0	137	171	23	7	1	1	1	1	187
10:47	80	20	7	1	1	1	1	118	179	29	9	2	1	0	3	184
11:00	81	22	3	2	1	1	1	121	138	27	9	2	1	0	4	177
11:17	103	20	2	1	1	1	1	128	124	22	1	2	1	0	4	174
11:30	118	29	9	1	1	0	7	177	117	23	2	1	1	0	3	147
11:47	132	29	7	1	1	0	4	198	122	22	4	0	1	0	1	170
12:00	138	27	9	0	1	0	9	178	132	27	7	1	1	0	1	197
12:17	142	32	7	0	1	0	9	189	128	28	7	4	1	0	2	198
12:30	142	29	2	0	1	0	2	173	143	28	7	4	1	0	2	183
12:47	132	32	4	0	1	1	4	174	137	28	2	4	1	0	2	173
13:00	127	28	3	1	1	1	2	194	147	29	2	4	1	0	2	180
13:17	122	20	7	3	2	1	2	177	178	31	7	2	1	2	1	201
13:30	123	20	4	4	1	1	2	177	192	28	7	2	1	2	1	202
13:47	171	12	3	7	1	0	1	173	198	28	7	2	2	2	1	211
14:00	179	12	7	4	1	1	1	180	192	31	9	2	2	2	0	207
14:17	173	17	7	2	0	1	1	177	178	27	4	1	2	0	0	180
14:30	192	17	9	1	1	1	1	188	191	37	3	1	2	0	1	207
14:47	170	22	7	0	1	1	0	188	178	40	2	1	1	0	1	203
17:00	182	33	3	0	1	4	0	233	184	44	4	0	1	0	1	244
17:17	207	40	1	0	1	9	0	273	211	47	4	0	2	1	2	297
17:30	217	49	0	0	1	9	1	271	208	38	4	0	3	2	1	278
17:47	234	49	1	0	1	9	1	288	231	38	4	0	3	3	2	281
19:00	228	38	1	0	1	3	1	272	218	33	2	0	3	3	3	293
19:17	249	34	1	0	1	4	1	287	214	34	1	0	2	2	2	277
19:30	248	28	1	0	1	7	0	287	208	29	1	0	1	1	2	240
19:47	229	28	1	0	1	7	0	294	187	20	1	0	1	0	1	220
17:00	222	30	1	0	1	9	0	290	180	19	1	0	1	0	0	188
17:17	208	30	1	0	2	3	0	244	198	11	1	0	1	2	0	183
17:30	180	28	1	0	2	0	0	221	179	13	1	0	1	2	2	187
17:47	182	27	0	0	2	1	3	213	174	12	0	0	1	4	3	174
18:00	170	22	0	0	2	1	3	188	138	13	0	0	1	4	4	191
18:17	177	17	2	0	2	1	3	180	122	17	0	0	1	2	7	147
18:30	140	14	2	0	2	1	3	192	89	13	0	0	1	2	3	117
18:47	120	12	2	0	2	0	0	139	89	10	0	0	1	0	3	100
18:00	108	8	2	0	2	0	0	121	81	10	0	0	1	1	2	87
18:17	82	8	0	0	1	0	0	102	77	7	0	1	1	2	1	87
18:30	88	8	0	0	1	0	1	88	98	7	0	1	1	3	1	78
18:47	74	7	0	0	1	0	1	81	97	9	0	1	1	4	0	78
20:00	77	4	0	0	1	0	1	93	74	4	0	1	1	3	0	93
20:17	48	3	0	0	1	1	1	77	44	4	0	0	1	2	0	71
20:30	41	0	0	0	1	2	0	44	47	3	0	0	1	1	0	72
20:47	41	0	0	0	1	2	0	44	47	2	0	0	1	0	0	48
21:00	71	0	0	0	1	2	0	74	48	3	0	0	1	0	0	73
21:17	48	0	0	0	1	1	0	71	77	2	0	0	1	0	0	78
21:30	77	1	0	0	2	0	0	90	71	2	0	0	1	0	0	74
21:47	97	1	0	0	2	0	0	98	44	3	0	0	1	0	0	48
22:00	79	1	0	0	2	1	0	90	37	2	0	0	1	0	0	38
22:17	73	2	0	0	2	1	0	78	30	3	0	2	1	0	0	39
22:30	40	2	0	0	1	1	0	44	28	3	0	2	1	0	1	37
22:47	41	2	0	0	1	1	1	49	27	2	0	2	1	0	1	33
23:00	47	3	0	0	1	0	1	70	24	2	0	2	1	0	1	30

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a~e
Junction Type: Crossroa s

	Arm D (Approach)								Arm D (Exit)							
Time	Car	L/2	1/23	1/24	Bus	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bus	-5C	Cycle	Total
00:00	10	0	0	0	0	0	0	10	18	1	1	0	0	0	0	21
00:17	10	2	0	0	0	0	0	12	8	3	0	1	1	0	0	14
00:30	3	0	0	0	0	0	0	3	8	1	0	1	1	0	0	11
00:47	7	1	0	0	0	1	0	8	7	1	0	2	0	0	0	10
01:00	4	1	0	0	0	0	0	7	10	0	0	1	0	1	0	12
01:17	7	0	0	1	0	0	0	9	9	0	0	0	0	0	0	9
01:30	3	1	0	0	0	0	0	4	7	1	1	0	0	0	0	7
01:47	2	2	0	0	0	0	0	4	2	1	0	0	0	0	0	3
02:00	8	1	0	0	0	0	0	8	9	1	0	0	0	0	0	7
02:17	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
02:30	1	1	0	3	0	0	0	7	9	0	0	0	0	0	0	9
02:47	9	1	0	2	0	0	0	8	7	1	0	0	0	0	0	9
03:00	4	0	0	0	0	0	0	4	8	2	0	0	0	0	0	11
03:17	11	0	0	1	0	1	0	13	4	1	1	0	0	0	0	9
03:30	19	0	0	0	1	0	0	17	4	1	1	0	0	0	0	9
03:47	13	2	0	0	0	0	0	17	9	1	0	0	0	0	0	7
04:00	14	2	0	2	0	0	0	18	7	0	0	0	0	0	0	7
04:17	14	1	0	0	0	1	0	19	10	0	1	1	1	0	0	13
04:30	22	1	0	0	1	2	0	29	7	1	1	2	0	0	0	11
04:47	17	7	0	0	1	1	0	24	9	1	2	1	0	0	0	10
07:00	23	3	1	2	0	3	0	32	8	7	2	0	0	0	0	18
07:17	20	4	0	1	0	1	1	27	14	4	1	0	1	1	0	21
07:30	42	3	1	1	1	1	0	48	18	1	1	0	0	0	0	21
07:47	42	8	0	3	1	1	0	79	17	7	2	0	0	3	0	27
09:00	77	11	0	3	1	2	0	74	19	8	3	0	0	0	1	28
09:17	80	17	1	7	1	4	3	121	28	14	1	1	1	0	1	49
09:30	110	17	1	0	3	7	2	138	38	11	2	2	0	7	0	78
09:47	190	28	2	4	1	7	1	201	47	22	4	4	0	0	0	77
07:00	197	28	3	1	1	9	2	209	70	12	1	1	1	1	0	99
07:17	174	30	1	1	1	7	1	217	98	29	4	2	1	1	0	102
07:30	178	27	2	0	2	7	1	217	82	23	2	2	3	2	1	127
07:47	184	31	1	0	2	9	3	227	104	18	0	4	2	4	0	133
08:00	183	38	2	2	2	7	7	240	107	24	1	7	1	1	1	140
08:17	200	27	7	1	9	7	2	249	82	24	0	2	1	0	0	118
08:30	142	18	4	2	2	2	1	172	89	29	0	0	1	0	0	123
08:47	88	17	2	0	2	3	3	127	78	23	3	3	2	2	0	111
08:00	130	18	3	1	0	2	1	179	104	19	1	0	2	1	1	127
08:17	108	27	0	1	1	1	0	138	83	8	2	1	2	0	0	87
08:30	134	24	4	9	2	1	0	171	78	17	2	0	1	1	0	87
08:47	88	17	4	1	1	0	1	113	72	12	4	2	1	0	0	81
10:00	88	19	2	1	3	1	1	112	79	18	7	4	1	1	3	108
10:17	89	17	7	1	2	0	0	118	112	20	1	2	1	1	0	137
10:30	88	12	0	1	3	0	0	107	89	24	9	2	2	0	0	130
10:47	103	18	4	4	1	0	1	132	82	20	9	2	0	0	0	120
11:00	87	19	9	1	1	0	0	108	114	11	4	2	1	2	1	137
11:17	100	17	3	0	0	1	1	122	87	22	2	3	3	2	1	130
11:30	100	27	4	1	2	1	0	133	87	21	7	0	1	0	0	112
11:47	83	19	3	1	2	1	1	117	88	20	2	2	1	1	0	127
12:00	107	14	3	0	1	0	1	129	117	22	2	1	1	1	0	142
12:17	87	18	2	2	0	1	0	118	113	21	7	3	2	2	0	149
12:30	110	17	7	2	4	0	0	139	127	17	4	2	1	1	0	148
12:47	102	14	3	2	1	1	0	123	80	27	1	0	1	2	0	121
13:00	87	27	1	3	1	0	1	120	110	27	1	1	1	2	0	142
13:17	100	14	2	2	2	3	0	123	107	20	7	3	1	2	0	139
13:30	81	19	2	2	2	0	3	109	84	28	1	0	2	4	0	128
13:47	88	13	3	2	1	1	1	118	89	13	2	7	1	0	0	117
14:00	84	33	1	2	1	3	0	134	88	17	3	2	3	1	0	127
14:17	108	27	3	0	1	1	1	141	108	24	1	3	3	3	0	142
14:30	108	14	3	1	2	2	0	131	118	18	3	1	1	2	0	147
14:47	81	17	4	0	2	3	0	117	117	21	3	0	1	3	0	147
17:00	107	12	4	4	1	1	1	130	131	22	3	2	1	0	0	178
17:17	114	30	2	0	1	0	1	148	142	27	2	0	2	1	0	172
17:30	87	21	1	0	3	2	0	124	137	27	0	1	4	1	0	199
17:47	138	19	1	2	0	2	0	178	191	37	2	1	3	2	0	204
19:00	128	24	3	1	3	1	0	190	209	27	2	1	4	7	0	247
19:17	101	27	2	1	2	1	0	134	179	37	1	0	1	3	0	219
19:30	140	24	2	1	3	2	0	172	187	38	1	0	1	4	0	240
19:47	107	17	0	0	0	1	1	124	187	29	1	1	2	3	2	222
17:00	108	17	0	0	2	3	1	132	219	39	2	1	1	9	1	293
17:17	108	12	0	3	1	1	0	129	187	29	0	0	3	10	2	238
17:30	123	13	2	1	3	3	0	147	210	21	0	0	1	11	1	244
17:47	111	9	0	1	1	2	0	121	224	22	1	1	2	7	9	291
18:00	111	8	1	0	0	2	0	122	183	14	0	2	0	4	0	213
18:17	131	4	1	0	1	1	3	141	193	13	0	1	3	7	0	187
18:30	83	7	1	4	2	1	0	89	197	14	1	0	1	4	3	180
18:47	81	8	0	2	1	1	2	89	177	8	0	0	1	2	0	199
18:00	90	8	0	1	0	1	0	70	123	10	2	1	1	3	1	141
18:17	91	2	0	1	1	0	1	99	87	7	0	0	1	2	1	89
18:30	47	2	0	1	1	1	1	73	84	8	0	1	2	1	3	110
18:47	91	8	0	0	1	2	1	74	80	4	0	2	0	2	0	88
20:00	43	7	0	1	0	1	1	71	90	4	0	0	3	0	0	97
20:17	38	1	0	1	0	1	0	41	74	3	0	0	2	0	1	80
20:30	28	2	0	0	1	1	0	33	49	7	3	1	1	0	0	79
20:47	33	3	1	0	1	2	0	40	91	9	0	0	1	1	0	98
21:00	34	1	0	0	0	0	0	37	49	9	0	1	1	0	1	77
21:17	27	2	0	1	0	2	0	32	48	7	1	0	1	2	0	77
21:30	48	7	0	1	1	0	0	79	70	4	0	0	1	1	1	77
21:47	30	3	0	0	0	2	0	37	71	2	0	1	0	0	0	74
22:00	74	2	0	0	1	2	0	78	93	3	0	0	0	2	0	98
22:17	28	3	0	1	0	0	0	33	99	3	0	1	1	0	0	71
22:30	32	0	0	0	1	2	0	37	44	0	1	0	0	1	0	49
22:47	19	2	1	0	1	0	0	20	22	2	0	0	0	0	0	24
23:00	10	4	0	1	0	1	0	19	31	1	1	2	0	0	0	37
23:17	14	0	0	0	0	0	0	14	29	2	0	1	1	0	0	30
23:30	8	2	0	0	1	0	0	12	39	1	1	1	0	0	0	38
23:47	7	2	0	0	0	0	0	8	18	3	1	0	0	0	0	22

Start Time	Rolling Hour							Total	Rolling Hour							Total
00:00	30	3	0	0	0	1	0	34	43	9	1	4	2	0	0	79
00:17	24	4	0	0	0	1	0	28	34	7	0	7	2	1	0	47
00:30	18	2	0	1	0	1	0	23	31	2	0	4	1	1	0	38
00:47	18	3	0	1	0	1	0	24	28	2	1	3	0	1	0	37
01:00	14	4	0	1	0	0	0	18	23	2	1	1	0	1	0	28
01:17	18	4	0	1	0	0	0	23	18	3	1	0	0	0	0	23
01:30	19	4	0	0	0	0	0	20	19	3	1	0	0	0	0	20
01:47	14	4	0	3	0	0	0	21	17	2	0	0	0	0	0	18
02:00	18	3	0	7	0	0	0	29	20	2	0	0	0	0	0	22
02:17	14	2	0	7	0	0	0	21	23	3	0	0	0	0	0	29
02:30	22	2	0	9	0	1	0	31	24	4	1	0	0	0	0	28
02:47	37	1	0	3	1	1	0	43	22	7	2	0	0	0	0	28
03:00	44	2	0	1	1	1	0	48	23	7	2	0	0	0	0	30
03:17	74	4	0	3	1	1	0	93	18	3	2	0	0	0	0	24
03:30	77	7	0	2	1	1	0	99	27	2	2	1	1	0	0	31
03:47	93	9	0	2	1	3	0	77	28	2	2	3	1	0	0	39
04:00	97	8	0	2	2	4	0	84	28	2	4	4	1	0	0	38
04:17	79	10	1	2	2	7	0	88	32	8	9	4	1	0	0	72
04:30	82	13	1	3	2	7	1	108	39	13	9	3	1	1	0	90
04:47	102	17	2	4	2	9	1	132	48	13	9	1	1	1	0	70
07:00	127	18	2	7	2	9	1	194	78	17	9	0	1	4	0	87
07:17	191	27	1	8	3	7	1	209	99	18	7	0	1	4	1	88
07:30	231	40	2	12	4	8	3	300	80	28	7	1	1	3	2	123
07:47	288	72	2	11	9	14	7	388	88	38	8	3	1	8	2	190
09:00	417	71	4	12	9	18	9	734	127	79	10	7	1	7	2	208
09:17	727	88	7	10	9	22	8	999	191	78	8	8	2	9	1	247
09:30	908	101	7	9	9	27	9	790	201	71	11	8	2	7	0	301
09:47	977	113	8	9	7	27	7	838	277	83	11	8	7	4	1	398
07:00	701	119	7	2	9	29	7	897	314	80	7	8	7	8	1	429
07:17	718	127	9	3	7	27	10	888	371	82	7	13	7	8	2	700
07:30	747	124	10	3	12	27	11	830	387	80	3	13	7	7	2	717
07:47	708	119	12	7	12	20	11	887	388	83	1	11	7	7	1	717
08:00	923	102	13	7	12	17	11	783	373	87	4	10	7	3	1	483
08:17	770	82	14	4	10	12	7	988	370	88	4	7	9	3	1	478
08:30	478	82	8	4	7	8	7	782	391	74	9	4	7	3	1	479
08:47	471	87	8	8	7	7	4	781	343	93	8	4	7	4	1	430
08:00	492	87	11	8	4	4	2	778	337	72	8	3	9	2	1	410
08:17	420	84	10	8	7	3	2	737	308	74	13	7	7	2	3	383
08:30	407	72	17	8	8	2	2	717	338	97	12	8	4	3	3	433
08:47	392	90	11	4	8	1	2	448	379	74	19	10	7	2	3	499
10:00	379	92	11	7	8	1	2	498	379	82	18	10	4	2	3	487
10:17	373	92	17	7	7	0	1	497	414	77	17	8	4	3	1	722
10:30	377	94	13	9	7	1	2	498	388	77	18	8	9	4	2	717
10:47	388	77	17	9	4	2	2	489	388	74	17	7	7	4	2	487
11:00	378	74	19	3	7	3	2	481	387	74	13	7	9	7	2	702
11:17	400	72	13	2	7	3	3	488	389	87	11	9	9	4	1	708
11:30	387	73	12	4	7	3	2	484	412	84	14	9	7	4	0	727
11:47	407	93	13	7	7	2	2	487	472	78	13	8	7	7	0	791
12:00	414	91	13	9	9	2	1	703	443	87	12	9	7	9	0	777
12:17	384	74	11	8	9	2	1	487	438	80	11	9	7	7	0	777
12:30	388	70	11	8	8	4	1	702	430	88	11	9	4	7	0	747
12:47	370	71	8	8	9	4	4	472	388	102	8	4	7	10	0	728
13:00	399	70	8	8	9	4	7	498	407	88	8	8	7	8	0	724
13:17	373	79	8	8	9	7	4	482	384	78	11	10	7	7	0	707
13:30	381	88	8	9	7	7	7	700	387	82	7	10	8	8	0	713
13:47	408	87	10	7	7	7	2	727	422	73	8	11	8	9	0	728
14:00	402	88	11	3	9	8	1	721	443	81	10	9	8	8	0	777
14:17	417	98	14	7	9	7	2	717	477	89	10	9	9	8	0	781
14:30	421	71	13	7	9	9	2	724	708	87	11	3	7	9	0	921
14:47	408	78	11	4	7	9	2	717	727	83	8	3	8	7	0	942
17:00	479	78	8	9	7	7	2	791	798	107	7	4	10	4	0	701
17:17	477	81	7	3	7	7	1	781	944	112	9	3	13	8	0	787
17:30	494	88	7	4	8	9	0	777	978	122	7	3	12	11	0	831
17:47	707	81	8	7	8	9	0	927	738	139	9	2	8	14	0	807
19:00	474	82	7	3	8	7	1	780	794	127	7	2	8	17	2	823
19:17	477	87	4	2	7	7	2	792	774	139	7	2	7	19	3	841
19:30	493	70	2	4	9	7	2	774	787	127	4	2	7	23	7	893
19:47	449	78	2	4	9	8	2	727	810	108	3	2	7	30	9	897
17:00	472	48	2	7	7	8	1	724	847	107	3	2	7	32	10	1009
17:17	474	38	3	7	7	8	0	714	824	83	1	3	9	30	8	879
17:30	479	31	4	2	7	8	3	728	780	70	1	4	9	27	7	803
17:47	439	23	3	7	4	9	3	480	747	93	2	4	9	18	8	848
18:00	409	29	3	9	4	7	7	477	978	48	1	3	7	17	3	774
18:17	377	29	2	7	4	4	7	403	908	47	3	2	9	14	4	982
18:30	287	24	1	8	4	3	3	328	732	37	3	1	4	11	7	783
18:47	248	21	0	7	3	3	4	287	478	32	2	2	7	8	7	713
18:00	228	21	0	3	3	4	3	293	384	28	2	4	4	8	7	437
18:17	212	18	0	3	3	4	4	244	321	22	0	3	9	7	4	391
18:30	188	17	0	3	2	7	3	218	308	20	0	3	7	3	4	347
18:47	171	17	0	2	2	7	2	188	290	19	3	3	9	2	1	281
20:00	143	11	1	2	2	7	1	197	241	18	3	1	7	1	1	272
20:17	134	7	1	1	2	4	0	148	227	20	3	2	7	1	2	290
20:30	123	8	1	1	2	7	0	140	201	22	4	2	4	3	1	237
20:47	143	11	1	2	2	4	0	193	207	21	1	1	4	4	2	238
21:00	140	11	0	2	1	4	0	178	187	17	1	2	3	3	2	223
21:17	190	12	0	2	2	9	0	182	212	14	1	1	2	7	1	239
21:30	192	13	0	2	2	4	0	183	230	12	0	2	2	3	1	270
21:47	147	8	0	1	2	9	0	192	224	8	1	2	1	3	0	238
22:00	131	7	1	1	3	4	0	147	187	8	1	1	1	3	0	208
22:17	87	8	1	2	2	3	0	104	193	9	2	3	1	1	0	179
22:30	72	9	1	1	2	3	0	87	123	7	2	3	1	1	0	137
22:47	48	8	1	1	2	1	0	92	117	9	2	4	1	0	0	128
23:00	40	8	0	1	1	1	0	71	111	7	3	4	1	0	0	129

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Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018
Project Number:	ID04020	Junction Name:	A370 / Brockley Combe Roa / Brockley !a"e
Junction Number:	Site 2	Junction Type:	Crossroa s

	Total Junction (lo"							
Time	Car	L / 2	1 / 2 3	1 / 2 4	Bu e	- 5C	Cycle	Total
00:00	32	2	1	1	0	0	0	39
00:17	18	7	0	1	1	0	0	29
00:30	13	1	0	1	1	0	0	19
00:47	17	2	0	2	0	1	0	20
01:00	19	1	0	1	0	1	0	18
01:17	11	0	0	1	0	0	0	12
01:30	8	2	1	0	0	0	0	12
01:47	8	3	0	0	0	0	0	11
02:00	18	2	0	0	0	0	0	20
02:17	12	0	0	0	0	0	0	12
02:30	8	2	0	3	0	0	0	13
02:47	12	2	0	2	0	0	0	19
03:00	17	2	0	0	0	0	0	18
03:17	17	1	1	1	0	1	0	21
03:30	23	1	1	0	1	0	0	29
03:47	22	3	0	0	0	0	0	27
04:00	22	2	0	2	0	0	0	29
04:17	24	2	1	1	1	1	1	31
04:30	37	3	1	2	1	2	0	49
04:47	29	8	2	1	1	1	0	38
07:00	37	11	3	2	0	3	0	74
07:17	47	8	2	1	1	2	1	90
07:30	98	4	3	1	1	1	0	78
07:47	97	17	3	4	1	4	0	82
09:00	82	21	3	3	1	2	1	113
09:17	133	33	2	9	2	4	7	187
09:30	192	28	3	2	3	12	4	214
09:47	218	74	7	8	2	7	2	287
07:00	237	42	4	2	2	7	2	289
07:17	277	93	7	7	3	8	1	392
07:30	287	78	7	3	7	10	2	383
07:47	321	91	3	8	7	10	3	411
08:00	321	73	9	11	3	8	7	428
08:17	334	78	8	4	7	7	2	418
08:30	271	48	7	3	3	2	3	339
08:47	219	47	9	7	4	7	4	288
08:00	278	42	7	2	2	3	2	317
08:17	212	47	2	2	3	1	1	299
08:30	244	72	8	9	3	2	0	319
08:47	201	34	8	3	2	0	7	273
10:00	181	42	10	7	4	2	8	293
10:17	223	44	7	3	3	1	0	281
10:30	214	44	10	3	7	1	0	277
10:47	228	42	11	9	1	0	1	288
11:00	233	38	14	4	2	2	1	287
11:17	211	43	7	4	3	3	2	271
11:30	207	72	11	2	3	1	3	278
11:47	214	38	7	3	3	2	2	297
12:00	237	38	9	1	2	1	1	287
12:17	227	42	8	7	2	3	4	280
12:30	291	38	10	4	7	1	0	318
12:47	219	47	9	3	2	3	3	280
13:00	228	78	2	9	2	2	2	302
13:17	232	38	8	7	3	7	0	282
13:30	187	70	7	2	4	4	7	297
13:47	218	28	7	8	2	1	1	294
14:00	221	71	8	7	4	4	0	287
14:17	248	74	7	4	4	4	1	321
14:30	297	40	8	3	4	4	1	327
14:47	234	41	8	1	3	9	0	283
17:00	298	38	10	9	2	1	1	327
17:17	283	93	7	0	3	1	1	379
17:30	273	77	2	1	7	3	0	341
17:47	331	77	4	3	3	7	0	407
19:00	378	91	9	2	7	9	1	491
19:17	313	98	3	1	4	4	1	384
19:30	371	74	4	1	4	9	1	491
19:47	329	70	1	1	2	7	9	381
17:00	399	78	2	1	3	8	2	441
17:17	332	40	0	3	4	11	2	382
17:30	398	42	3	1	4	14	1	433
17:47	393	32	1	2	3	7	9	414
18:00	347	29	1	2	1	7	0	382
18:17	324	22	2	1	4	9	7	394
18:30	274	22	2	4	3	7	7	318
18:47	278	22	0	2	2	3	2	288
18:00	207	20	3	2	2	4	2	238
18:17	193	8	0	1	2	2	2	178
18:30	178	12	0	2	3	2	4	182
18:47	173	14	0	2	1	4	1	177
20:00	111	8	0	2	3	2	1	128
20:17	124	8	0	1	2	1	2	138
20:30	81	7	3	1	2	1	0	87
20:47	87	8	1	0	2	3	0	112
21:00	84	8	0	1	1	1	1	89
21:17	80	7	1	1	1	7	0	87
21:30	107	8	0	1	2	1	1	121
21:47	88	7	0	1	0	2	0	109
22:00	131	7	0	0	1	4	0	141
22:17	103	9	0	2	2	0	0	113
22:30	80	1	1	0	1	3	0	89
22:47	44	4	1	0	1	1	0	71
23:00	47	9	1	7	0	1	0	90
23:17	44	3	0	1	1	0	1	70
23:30	71	3	1	1	1	0	1	78
23:47	28	7	1	0	0	0	0	34

Start Time	&olling 6our							Total
00:00	78	10	1	7	2	1	0	88
00:17	93	8	0	7	2	2	0	81
00:30	77	4	0	7	1	2	0	97
00:47	71	7	1	4	0	2	0	93
01:00	44	9	1	2	0	1	0	74
01:17	49	7	1	1	0	0	0	77
01:30	47	7	1	0	0	0	0	77
01:47	49	7	0	3	0	0	0	79
02:00	70	9	0	7	0	0	0	91
02:17	48	9	0	7	0	0	0	90
02:30	74	7	1	9	0	1	0	98
02:47	98	9	2	3	1	1	0	82
03:00	78	7	2	1	1	1	0	81
03:17	84	7	2	3	1	1	0	88
03:30	81	8	2	3	2	1	1	108
03:47	107	10	2	7	2	3	1	128
04:00	108	17	4	9	3	4	1	142
04:17	122	24	7	9	3	7	1	170
04:30	143	30	8	9	3	8	1	188
04:47	177	31	10	7	3	7	1	232
07:00	214	38	11	8	3	10	1	287
07:17	291	48	11	8	4	8	2	344
07:30	348	73	11	14	7	11	9	498
07:47	442	87	11	17	7	22	10	904
09:00	789	139	17	18	8	23	12	808
09:17	771	177	19	18	8	28	13	882
09:30	887	187	18	17	10	32	8	1198
09:47	1030	218	23	18	12	30	7	1338
07:00	1132	227	18	18	17	37	8	1472
07:17	1219	279	21	27	19	39	13	1787
07:30	1273	271	24	29	20	33	14	1941
07:47	1247	241	22	29	18	27	17	1784
08:00	1142	227	27	27	17	20	19	1472
08:17	1080	189	24	19	19	17	11	1378
08:30	878	183	18	14	12	11	10	1209
08:47	831	189	22	17	12	11	7	1189
08:00	819	173	24	13	10	9	8	1170
08:17	848	173	28	19	12	7	17	1088
08:30	878	172	34	17	12	7	14	1113
08:47	828	194	37	14	14	4	14	1074
10:00	879	172	38	17	13	4	10	1110
10:17	888	198	42	19	11	4	2	1142
10:30	889	198	40	17	11	9	4	1132
10:47	878	179	41	19	8	9	7	1134
11:00	897	172	37	13	11	8	8	1112
11:17	898	172	27	10	11	7	8	1104
11:30	883	171	31	11	10	7	10	1123
11:47	837	177	30	13	12	7	7	1193
12:00	838	199	31	13	11	8	8	1179
12:17	831	189	27	18	11	8	8	1181
12:30	838	182	27	18	12	11	7	1183
12:47	874	184	22	19	11	14	10	1141
13:00	879	179	21	21	11	12	8	1127
13:17	898	198	27	22	13	14	9	1118
13:30	887	184	23	21	14	13	7	1147
13:47	877	174	29	22	14	13	3	1207
14:00	871	189	28	17	17	18	2	1239
14:17	1018	173	31	14	13	17	3	1298
14:30	1073	182	31	10	12	12	3	1303
14:47	1078	187	27	8	17	11	2	1317
17:00	1179	213	21	10	17	12	2	1428
17:17	1297	239	17	9	20	17	2	1793
17:30	1287	241	17	7	21	20	2	1901
17:47	1383	290	17	7	18	23	3	1721
19:00	1388	273	14	7	17	21	8	1707
19:17	1379	270	10	4	13	24	10	1987
19:30	1387	222	7	9	13	31	11	1987
19:47	1382	180	9	9	13	38	11	1977
17:00	1428	172	9	7	14	41	11	1980
17:17	1408	140	7	8	12	38	8	1921
17:30	1400	122	7	9	12	34	12	1783
17:47	1309	102	9	8	11	27	18	1478
18:00	1201	82	7	8	10	23	14	1374
18:17	1091	89	7	8	11	20	19	1210
18:30	800	72	7	8	8	19	13	1024
18:47	787	92	3	7	8	11	10	887
18:00	980	74	3	7	8	12	8	773
18:17	789	43	0	7	8	10	8	993
18:30	747	43	0	7	8	8	8	923
18:47	498	38	3	9	8	8	4	739
20:00	413	33	4	4	8	7	3	473
20:17	389	32	4	3	7	9	3	441
20:30	342	31	7	3	9	10	1	388
20:47	398	33	2	3	9	10	2	424
21:00	398	28	1	4	4	8	2	418
21:17	419	29	1	3	4	12	1	493
21:30	438	27	0	4	7	7	1	481
21:47	412	17	1	3	4	8	0	449
22:00	378	19	2	2	7	8	0	381
22:17	274	17	3	7	4	7	0	310
22:30	217	14	3	9	3	7	1	247
22:47	189	19	3	7	3	2	2	218
23:00	170	17	3	7	2	1	2	202

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 2

Date of Survey: 10.07.2018
Junction Name: A370 / Brockley Combe Roa / Brockley !a"e
Junction Type: Crossroa s

intelligent

!rm !: Brockley !a"e ;/= !rm B: A370 ;3= !rm C: Brockley Combe Roa ;S= !rm D: A370 ;<=

PC9 Summary

Time	! to !	! to D	! to C	! to B	B to B	B to !	B to D	B to C	C to C	C to B	C to !	C to D	D to D	D to C	D to B	D to !
00:00	0	1	1	0	0	1	19	2	0	0	3	7	0	2	8	0
00:17	0	1	0	0	0	0	11	0	0	0	0	9	0	3	8	0
00:30	0	0	0	0	0	0	10	2	0	0	0	4	0	2	1	0
00:47	0	0	0	0	0	0	10	0	0	1	0	4	0	4	4	0
01:00	0	0	0	0	0	0	4	1	0	1	0	8	0	1	4	0
01:17	0	0	0	0	0	0	7	0	0	0	0	1	0	2	9	0
01:30	0	0	0	0	0	0	7	0	0	0	1	3	0	1	3	0
01:47	0	0	0	0	0	0	2	1	0	2	1	1	0	3	1	0
02:00	0	0	2	0	0	0	4	0	0	0	2	3	0	3	9	0
02:17	0	0	0	0	0	0	2	4	0	1	1	1	0	3	0	0
02:30	0	0	1	0	0	0	2	0	0	1	0	4	0	1	10	0
02:47	0	0	0	0	0	0	2	0	0	1	0	4	0	7	8	0
03:00	0	0	0	0	0	0	7	4	0	0	0	4	0	3	1	0
03:17	0	0	1	0	0	0	4	1	0	0	0	3	0	11	3	0
03:30	0	0	1	0	0	0	7	2	0	0	0	2	0	14	7	0
03:47	0	0	1	0	0	0	2	1	0	1	0	7	0	11	4	0
04:00	0	0	0	0	0	0	1	1	0	1	1	4	0	8	13	0
04:17	0	1	0	0	0	0	7	0	0	1	0	10	0	10	7	0
04:30	0	0	3	0	0	0	12	3	0	2	1	4	0	19	10	1
04:47	0	0	1	0	0	0	10	3	0	0	1	4	0	13	11	1
07:00	0	0	1	0	0	0	14	2	0	0	1	9	0	17	20	0
07:17	0	1	3	3	0	1	8	9	0	0	0	13	0	8	17	1
07:30	0	1	2	0	0	0	17	3	0	7	0	9	0	20	33	0
07:47	0	1	1	1	0	0	18	8	0	0	2	8	0	14	48	1
09:00	0	3	9	0	0	0	24	3	0	1	0	4	0	19	94	0
09:17	0	1	7	1	0	0	34	7	0	4	2	17	0	27	101	0
09:30	0	2	7	2	0	1	47	3	0	2	3	12	0	38	88	1
09:47	0	7	1	1	0	0	91	10	0	7	3	20	0	47	192	1
07:00	0	1	9	2	0	0	47	9	0	7	3	24	0	43	193	1
07:17	0	3	10	1	0	2	80	24	0	7	9	28	0	78	173	2
07:30	0	7	8	2	0	4	88	18	0	9	7	28	0	91	148	8
07:47	0	4	8	7	0	1	87	18	0	21	9	42	0	98	147	8
08:00	0	7	10	2	0	3	103	22	0	11	11	43	0	77	177	8
08:17	0	8	8	1	0	0	74	18	0	17	13	42	0	78	171	9
08:30	0	17	8	2	0	0	77	17	0	11	4	33	0	77	112	13
08:47	0	7	8	1	0	1	84	22	0	20	8	32	0	42	78	7
08:00	0	7	7	2	0	0	83	7	0	12	8	28	0	29	127	8
08:17	0	7	9	2	0	1	77	8	0	7	7	23	0	31	109	7
08:30	0	8	3	7	0	4	70	21	0	13	3	22	0	40	144	7
08:47	0	3	7	1	0	3	81	17	0	14	7	19	0	32	87	2
10:00	0	4	7	2	0	1	103	18	0	12	1	11	0	21	81	7
10:17	0	9	9	0	0	1	114	9	0	8	4	23	0	27	102	2
10:30	0	9	3	3	0	3	107	20	0	10	9	28	0	21	89	7
10:47	0	9	2	1	0	3	102	18	0	10	4	21	0	24	112	8
11:00	0	8	8	9	0	1	109	27	0	8	9	27	0	30	82	9
11:17	0	9	7	1	0	1	114	9	0	9	0	20	0	27	88	8
11:30	0	8	3	4	0	0	89	17	0	8	3	13	0	33	104	4
11:47	0	3	3	2	0	2	101	8	0	7	4	28	0	17	103	7
12:00	0	4	0	1	0	0	108	8	0	11	0	37	0	30	82	7
12:17	0	9	1	0	0	2	113	9	0	7	8	38	0	24	87	4
12:30	0	8	7	3	0	0	127	13	0	7	9	23	0	38	109	7
12:47	0	2	8	0	0	1	82	12	0	12	4	28	0	29	88	9
13:00	0	8	13	1	0	3	103	8	0	14	4	34	0	23	87	7
13:17	0	7	7	0	0	2	111	19	0	8	3	31	0	27	103	2
13:30	0	3	7	1	0	1	104	12	0	8	4	23	0	30	78	3
13:47	0	8	7	1	0	0	83	17	0	4	7	28	0	33	88	4
14:00	0	3	1	0	0	3	101	23	0	14	7	31	0	40	89	3
14:17	0	9	7	0	0	0	127	12	0	21	3	18	0	30	107	7
14:30	0	7	3	1	0	4	118	17	0	27	7	27	0	40	80	7
14:47	0	7	13	2	0	0	117	7	0	12	4	27	0	28	88	3
17:00	0	8	9	7	0	1	128	17	0	8	3	30	0	23	117	3
17:17	0	9	9	2	0	1	131	13	0	11	4	40	0	41	100	8
17:30	0	7	7	0	0	2	130	14	0	17	12	39	0	34	87	10
17:47	0	7	3	2	0	0	174	17	0	13	8	72	0	70	80	3
19:00	0	10	8	3	0	4	210	13	0	19	11	32	0	47	119	8
19:17	0	8	11	2	0	3	178	8	0	10	10	71	0	37	89	8
19:30	0	8	13	1	0	2	172	8	0	17	8	90	0	74	120	7
19:47	0	9	8	0	0	2	179	14	0	10	9	42	0	44	72	9
17:00	0	12	8	0	0	1	204	11	0	19	10	47	0	38	89	7
17:17	0	17	7	1	0	0	198	7	0	10	7	71	0	28	87	7
17:30	0	7	8	1	0	3	181	10	0	12	11	40	0	38	107	7
17:47	0	7	9	0	0	0	211	11	0	8	9	40	0	28	87	8
18:00	0	3	8	3	0	2	179	8	0	13	13	37	0	24	84	3
18:17	0	3	7	1	0	9	179	9	0	11	9	30	0	39	89	8
18:30	0	2	4	0	0	2	173	4	0	8	8	32	0	29	78	3
18:47	0	8	1	1	0	1	128	13	0	7	4	28	0	18	78	3
18:00	0	2	4	1	0	2	112	7	0	7	7	30	0	17	70	4
18:17	0	4	1	2	0	2	72	2	0	9	3	20	0	19	71	1
18:30	0	7	1	2	0	0	89	8	0	9	2	20	0	11	41	3
18:47	0	7	0	0	0	1	98	7	0	4	3	18	0	22	48	2
20:00	0	3	1	0	0	1	70	9	0	2	1	18	0	13	33	7
20:17	0	1	1	0	0	2	99	4	0	3	9	19	0	7	33	2
20:30	0	1	3	0	0	0	73	1	0	2	0	8	0	19	17	3
20:47	0	1	0	0	0	0	94	1	0	1	1	7	0	11	30	0
21:00	0	0	0	0	0	0	48	1	0	3	1	8	0	9	27	2
21:17	0	0	2	0	0	0	47	2	0	0	1	13	0	10	22	1
21:30	0	2	0	0	0	0	48	4	0	2	2	9	0	13	43	4
21:47	0	3	3	0	0	0	43	7	0	4	3	10	0	7	29	1
22:00	0	0	2	1	0	2	92	3	0	3	3	7	0	7	48	3
22:17	0	2	2	0	0	0	77	1	0	7	3	18	0	7	28	0
22:30	0	1	0	0	0	0	30	2	0	2	1	17	0	8	27	2
22:47	0	0	0	0	0	1	18	2	0	3	0	7	0	7	17	0
23:00	0	1	1	0	0	0	34	8	0	3	1	7	0	7	12	0
23:17	0	0	0	0	0	0	27	2	0	2	1	7	0	9	7	1
23:30	0	2	1	0	0	1	23	2	0	1	1	17	0	9	8	0
23:47	0	0	0	0	0	0	13	0	0	2	1	10	0	4	7	0

Start Time	&olling 6our															
00:00	0	2	1	0	0	1	47	4	0	1	3	18	0	11	22	0
00:17	0	1	0	0	0	0	37	3	0	2	0	23	0	10	18	0
00:30	0	0	0	0	0	0	28	3	0	2	0	18	0	8	17	0
00:47	0	0	0	0	0	0	24	1	0	2	1	17	0	8	17	0
01:00	0	0	0	0	0	0	19	2	0	3	2	14	0	7	14	0
01:17	0	0	2	0	0	0	19	1	0	2	4	8	0	8	19	0
01:30	0	0	2	0	0	0	13	7	0	3	7	8	0	10	10	0
01:47	0	0	3	0	0	0	10	7	0	4	4	8	0	10	17	0
02:00	0	0	3	0	0	0	10	4	0	3	3	12	0	12	24	0
02:17	0	0	1	0	0	0	13	8	0	3	1	13	0	12	18	0
02:30	0	0	2	0	0	0	17	7	0	2	0	17	0	20	22	0
02:47	0	0	2	0	0	0	18	7	0	1	0	13	0	33	17	0
03:00	0	0	3	0	0	0	18	8	0	1	0	14	0	38	13	0
03:17	0	0	3	0	0	0	12	7	0	2	1	14	0	47	27	0
03:30	0	1	2	0	0	0	17	4	0	3	1	21	0	44	27	0
03:47	0	1	4	0	0	0	22	7	0	7	2	23	0	49	32	1
04:00	0	1	4	0	0	0	28	7	0	4	3	22	0	48	38	2
04:17	0	1	7	0	0	0	42	8	0	3	3	24	0	74	49	2
04:30	0	1	8	3	0	1	47	14	0	2	3	27	0	73	77	3
04:47	0	2	7	3	0	1	48	14	0	7	2	28	0	77	81	2
07:00	0	3	7	4	0	1	79	18	0	7	3	33	0	78	118	2
07:17	0	9	12	4	0	1	99	20	0	9	2	31	0	78	191	2
07:30	0	9	14	2	0	0	80	18	0	10	4	33	0	77	247	1
07:47	0	7	17	4	0	1	122	18	0	7	7	38	0	87	310	2
09:00	0	11	17	4	0	1	197	21	0	14	8	71	0	129	424	2
09:17	0	8	17	9	0	1	189	24	0	20	11	71	0	173	724	3
09:30	0	11	22	9	0	3	232	44	0	23	17	84	0	187	779	7
09:47	0	14	27	9	0	9	287	78	0	27	18	101	0	207	927	12
07:00	0	13	33	12	0	7	318	99	0	41	22	123	0	232	910	18
07:17	0	17	37	12	0	10	379	82	0	44	30	142	0	249	922	29
07:30	0	23	39	12	0	8	370	79	0	74	37	177	0	299	941	30
07:47	0	33	39	12	0	4	348	77	0	78	34	190	0	291	907	37
08:00	0	34	39	9	0	4	337	78	0	78	39	148	0	233	739	32
08:17	0	34	33	9	0	1	328	94	0	78	34	139	0	202	489	32
08:30	0	30	30	7	0	2	328	74	0	48	29	117	0	174	420	31
08:47	0	23	27	12	0	9	323	78	0	71	27	109	0	138	472	23
08:00	0	21	21	12	0	8	318	73	0	49	22	80	0	128	478	20
08:17	0	20	21	12	0	8	328	94	0	49	14	73	0	124	427	18
08:30	0	21	21	10	0	8	397	92	0	48	13	72	0	117	421	19
08:47	0	18	21	9	0	8	407	91	0	47	19	78	0	88	393	19
10:00	0	22	18	9	0	8	429	92	0	41	17	84	0	80	380	22
10:17	0	27	20	10	0	8	428	71	0	37	20	100	0	88	381	21
10:30	0	27	21	11	0	8	430	71	0	34	19	87	0	101	398	27
10:47	0	30	21	12	0	7	418	98	0	32	13	81	0	113	387	29
11:00	0	27	22	13	0	4	417	78	0	27	13	88	0	104	378	23
11:17	0	22	13	8	0	3	418	38	0	30	7	89	0	107	388	24
11:30	0	22	7	7	0	4	417	38	0	31	17	117	0	101	387	20
11:47	0	21	11	9	0	4	449	37	0	30	18	127	0	108	389	21
12:00	0	20	19	4	0	3	438	38	0	37	18	127	0	118	382	22
12:17	0	24	28	4	0	9	433	38	0	40	22	124	0	112	387	22
12:30	0	23	33	4	0	9	432	48	0	42	17	119	0	113	407	20
12:47	0	18	31	2	0	7	410	48	0	44	17	119	0	103	378	18
13:00	0	27	28	3	0	9	411	71	0	39	19	119	0	110	398	19
13:17	0	20	19	2	0	9	408	97	0	39	17	113	0	127	399	12
13:30	0	21	19	2	0	4	427	92	0	48	17	101	0	132	370	17
13:47	0	27	14	2	0	7	438	97	0	94	20	102	0	143	381	21
14:00	0	21	22	3	0	7	491	77	0	71	18	102	0	138	380	20
14:17	0	29	27	8	0	7	488	48	0	97	17	100	0	122	400	20
14:30	0	29	28	10	0	9	483	70	0	77	18	122	0	133	383	22
14:47	0	29	32	8	0	4	707	48	0	48	23	133	0	127	388	27
17:00	0	29	22	8	0	4	744	78	0	70	27	178	0	197	380	27
17:17	0	28	27	7	0	7	927	77	0	77	37	190	0	188	380	30
17:30	0	30	30	7	0	8	972	70	0	79	41	171	0	184	389	30
17:47	0	31	39	8	0	8	984	47	0	74	38	187	0	204	421	27
19:00	0	32	42	9	0	11	719	44	0	71	39	184	0	178	404	28
19:17	0	34	41	3	0	8	710	42	0	71	37	200	0	172	374	27
19:30	0	41	37	2	0	7	721	38	0	71	32	200	0	199	377	27
19:47	0	40	30	2	0	9	740	40	0	48	34	180	0	171	390	27
17:00	0	41	27	2	0	4	777	37	0	47	34	178	0	139	373	30
17:17	0	32	27	7	0	7	747	37	0	43	37	199	0	122	381	29
17:30	0	20	28	7	0	11	734	39	0	44	39	147	0	128	380	27
17:47	0	17	27	4	0	10	989	30	0	42	34	137	0	117	374	23
18:00	0	19	20	7	0	11	914	32	0	40	32	129	0	104	349	17
18:17	0	17	19	3	0	11	748	30	0	34	29	121	0	87	302	18
18:30	0	19	10	4	0	7	497	29	0	28	23	111	0	77	278	11
18:47	0	18	7	9	0	7	388	30	0	29	19	88	0	92	221	11
18:00	0	19	9	7	0	7	337	22	0	23	17	87	0	99	182	10
18:17	0	17	3	4	0	4	277	21	0	18	8	77	0	92	177	11
18:30	0	14	3	2	0	4	298	23	0	17	12	73	0	73	179	12
18:47	0	10	7	0	0	4	239	19	0	11	10	91	0	78	130	12
20:00	0	9	7	0	0	3	232	12	0	8	8	48	0	47	111	10
20:17	0	3	4	0	0	2	231	7	0	8	8	38	0	40	107	7
20:30	0	2	7	0	0	0	211	7	0	9	3	37	0	43	84	9
20:47	0	3	2	0	0	0	207	8	0	9	7	33	0	40	122	7
21:00	0	7	7	0	0	0	189	14	0	8	7	38	0	39	117	8
21:17	0	7	7	1	0	2	188	19	0	8	8	34	0	37	140	8
21:30	0	7	7	1	0	2	208	17	0	14	11	38	0	34	149	8
21:47	0	9	7	1	0	2	180	13	0	14	10	48	0	30	128	9
22:00	0	3	4	1	0	3	199	8	0	13	7	43	0	28	118	7
22:17	0	4	3	0	0	1	138	13	0	13	7	43	0	29	82	2
22:30	0	2	1	0	0	1	110	14	0	10	3	32	0	27	92	3
22:47	0	3	2	0	0	2	102	14	0	8	3	34	0	22	47	1
23:00	0	3	2	0	0	1	89	12	0	8	4	38	0	21	32	1

id
data

" " "#intelligent$data$collection#com

Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018		
Project Number:	ID04020	Junction Name:	A370 / Brockley Combe Roa / Brockley !a"e		
Junction Number:	Site 2	Junction Type:	Crossroa s		

!rm !: Brockley !a"e ;/=
!rm B: A370 ;3=
!rm C: Brockley Combe Roa ;S=
!rm D: A370 ;<=

Count -et)od: >e*icles Cla e Included: All Classes *Select t*e co$"t met*o a" esire $ser classes 1rom t*e ro&2 o?"s i" cells D10 a" '10*

-a8imum 3:$minute Junction (lo":								
! - Pea+	from:	08:00	until:	08:17	flo":	428	*A+ Peak co%ers 09:00 $"til 10:00*
Inter$Pea+	from:	17:47	until:	19:00	flo":	407	*I"ter2Peak co%ers 10:00 $"til 19:00*
P - Pea+	from:	19:00	until:	19:17	flo":	491	*P+ Peak co%ers 19:00 $"til 20:00*

Period Starting: 00:00 *Select t*e time 1rom t*e ro&2 o?" i" cell D18 to s*o? t*e 172mi"$te ata 1or t*at &erio*

-ovement Count

0rom \ Co	!	B	C	D	Total
!	0	0	1	1	2
B	1	0	2	**3:**	**3;**
C	1	0	0	7	9
D	0	8	2	0	10
Total	2	8	7	**43**	39

6/2 Proportion

0rom \ Co	!	B	C	D	Total
!	0.0@	0.0@	0.0@	0.0@	0.0@
B	0.0@	0.0@	0.0@	9.7@	7.9@
C	**3<<#<=**	0.0@	0.0@	0.0@	**3>#?=**
D	0.0@	0.0@	0.0@	0.0@	0.0@
Total	**:<#<=**	0.0@	0.0@	4.8@	7.9@

-a8imum 6ourly Junction (lo":							
! - Pea+	from:	07:30	until:	08:30	flo":	1941	
Inter$Pea+	from:	17:47	until:	19:47	flo":	1721	
P - Pea+	from:	19:00	until:	17:00	flo":	1707	

Period Starting: 00:00 *Select t*e time 1rom t*e ro&2 o?" i" cell D37 to s*o? t*e *o$rly ata 1or t*at &erio*

-ovement Count

0rom \ Co	!	B	C	D	Total
!	0	0	1	2	3
B	1	0	4	**@?**	**A4**
C	1	1	0	17	18
D	0	23	11	0	34
Total	2	24	19	**:>**	88

6/2 Proportion

0rom \ Co	!	B	C	D	Total
!	0.0@	0.0@	0.0@	0.0@	0.0@
B	0.0@	0.0@	0.0@	19.2@	**3A#@=**
C	**3<<#<=**	0.0@	0.0@	7.8@	10.7@
D	0.0@	0.0@	0.0@	0.0@	0.0@
Total	**:<#<=**	0.0@	0.0@	12.7@	8.2@

*Bol e"tries i" t*e abo%e tables i" icate t*e maAim$m mo%eme"t0 a&&roac* a" eAit 1lo?s 1or t*e selecte time &erio 0 a" similarly ?it* t*e 6'> &ro&ortio"s*

Intelligent Data Collection Limited
Bri tol !irport

Client:	Peter Brett Associates
Project Number:	ID04020
Junction Number:	Site 3
Date of Survey:	10.07.2018
Junction Name:	A370 / A4174 Colliters Way
Junction Type:	3-arm Ro !"a#o t

%uality ! urance and I ue &ecord

$ ality Ass ra!ce

Re%isio!	Re% A			
Date	0&.08.2018			
Pre'are" #y	(a#riela)ele!*o%a			
Si+!at re				
C,ec*e" #y	- *e .arti!			
Si+!at re				
Pro/ect Director	Pa l 0⁞2eill			
Si+!at re				
Pro/ect ! m#er	ID04020			
3ile Re4	ID04020 Bristol Air'ort - .CC Site 3 - 10.07.2018			

Iss e S,eet

	Date			
Iss e" to	10.08.2018			
A!"re5 -o%e+ro%e	6-mail			

Content Page

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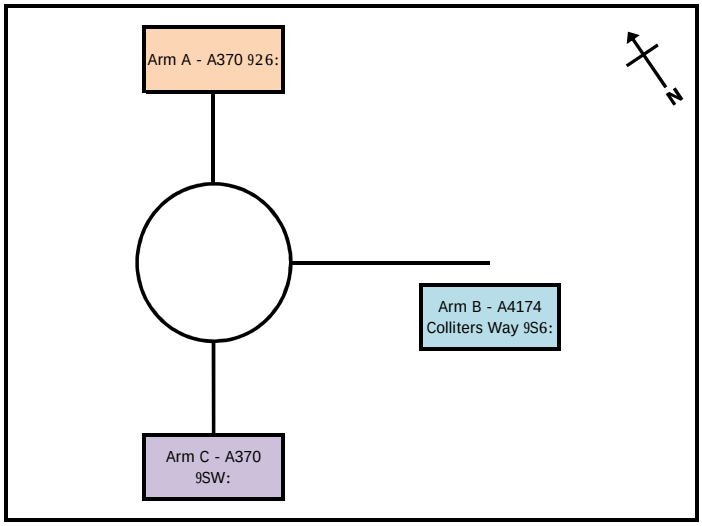
. CC Data
PC8 Data
. o%eme!t . atrices

Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018
Project Number:	ID04020	Junction Name:	A370 / A4174 Colliters Way
Junction Number:	Site 3	Junction Type:	3-arm Ro !"a#o t

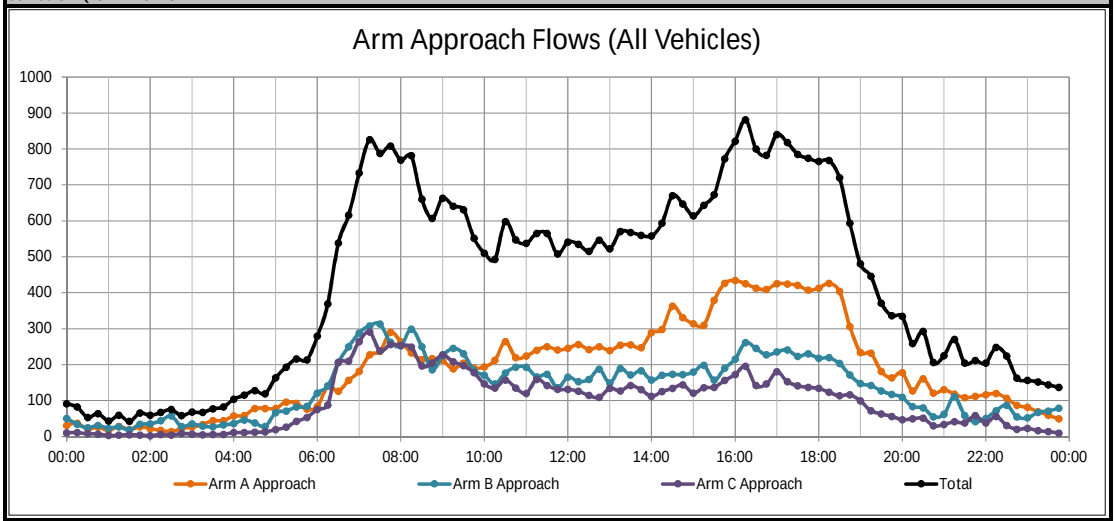
. Coordinate	0 Coordinate	/oogle - ap Lin+	
=1.4338328<<2=&84	-2.<41=014<=&73&88	Clic* ; ere	
! - Pea+ Condition	Inter$Pea+ Condition	P - Pea+ Condition	
Dry	Dry	Dry	

Junction Layout



!erial - apping and 1n$ ite Camera 2ie"

Junction (lo" Profile



!dditional Note '(actor ")ic) may impact on urvey re ult uc) a accident *road"or+ * pecial event ,:

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 3

Date of Survey: 10.07.2018
Junction Name: A370 / A4174 Colliters Way
Junction Type: 3-arm Ro !"a#o t

!rm !: A370 926:
!rm B: A4174 Colliters Way 9S6:
!rm C: A370 9SW:

	! to !								! to C								! to B							
Time	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total
00-00	1	0	0	0	0	0	0	1	3	1	1	0	0	1	0	<	22	1	1	0	0	0	0	24
00-1=	0	0	0	0	0	0	0	0	&	0	0	0	0	0	0	&	27	0	0	0	0	1	0	28
00-30	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	8	13	0	0	0	0	0	0	13
00-4=	0	0	0	0	0	0	0	0	<	1	0	2	0	0	0	&	13	4	0	0	0	0	0	17
01-00	0	1	0	0	0	0	0	1	2	0	0	1	0	0	0	3	13	0	0	0	0	0	0	13
01-1=	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	=	20	3	0	0	0	0	0	23
01-30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	14	1	0	0	1	0	0	1<
01-4=	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	20	1	0	1	1	0	0	23
02-00	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	4	1<	1	1	0	0	0	0	18
02-1=	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	14	2	0	0	0	0	0	1<
02-30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	12	0	0	0	0	0	0	12
02-4=	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	4	17	0	1	0	0	0	0	18
03-00	0	0	0	0	0	0	0	0	=	2	1	0	0	0	0	8	18	0	0	0	0	0	0	18
03-1=	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	=	23	4	0	1	0	0	0	28
03-30	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	38	0	0	0	1	1	0	40
03-4=	0	1	0	0	0	0	0	1	3	1	0	0	0	0	0	4	38	0	0	0	1	0	0	3&
04-00	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3	=1	1	1	1	0	0	0	=4
04-1=	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	=	43	<	0	3	0	1	0	=3
04-30	1	0	0	0	0	0	0	1	3	1	2	2	0	0	0	8	<3	3	1	1	1	0	0	<&
04-4=	0	0	0	0	0	0	0	0	3	2	2	0	0	0	0	7	<<	3	0	1	1	0	0	71
0=-00	0	0	0	0	0	0	0	0	8	0	2	0	0	1	0	11	<3	2	0	1	0	1	0	<7
0=-1=	0	0	0	0	0	0	0	0	<	1	1	0	0	1	0	&	78	=	2	2	0	0	0	87
0=-30	0	0	0	0	0	0	0	0	13	2	1	0	0	1	0	17	<=	4	0	4	2	0	0	7=
0=-4=	0	0	0	0	0	0	0	0	7	3	0	3	0	1	0	14	=8	3	0	1	0	0	0	<2
0<-00	1	0	0	0	0	0	0	1	14	<	1	2	1	1	0	2=	4<	=	2	4	0	0	0	=7
0<-1=	0	0	0	0	0	0	0	0	3=	<	1	3	0	4	0	4&	77	10	0	1	2	1	0	&1
0<-30	0	0	0	0	0	0	0	0	30	4	3	3	1	0	0	41	72	10	0	1	0	2	0	8=
0<-4=	1	1	0	0	0	0	0	2	30	11	2	3	1	1	0	48	8=	17	0	2	1	1	0	10<
07-00	0	0	0	0	0	0	0	0	4=	1=	=	3	1	0	0	<&	&1	13	3	3	1	0	1	112
07-1=	0	0	0	0	0	0	0	0	<3	22	3	1	2	1	0	&2	11=	1=	2	3	0	0	0	13=
07-30	0	0	0	0	0	0	0	0	71	10	2	=	3	2	0	&3	118	21	3	1	0	1	0	144
07-4=	0	0	0	0	0	0	0	0	<&	13	3	4	0	2	0	&1	1=&	23	8	3	2	4	0	1&&
08-00	0	0	0	0	0	0	0	0	=7	24	0	4	1	1	0	87	1=1	1=	4	4	0	3	0	177
08-1=	0	0	0	0	0	0	0	0	==	14	0	2	3	1	0	7=	11&	2<	<	4	1	2	0	1=8
08-30	0	0	0	0	0	0	0	0	=1	13	<	4	0	1	0	7=	123	8	4	2	1	1	0	13&
08-4=	0	0	0	0	0	0	0	0	48	1<	0	3	3	2	0	72	11=	18	3	4	2	3	0	14=
0&-00	0	0	0	0	0	0	0	0	=0	<	1	2	0	0	0	=&	118	21	<	4	1	2	0	1=2
0&-1=	0	0	1	1	0	0	0	2	4<	11	2	2	3	0	0	<4	&<	1&	2	=	0	0	0	122
0&-30	0	0	0	0	0	0	0	0	=2	11	3	3	1	0	3	73	&&	23	3	2	1	3	0	131
0&-4=	0	0	0	0	0	0	0	0	44	8	=	4	0	0	0	<1	104	1&	2	3	1	0	0	12&
10-00	0	0	0	0	0	0	0	0	=7	&	3	1	3	1	0	74	8<	22	8	3	1	0	0	120
10-1=	0	0	0	0	0	0	0	0	<<	21	1	=	0	1	0	&4	&8	1=	0	=	0	0	0	118
10-30	1	1	0	0	0	0	0	2	7=	21	4	7	1	0	0	108	12&	21	0	3	0	1	0	1=4
10-4=	0	1	0	0	0	0	0	1	=3	14	3	<	1	4	0	81	10=	1&	=	3	4	1	0	137
11-00	2	0	0	0	0	0	0	2	<7	1<	4	=	1	2	0	&=	10&	10	7	1	0	0	0	127
11-1=	1	0	0	0	0	0	0	1	72	1&	4	1	2	1	0	&&	114	17	2	<	1	0	0	140
11-30	1	0	0	0	0	0	0	1	7=	18	=	=	1	0	0	104	120	1=	=	3	2	0	0	14=
11-4=	0	1	0	0	0	0	0	1	7&	14	1	2	1	0	0	&7	10&	22	4	4	1	3	0	143
12-00	0	0	0	0	0	0	0	0	101	10	2	4	2	2	0	121	&=	18	<	4	0	1	0	124
12-1=	1	0	0	0	0	0	0	1	8&	1=	3	4	2	2	0	11=	104	2<	=	4	1	0	0	140
12-30	1	0	0	0	0	0	0	1	87	20	2	4	1	1	0	11=	10&	12	0	4	1	0	0	12<
12-4=	0	0	0	0	0	0	0	0	&1	20	1	1	2	1	0	11<	&7	21	7	3	0	<	0	134
13-00	2	0	0	0	0	0	0	2	77	1<	3	1	1	3	0	101	102	24	4	3	0	3	0	13<
13-1=	4	0	0	0	0	0	0	4	&0	1<	0	0	2	0	0	108	110	21	1	8	0	2	0	142
13-30	1	0	0	0	0	0	0	1	83	13	2	4	2	0	0	104	123	1<	4	4	1	2	0	1=0
13-4=	0	0	0	0	0	0	0	0	<4	21	1	=	2	1	0	&4	11&	2=	=	3	0	1	0	1=3
14-00	1	0	0	0	0	0	0	1	8&	20	2	<	3	2	0	122	12=	2<	10	4	0	0	1	1<<
14-1=	0	0	0	0	0	0	0	0	108	1=	1	4	3	3	0	134	132	24	1	3	3	1	0	1<4
14-30	1	0	0	0	0	0	0	1	121	23	3	2	2	1	0	1=2	1<3	32	=	=	2	3	0	210
14-4=	0	0	0	0	0	0	0	0	10&	1=	4	3	1	3	0	13=	1==	2&	=	4	3	0	0	1&<
1=-00	0	0	0	0	0	0	0	0	102	14	3	=	1	1	0	12<	1=3	23	3	=	2	2	0	188
1=-1=	0	0	1	0	0	0	0	1	10=	1&	1	3	2	4	0	134	12&	30	<	=	2	2	0	174
1=-30	1	1	0	0	0	0	0	2	124	13	1	4	1	0	0	143	180	41	=	3	0	=	0	234
1=-4=	1	0	0	0	0	0	0	1	147	17	0	2	3	1	0	170	1&0	4=	3	11	1	4	1	2==
1<-00	0	0	0	0	0	0	0	0	1=4	1&	0	<	3	2	0	184	1&4	40	7	3	1	=	0	2=0
1<-1=	1	0	0	0	0	0	0	1	1=1	1<	0	1	1	=	0	174	1&8	43	<	3	0	0	0	2=0
1<-30	1	0	0	0	0	0	0	1	143	17	0	1	1	4	0	1<<	212	2<	2	3	0	3	0	24<
1<-4=	2	0	0	0	0	0	0	2	171	21	1	0	1	=	0	1&&	174	2=	2	3	0	4	0	208
17-00	0	0	0	0	0	0	0	0	17=	18	0	1	1	<	0	201	1&3	21	3	2	2	3	0	224
17-1=	1	0	0	0	0	0	0	1	18&	1=	1	4	0	8	2	21&	182	14	1	1	1	4	1	204
17-30	0	0	0	0	0	0	0	0	1&2	1=	0	1	3	7	0	218	18=	17	0	0	0	0	1	203
17-4=	0	0	0	0	0	0	0	0	1<8	10	0	0	1	7	0	18<	202	11	0	3	0	4	1	221
18-00	0	0	0	0	0	0	0	0	1&1	10	0	2	2	4	1	210	18=	10	3	0	1	4	0	203
18-1=	0	1	1	0	0	0	0	2	187	18	1	1	0	=	0	212	182	17	1	3	1	<	2	212
18-30	1	0	0	0	0	0	0	1	1<<	11	1	0	4	1	0	183	1&7	13	0	4	1	=	0	220
18-4=	0	1	0	0	0	0	0	1	124	&	0	0	0	4	0	137	148	1<	0	0	2	2	0	1<8
1&-00	1	0	0	0	0	0	0	1	&4	4	0	0	1	3	0	102	111	1=	1	0	1	2	1	131
1&-1=	2	0	0	0	0	0	0	2	&4	8	0	0	3	4	0	10&	107	10	0	1	3	0	0	121
1&-30	0	0	0	0	0	0	0	0	84	=	1	1	0	1	0	&2	77	8	0	2	1	0	1	8&
1&-4=	3	0	0	0	0	0	0	3	<<	3	0	1	2	0	0	72	73	13	0	1	1	0	0	88
20-00	1	0	0	0	0	0	0	1	81	<	0	0	1	2	0	&0	7&	7	0	0	1	0	0	87
20-1=	0	0	0	0	0	0	0	0	3&	4	0	0	1	1	0	4=	7<	3	0	0	0	3	0	82
20-30	2	0	0	0	0	0	0	2	<0	8	2	0	1	0	0	71	7<	10	0	1	1	0	1	88
20-4=	0	0	0	0	0	0	0	0	=4	3	0	0	1	2	0	<0	=7	1	0	1	0	2	0	<1
21-00	1	1	0	0	0	0	0	2	=1	7	0	0	0	1	0	=&	<3	3	0	2	1	0	0	<&
21-1=	0	0	0	0	0	0	0	0	43	4	0	0	0	2	0	4&	<1	4	0	1	2	1	0	<&
21-30	0	0	0	0	0	0	0	0	=1	<	0	1	0	0	0	=8	4=	3	0	1	1	0	0	=0
21-4=	1	0	0	0	0	0	0	1	48	4	0	0	0	0	0	=2	=3	4	0	2	0	0	0	=&
22-00	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0	43	<0	12	1	0	0	0	0	73
22-1=	2	0	0	0	0	0	0	2	=3	0	0	0	0	1	0	=4	<0	2	0	1	0	1	0	<4
22-30	1	0	0	0	0	0	0	1	38	4	0	0	0	1	0	=&	43	2	0	1	0	0	0	<2
22-4=	0	0	0	0	0	0	0	0	34	1	0	1	0	1	0	37	42	<	1	0	0	1	0	=0
23-00	1	0	0	0	0	0	0	1	22	1	0	3	0	0	0	2<	=1	2	0	1	0	0	0	=4
23-1=	0	1	0	0	0	0	0	1	30	1	0	0	0	0	0	31	34	1	2	0	0	0	0	37
23-30	0	0	0	0	0	0	0	0	1<	3	0	0	0	0	0	1&	37	0	0	1	2	0	0	40
23-4=	0	0	0	0	0	0	0	0	14	3	0	1	0	0	0	18	2&	1	0	1	0	0	0	31

Start Time	&olling 6our							Total	&olling 6our							Total	&olling 6our							Total
00:00	1	0	0	0	0	0	0	1	2=	2	1	3	0	1	0	32	7=	=	1	0	0	1	0	82
00:1=	0	1	0	0	0	0	0	1	24	1	0	4	0	0	0	2&	<<	4	0	0	0	1	0	71
00:30	0	1	0	0	0	0	0	1	1&	1	1	4	0	0	0	2=	=&	7	0	0	0	0	0	<<
00:4=	0	1	0	0	0	0	0	1	1=	1	1	3	0	0	0	20	<0	8	0	0	1	0	0	<&
01:00	0	1	0	0	0	0	0	1	13	0	1	1	0	0	0	1=	<7	=	0	1	2	0	0	7=
01:1=	0	0	0	0	0	0	0	0	13	1	1	0	1	0	0	1<	70	<	1	1	2	0	0	80
01:30	0	0	0	0	0	0	0	0	10	1	0	0	1	0	0	12	<4	=	1	1	2	0	0	73
01:4=	0	0	0	0	0	0	0	0	8	2	0	0	1	0	0	11	<2	4	1	1	1	0	0	<&
02:00	0	0	0	0	0	0	0	0	7	2	0	1	1	0	0	11	=&	3	2	0	0	0	0	<4
02:1=	0	0	0	0	0	0	0	0	10	3	1	1	0	0	0	1=	<1	2	1	0	0	0	0	<4
02:30	0	0	0	0	0	0	0	0	11	4	2	2	0	0	0	1&	70	4	1	1	0	0	0	7<
02:4=	0	0	0	0	0	0	0	0	14	3	2	2	0	0	0	21	&<	4	1	1	1	1	0	104
03:00	0	1	0	0	0	0	0	1	14	4	2	1	0	0	0	21	117	4	0	1	2	1	0	12=
03:1=	0	1	0	0	0	0	0	1	11	2	1	2	0	0	0	1<	1=0	=	1	2	2	1	0	1<1
03:30	0	1	0	0	0	0	0	1	11	3	1	1	0	0	0	1<	170	7	1	4	2	2	0	18<
03:4=	1	1	0	0	0	0	0	2	10	4	3	3	0	0	0	20	1&=	10	2	=	2	1	0	21=
04:00	1	0	0	0	0	0	0	1	10	=	=	3	0	0	0	23	223	13	2	<	2	1	0	247
04:1=	1	0	0	0	0	0	0	1	1<	=	7	2	0	1	0	31	23=	14	1	<	2	2	0	2<0
04:30	1	0	0	0	0	0	0	1	20	4	7	2	0	2	0	3=	270	13	3	=	2	1	0	2&4
04:4=	0	0	0	0	0	0	0	0	30	=	<	0	0	3	0	44	272	14	2	8	3	1	0	300
0=:00	0	0	0	0	0	0	0	0	34	<	4	3	0	4	0	=1	2<4	14	2	8	2	1	0	2&1
0=:1=	1	0	0	0	0	0	0	1	40	12	3	=	1	4	0	<=	247	17	4	11	2	0	0	281
0=:30	1	0	0	0	0	0	0	1	<&	17	3	8	1	7	0	10=	24<	22	2	10	4	1	0	28=
0=:4=	1	0	0	0	0	0	0	1	8<	1&	=	11	2	<	0	12&	2=3	28	2	7	2	3	0	2&=
0<:00	2	1	0	0	0	0	0	3	10&	27	7	11	3	<	0	1<3	280	42	2	8	3	4	0	33&
0<:1=	1	1	0	0	0	0	0	2	140	3<	11	12	3	=	0	207	32=	=0	3	7	4	4	1	3&4
0<:30	1	1	0	0	0	0	0	2	1<8	=2	13	10	=	2	0	2=0	3<3	==	=	&	2	3	1	438
0<:4=	1	1	0	0	0	0	0	2	20&	=8	12	12	7	4	0	302	40&	<<	8	&	2	2	1	4&7
07:00	0	0	0	0	0	0	0	0	248	<0	13	13	<	=	0	34=	483	72	1<	10	3	=	1	=&0
07:1=	0	0	0	0	0	0	0	0	2<0	<&	8	14	<	<	0	3<3	=43	74	17	11	2	8	0	<==
07:30	0	0	0	0	0	0	0	0	2=2	<1	=	1=	7	<	0	34<	=47	8=	21	12	3	10	0	<78
07:4=	0	0	0	0	0	0	0	0	232	<4	&	14	4	=	0	328	==2	72	22	13	4	10	0	<73
08:00	0	0	0	0	0	0	0	0	211	<7	<	13	7	=	0	30&	=08	<7	17	14	4	&	0	<1&
08:1=	0	0	0	0	0	0	0	0	204	4&	7	11	<	4	0	281	47=	73	1&	14	=	8	0	=&4
08:30	0	0	1	1	0	0	0	2	1&=	4<	&	11	<	3	0	270	4=2	<<	1=	1=	4	<	0	==8
08:4=	0	0	1	1	0	0	0	2	1&<	44	<	10	7	2	3	2<8	428	81	14	1=	4	8	0	==0
0&:00	0	0	1	1	0	0	0	2	1&2	3<	11	11	4	0	3	2=7	417	82	13	14	3	=	0	=34
0&:1=	0	0	1	1	0	0	0	2	1&&	3&	13	10	7	1	3	272	38=	83	1=	13	3	3	0	=02
0&:30	0	0	0	0	0	0	0	0	21&	4&	12	13	4	2	3	302	387	7&	13	13	3	3	0	4&8
0&:4=	1	1	0	0	0	0	0	2	242	=&	13	17	4	2	0	337	417	77	10	14	2	1	0	=21
10:00	1	2	0	0	0	0	0	3	2=1	<=	11	1&	=	<	0	3=7	418	77	13	14	=	2	0	=2&
10:1=	3	2	0	0	0	0	0	=	2<1	72	12	23	3	7	0	378	441	<=	12	12	4	2	0	=3<
10:30	4	2	0	0	0	0	0	<	2<7	70	1=	1&	=	7	0	383	4=7	<7	14	13	=	2	0	==8
10:4=	4	1	0	0	0	0	0	=	2<7	<7	1<	17	=	7	0	37&	448	<1	1&	13	7	1	0	=4&
11:00	4	1	0	0	0	0	0	=	2&3	<7	14	13	=	3	0	3&=	4=2	<4	18	14	4	3	0	===
11:1=	2	1	0	0	0	0	0	3	327	<1	12	12	<	3	0	421	438	72	17	17	4	4	0	==2
11:30	2	1	0	0	0	0	0	3	344	=7	11	1=	<	4	0	437	428	81	20	1=	4	4	0	==2
11:4=	2	1	0	0	0	0	0	3	3=<	=&	8	14	<	=	0	448	417	78	1=	1<	3	4	0	=33
12:00	2	0	0	0	0	0	0	2	3<8	<=	8	13	7	<	0	4<7	40=	77	18	1=	2	7	0	=24
12:1=	4	0	0	0	0	0	0	4	344	71	&	10	<	7	0	447	412	83	1<	14	2	&	0	=3<
12:30	7	0	0	0	0	0	0	7	34=	72	<	<	<	=	0	440	418	78	12	18	1	11	0	=38
12:4=	7	0	0	0	0	0	0	7	341	<=	<	<	7	4	0	42&	432	82	1<	18	1	13	0	=<2
13:00	7	0	0	0	0	0	0	7	314	<<	<	10	7	4	0	407	4=4	8<	14	18	1	8	0	=81
13:1=	<	0	0	0	0	0	0	<	32<	70	=	1=	&	3	0	428	477	88	20	1&	1	=	1	<11
13:30	2	0	0	0	0	0	0	2	344	<&	<	1&	10	<	0	4=4	4&&	&1	20	14	4	4	1	<33
13:4=	2	0	0	0	0	0	0	2	382	7&	7	17	10	7	0	=02	=3&	107	21	1=	=	=	1	<&3
14:00	2	0	0	0	0	0	0	2	427	73	10	1=	&	&	0	=43	=7=	111	21	1<	8	4	1	73<
14:1=	1	0	0	0	0	0	0	1	440	<7	11	14	7	8	0	=47	<03	108	14	17	10	<	0	7=8
14:30	1	0	1	0	0	0	0	2	437	71	11	13	<	&	0	=47	<00	114	1&	1&	&	7	0	7<8
14:4=	1	1	1	0	0	0	0	3	440	<1	&	1=	=	8	0	=38	<17	123	1&	17	7	&	0	7&2
1=:00	2	1	1	0	0	0	0	4	478	<3	=	14	7	<	0	=73	<=2	13&	17	24	=	13	1	8=1
1=:1=	2	1	1	0	0	0	0	4	=30	<8	2	1=	&	7	0	<31	<&3	1=<	21	22	4	1<	1	&13
1=:30	3	1	0	0	0	0	0	4	=7<	<=	1	13	8	8	0	<71	7<2	1<&	21	20	2	14	1	&8&
1=:4=	3	0	0	0	0	0	0	3	=&=	<&	0	10	8	12	0	<&4	7&4	1=4	18	20	2	12	1	1001
1<:00	4	0	0	0	0	0	0	4	<1&	73	1	8	<	1<	0	723	778	134	17	12	1	12	0	&=4
1<:1=	4	0	0	0	0	0	0	4	<40	72	1	3	4	20	0	740	777	11=	13	11	2	10	0	&28
1<:30	4	0	0	0	0	0	0	4	<78	71	2	<	3	23	2	78=	7<1	8<	8	&	3	14	1	882
1<:4=	3	0	0	0	0	0	0	3	727	<&	2	<	=	2<	2	837	734	77	<	<	3	11	2	83&
17:00	1	0	0	0	0	0	0	1	724	=8	1	<	=	28	2	824	7<2	<3	4	<	3	11	3	8=2
17:1=	1	0	0	0	0	0	0	1	740	=0	1	7	<	2<	3	833	7=4	=2	4	4	2	12	3	831
17:30	0	1	1	0	0	0	0	2	738	=3	1	4	<	23	1	82<	7=4	==	4	<	2	14	4	83&
17:4=	1	1	1	0	0	0	0	3	712	4&	2	3	7	17	1	7&1	7<<	=1	4	10	3	1&	3	8=<
18:00	1	2	1	0	0	0	0	4	<<8	48	2	3	<	14	1	742	712	=<	4	7	=	17	2	803
18:1=	2	2	1	0	0	0	0	=	=71	42	2	1	=	13	0	<34	<38	<1	2	7	=	1=	3	731
18:30	4	1	0	0	0	0	0	=	478	32	1	0	8	12	0	=31	=<3	=4	1	=	7	&	1	=<40
18:4=	3	1	0	0	0	0	0	4	3&<	2<	1	1	4	12	0	440	443	4&	1	3	7	4	2	=0&
1&:00	<	0	0	0	0	0	0	<	338	20	1	2	<	8	0	37=	3<8	4<	1	4	<	2	2	42&
1&:1=	<	0	0	0	0	0	0	<	32=	22	1	2	<	7	0	3<3	33<	38	0	4	<	0	1	38=
1&:30	4	0	0	0	0	0	0	4	270	18	1	2	4	4	0	2&&	30=	31	0	3	3	3	1	34<
1&:4=	<	0	0	0	0	0	0	<	24<	21	2	1	=	3	0	278	304	33	0	2	2	4	0	34=
20:00	3	0	0	0	0	0	0	3	234	21	2	0	4	=	0	2<<	288	21	0	2	1	<	0	318
20:1=	3	1	0	0	0	0	0	4	204	22	2	0	3	4	0	23=	272	17	0	4	1	<	0	300
20:30	3	1	0	0	0	0	0	4	208	22	2	0	2	=	0	23&	2=7	18	0	=	3	4	0	287
20:4=	1	1	0	0	0	0	0	2	1&&	20	0	1	1	=	0	22<	22<	11	0	=	4	3	0	24&
21:00	2	1	0	0	0	0	0	3	1&3	21	0	1	0	3	0	218	222	14	0	<	4	1	0	247
21:1=	1	0	0	0	0	0	0	1	18=	14	0	1	0	2	0	202	21&	23	1	4	3	1	0	2=1
21:30	3	0	0	0	0	0	0	3	1&=	10	0	1	0	1	0	207	218	21	1	4	1	1	0	24<
21:4=	4	0	0	0	0	0	0	4	182	8	0	0	0	2	0	1&2	232	20	1	4	0	1	0	2=8
22:00	3	0	0	0	0	0	0	3	1<8	=	0	1	0	3	0	177	221	22	2	2	0	2	0	24&
22:1=	4	0	0	0	0	0	0	4	147	<	0	4	0	3	0	1<0	212	12	1	3	0	2	0	230
22:30	2	1	0	0	0	0	0	3	124	7	0	4	0	2	0	137	18<	11	3	2	0	1	0	203
22:4=	1	1	0	0	0	0	0	2	102	<	0	4	0	1	0	113	1<4	&	3	2	2	1	0	181
23:00	1	1	0	0	0	0	0	2	82	8	0	4	0	0	0	&4	1=1	4	2	3	2	0	0	1<2

" " "#intelligent$data$collection#com

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 3

Date of Survey: 10.07.2018
Junction Name: A370 / A4174 Colliters Way
Junction Type: 3-arm Ro !"a#o t

!rm !: A370 926:
!rm B: A4174 Colliters Way 9S6:
!rm C: A370 9SW:

	B to B								B to I								B to C							
Time	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total
00-00	0	0	0	0	0	0	0	0	4=	3	0	0	0	0	0	48	2	0	0	0	0	0	0	2
00-1=	0	0	0	0	0	0	0	0	2<	4	0	0	2	0	0	32	0	0	0	2	0	0	0	2
00-30	0	0	0	0	0	0	0	0	1&	2	1	1	0	0	0	23	1	0	0	0	0	0	0	1
00-4=	0	0	0	0	0	0	0	0	2<	1	1	2	0	0	0	30	1	0	0	0	0	0	0	1
01-00	0	0	0	0	0	0	0	0	20	2	0	1	0	0	0	23	0	0	0	0	0	0	0	0
01-1=	0	0	0	0	0	0	0	0	23	3	0	1	0	0	0	27	0	0	0	0	0	0	0	0
01-30	0	1	0	0	0	0	0	1	1=	1	0	1	0	0	0	17	0	0	0	0	0	0	0	0
01-4=	0	0	0	0	0	0	0	0	31	3	0	0	0	0	0	34	0	0	0	0	0	0	0	0
02-00	0	0	0	0	0	0	0	0	30	0	1	0	1	0	0	32	2	1	0	0	0	0	0	3
02-1=	0	0	0	0	0	0	0	0	40	3	0	0	1	0	0	44	0	0	0	0	0	0	0	0
02-30	0	0	0	0	0	0	0	0	=2	3	0	1	0	0	0	=<	1	0	0	0	0	0	0	1
02-4=	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0
03-00	0	0	0	0	0	0	0	0	33	2	0	0	0	0	0	3=	0	0	0	0	0	0	0	0
03-1=	0	0	0	0	0	0	0	0	27	1	0	0	0	0	0	28	1	0	0	0	0	0	0	1
03-30	0	0	0	0	0	0	0	0	23	3	0	0	0	0	0	2<	0	1	0	0	0	0	0	1
03-4=	0	0	0	0	0	0	0	0	27	3	0	0	1	0	0	31	1	0	0	0	0	0	0	1
04-00	0	0	0	0	0	0	0	0	32	2	0	1	0	0	0	3=	1	0	0	0	0	0	0	1
04-1=	0	0	0	0	0	0	0	0	42	1	1	0	2	0	0	4<	0	0	0	0	0	0	0	0
04-30	0	0	0	0	0	0	0	0	32	2	0	0	1	0	0	3=	3	0	0	0	0	0	0	3
04-4=	1	0	0	0	0	0	0	1	2=	1	0	0	0	0	0	2<	1	0	0	0	0	0	0	1
0=-00	0	0	0	0	0	0	0	0	4&	=	2	2	1	1	0	<0	3	3	0	0	0	0	0	<
0=-1=	0	1	0	0	0	0	0	1	=<	=	1	1	0	2	0	<=	4	1	0	0	0	0	0	=
0=-30	0	0	0	0	0	0	0	0	<&	=	0	2	0	1	0	77	=	0	0	0	0	0	0	=
0=-4=	0	0	0	0	0	0	0	0	<4	7	0	2	2	0	1	7<	<	1	0	1	0	0	0	8
0<-00	0	0	0	0	0	0	0	0	88	10	0	3	=	2	0	108	=	2	3	3	0	0	0	13
0<-1=	0	0	0	0	0	0	0	0	101	1=	3	3	2	2	0	12<	7	<	0	2	0	0	0	1=
0<-30	0	0	0	0	0	0	0	0	132	37	1	<	3	3	0	182	14	8	1	1	0	0	0	24
0<-4=	0	0	0	0	0	0	0	0	17<	3&	2	=	2	3	2	22&	8	8	0	=	0	0	0	21
07-00	0	0	0	0	0	0	0	0	1&7	4&	1	=	2	4	0	2=8	23	7	0	0	0	0	0	30
07-1=	0	0	0	0	0	0	0	0	20&	44	3	<	=	4	0	271	22	13	1	0	0	1	0	37
07-30	0	0	0	0	0	0	0	0	20&	4<	2	3	0	8	0	2<8	24	1<	0	4	0	1	0	4=
07-4=	0	0	0	0	0	0	0	0	1<8	37	3	2	1	2	1	214	28	1<	1	2	0	1	0	48
08-00	0	0	0	0	0	0	0	0	1<7	2&	<	<	0	&	1	218	20	12	0	1	0	1	0	34
08-1=	0	0	0	0	0	0	0	0	211	44	3	=	0	2	0	2<=	24	8	0	2	0	0	0	34
08-30	0	0	1	0	0	0	0	1	180	20	2	11	3	2	0	218	23	8	0	0	0	0	0	31
08-4=	1	0	0	0	0	0	0	1	12&	21	1	4	0	1	0	1=<	1&	7	2	0	0	1	0	2&
09-00	0	1	0	0	0	0	0	1	1<7	18	7	1	0	4	1	1&8	1<	7	1	2	0	0	0	2<
09-1=	0	0	0	0	0	0	0	0	17&	20	&	3	0	=	1	217	2=	3	0	0	0	0	0	28
09-30	1	1	0	0	0	0	0	2	1=<	18	14	<	2	3	1	200	1&	<	2	1	0	0	0	28
09-4=	0	0	0	0	0	0	0	0	124	20	7	=	3	1	0	1<0	18	4	2	0	0	0	0	24
10-00	1	0	0	0	0	0	0	1	110	2<	=	4	0	0	0	14=	1<	7	0	1	0	0	0	24
10-1=	0	0	0	0	0	0	0	0	108	12	4	1	0	0	0	12=	14	7	0	0	0	0	0	21
10-30	2	0	0	0	0	0	0	2	121	2<	<	8	0	0	0	1<1	&	4	1	0	0	0	0	14
10-4=	0	0	0	0	0	0	0	0	140	14	1	0	3	4	0	1<2	2<	2	1	2	0	0	0	31
11-00	0	0	0	0	0	0	0	0	113	2=	11	4	0	3	0	1=<	28	7	1	0	0	1	0	37
11-1=	1	0	0	0	0	0	0	1	104	22	<	3	0	1	0	13<	20	=	3	1	0	0	0	2&
11-30	0	0	0	0	0	0	0	0	118	20	4	=	0	0	0	147	18	8	0	0	0	0	0	2<
11-4=	2	0	0	0	0	0	0	2	81	23	3	1	0	0	0	108	20	2	3	1	0	0	0	2<
12-00	1	0	0	0	0	0	0	1	103	2=	1	4	1	0	0	134	1<	&	3	1	0	1	0	30
12-1=	0	0	0	0	0	0	0	0	&3	24	=	3	0	1	0	12<	20	=	1	0	0	1	0	27
12-30	1	0	0	0	0	0	0	1	108	14	2	3	1	0	0	128	20	<	2	1	0	1	0	30
12-4=	0	0	0	0	0	0	0	0	127	10	3	7	1	2	0	1=0	2<	8	0	1	0	2	0	37
13-00	0	0	0	0	0	0	0	0	&8	18	7	2	3	0	0	128	17	3	0	1	0	0	0	21
13-1=	0	0	0	0	0	0	0	0	12<	13	7	=	1	3	0	1==	2&	4	1	0	0	0	0	34
13-30	1	0	0	0	0	0	0	1	123	1&	=	1	0	0	0	148	17	1	3	1	0	0	0	22
13-4=	0	0	0	0	0	0	0	0	128	20	2	3	3	0	0	1=<	18	<	0	1	0	2	0	27
14-00	0	0	0	0	0	0	0	0	103	14	2	<	1	1	0	127	27	3	0	0	0	0	0	30
14-1=	0	0	0	0	0	0	0	0	110	1&	3	2	0	1	0	13=	27	=	0	3	0	0	0	3=
14-30	0	0	0	0	0	0	0	0	11=	21	2	3	3	0	0	144	22	3	3	0	0	1	0	2&
14-4=	1	0	0	0	0	0	0	1	11<	1=	4	3	4	1	0	143	18	7	0	0	2	1	0	28
1=-00	1	1	0	0	0	0	0	2	114	22	3	4	3	1	0	147	18	11	1	0	0	0	0	30
1=-1=	0	0	0	0	0	0	0	0	13=	1&	4	3	0	2	0	1<3	32	3	0	0	0	0	0	3=
1=-30	0	0	0	0	0	0	0	0	102	17	1	3	2	0	0	12=	2<	4	0	1	0	1	0	32
1=-4=	0	0	0	0	0	0	0	0	120	21	3	4	0	=	0	1=3	31	=	1	0	0	0	0	37
1<-00	1	0	0	0	0	0	0	1	12&	18	3	1	4	2	0	1=7	40	13	3	1	0	0	0	=7
1<-1=	0	0	0	0	0	0	0	0	1=4	1<	2	3	1	3	0	17&	<0	1&	2	0	1	0	0	82
1<-30	0	0	0	0	0	0	0	0	1=8	2=	1	2	0	1	0	187	4=	13	0	0	0	0	0	=8
1<-4=	0	0	0	0	0	0	0	0	1=1	1<	0	1	0	0	0	1<8	=0	7	1	0	0	1	0	=&
17-00	1	0	0	0	0	0	0	1	13&	20	1	3	0	2	1	1<<	=0	14	0	2	0	2	0	<8
17-1=	0	0	0	0	0	0	0	0	1=<	17	1	1	2	2	0	17&	=4	<	0	0	0	2	0	<2
17-30	1	0	0	0	0	0	0	1	140	10	=	2	0	2	0	1=&	=2	10	1	0	0	0	0	<3
17-4=	1	0	0	0	0	0	0	1	1<3	12	3	2	3	0	0	183	3<	8	0	0	0	1	1	4<
18-00	0	0	0	0	0	0	0	0	1=7	10	2	1	1	0	0	171	44	3	0	0	0	0	0	47
18-1=	0	0	0	0	0	0	0	0	14&	1=	1	1	1	0	0	1<7	42	7	0	0	0	3	0	=2
18-30	1	0	0	0	0	0	0	1	147	11	0	0	0	2	0	1<0	40	1	0	0	0	1	0	42
18-4=	0	0	0	0	0	0	0	0	13<	8	2	1	1	0	0	148	21	2	0	0	0	0	0	23
1&-00	0	0	0	0	0	0	0	0	120	<	0	0	2	0	0	128	18	0	1	0	0	0	0	1&
1&-1=	0	0	0	0	0	0	0	0	10&	7	1	1	2	3	0	123	12	7	0	0	0	0	0	1&
1&-30	0	0	0	0	0	0	0	0	&&	<	0	3	0	3	0	111	1=	0	0	0	0	1	0	1<
1&-4=	0	0	0	0	0	0	0	0	&8	4	0	0	2	0	0	104	&	3	1	0	0	0	0	13
20-00	0	0	0	0	0	0	0	0	&<	3	0	0	0	0	2	101	8	0	0	0	0	0	0	8
20-1=	0	0	0	0	0	0	0	0	<<	3	0	1	1	0	0	71	11	1	0	0	0	0	0	12
20-30	0	0	0	0	0	0	0	0	<2	4	0	0	0	0	0	<<	13	0	0	1	0	0	0	14
20-4=	0	0	0	0	0	0	0	0	40	=	0	0	0	0	0	4=	&	1	0	0	0	0	0	10
21-00	0	0	0	0	0	0	0	0	44	3	0	0	0	0	0	47	13	0	1	1	0	0	0	1=
21-1=	1	0	0	0	0	0	0	1	&=	2	0	0	0	1	0	&8	12	0	0	0	0	0	0	12
21-30	0	0	0	0	0	0	0	0	47	1	0	0	0	0	0	48	&	1	0	0	0	0	0	10
21-4=	0	0	0	0	0	0	0	0	28	3	0	1	1	1	0	34	<	0	0	0	0	1	0	7
22-00	0	0	0	0	0	0	0	0	37	0	0	1	1	3	0	42	8	0	0	0	0	0	0	8
22-1=	0	0	0	0	0	0	0	0	=&	0	0	2	0	0	0	<1	10	1	0	0	0	0	0	11
22-30	0	0	0	0	0	0	0	0	<7	4	0	0	0	1	0	72	1=	0	0	0	0	0	0	1=
22-4=	0	0	0	0	0	0	0	0	44	1	0	2	0	0	0	47	8	0	0	0	0	0	0	8
23-00	0	0	0	0	0	0	0	0	33	1	0	0	0	1	0	3=	1<	0	0	0	0	1	0	17
23-1=	0	0	0	0	0	0	0	0	<0	2	0	1	1	0	0	<4	3	0	0	0	0	0	0	3
23-30	0	0	0	0	0	0	0	0	<3	3	0	0	0	1	0	<7	4	0	0	0	0	0	0	4
23-4=	0	0	0	0	0	0	0	0	<7	2	1	2	2	0	0	74	2	0	0	2	0	1	0	=

Start Time	&olling 6our							Total	&olling 6our							Total	&olling 6our							Total
00:00	0	0	0	0	0	0	0	0	11<	10	2	3	2	0	0	133	4	0	0	2	0	0	0	<
00:1=	0	0	0	0	0	0	0	0	&1	&	2	4	2	0	0	108	2	0	0	2	0	0	0	4
00:30	0	0	0	0	0	0	0	0	88	8	2	=	0	0	0	103	2	0	0	0	0	0	0	2
00:4=	0	1	0	0	0	0	0	1	84	7	1	=	0	0	0	&7	1	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	1	8&	&	0	3	0	0	0	101	0	0	0	0	0	0	0	0
01:1=	0	1	0	0	0	0	0	1	&&	7	1	2	1	0	0	110	2	1	0	0	0	0	0	3
01:30	0	1	0	0	0	0	0	1	11<	7	1	1	2	0	0	127	2	1	0	0	0	0	0	3
01:4=	0	0	0	0	0	0	0	0	1=3	&	1	1	2	0	0	1<<	3	1	0	0	0	0	0	4
02:00	0	0	0	0	0	0	0	0	1=0	<	1	1	2	0	0	1<0	3	1	0	0	0	0	0	4
02:1=	0	0	0	0	0	0	0	0	1=3	8	0	1	1	0	0	1<3	1	0	0	0	0	0	0	1
02:30	0	0	0	0	0	0	0	0	140	<	0	1	0	0	0	147	2	0	0	0	0	0	0	2
02:4=	0	0	0	0	0	0	0	0	111	<	0	0	0	0	0	117	1	1	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	110	&	0	0	1	0	0	120	2	1	0	0	0	0	0	3
03:1=	0	0	0	0	0	0	0	0	10&	&	0	1	1	0	0	120	3	1	0	0	0	0	0	4
03:30	0	0	0	0	0	0	0	0	124	&	1	1	3	0	0	138	2	1	0	0	0	0	0	3
03:4=	0	0	0	0	0	0	0	0	133	8	1	1	4	0	0	147	=	0	0	0	0	0	0	=
04:00	1	0	0	0	0	0	0	1	131	<	1	1	3	0	0	142	=	0	0	0	0	0	0	=
04:1=	1	0	0	0	0	0	0	1	148	&	3	2	4	1	0	1<7	7	3	0	0	0	0	0	10
04:30	1	1	0	0	0	0	0	2	1<2	13	3	3	2	3	0	18<	11	4	0	0	0	0	0	1=
04:4=	1	1	0	0	0	0	0	2	1&&	1<	3	=	1	4	0	228	13	4	0	0	0	0	0	17
0=:00	0	1	0	0	0	0	0	1	238	22	3	7	3	4	1	278	18	=	0	1	0	0	0	24
0=:1=	0	1	0	0	0	0	0	1	277	27	1	8	7	=	1	32<	20	4	3	4	0	0	0	31
0=:30	0	0	0	0	0	0	0	0	322	37	3	10	&	=	1	387	23	&	3	<	0	0	0	41
0=:4=	0	0	0	0	0	0	0	0	38=	<&	4	14	12	7	1	4&2	32	17	4	7	0	0	0	<0
0<:00	0	0	0	0	0	0	0	0	4&7	101	<	17	12	10	2	<4=	34	24	4	11	0	0	0	73
0<:1=	0	0	0	0	0	0	0	0	<0<	140	7	1&	&	12	2	7&=	=2	2&	1	8	0	0	0	&0
0<:30	0	0	0	0	0	0	0	0	714	1<&	7	22	12	14	2	&40	<7	3<	2	<	0	1	0	112
0<:4=	0	0	0	0	0	0	0	0	7&1	178	8	1&	&	1&	2	102<	77	44	1	&	0	2	0	133
07:00	0	0	0	0	0	0	0	0	783	17<	&	1<	8	18	1	1011	&7	=2	2	<	0	3	0	1<0
07:1=	0	0	0	0	0	0	0	0	7<3	1=<	14	17	<	23	2	&71	&4	=7	2	7	0	4	0	1<4
07:30	0	0	0	0	0	0	0	0	7==	1=<	14	1<	1	21	2	&<=	&<	=2	1	&	0	3	0	1<1
07:4=	0	0	1	0	0	0	0	1	72<	130	14	24	4	1=	2	&1=	&=	44	1	=	0	2	0	147
08:00	1	0	1	0	0	0	0	2	<87	114	12	2<	3	14	1	8=7	8<	3=	2	3	0	2	0	128
08:1=	1	1	1	0	0	0	0	3	<87	103	13	21	3	&	1	837	82	30	3	4	0	1	0	120
08:30	1	1	1	0	0	0	0	3	<==	7&	1&	1&	3	12	2	78&	83	2=	3	2	0	1	0	114
08:4=	2	2	0	0	0	0	0	4	<31	77	31	14	2	13	3	771	7&	23	=	3	0	1	0	111
0&:00	1	2	0	0	0	0	0	3	<2<	7<	37	1=	=	13	3	77=	78	20	=	3	0	0	0	10<
0&:1=	2	1	0	0	0	0	0	3	=<&	84	3=	18	=	&	2	722	78	20	4	2	0	0	0	104
0&:30	2	1	0	0	0	0	0	3	4&8	7<	30	1<	=	4	1	<30	<7	24	4	2	0	0	0	&7
0&:4=	3	0	0	0	0	0	0	3	4<3	84	22	18	3	1	0	=&1	=7	22	3	1	0	0	0	83
10:00	3	0	0	0	0	0	0	3	47&	78	1<	13	3	4	0	=&3	<=	20	2	3	0	0	0	&0
10:1=	2	0	0	0	0	0	0	2	482	77	22	13	3	7	0	<04	77	20	3	2	0	1	0	103
10:30	3	0	0	0	0	0	0	3	478	87	24	1=	3	8	0	<1=	83	18	<	3	0	1	0	111
10:4=	1	0	0	0	0	0	0	1	47=	81	22	12	3	8	0	<01	&2	22	=	3	0	1	0	123
11:00	3	0	0	0	0	0	0	3	41<	&0	24	13	0	4	0	=47	8<	22	7	2	0	1	0	118
11:1=	4	0	0	0	0	0	0	4	40<	&0	14	13	1	1	0	=2=	74	24	&	3	0	1	0	111
11:30	3	0	0	0	0	0	0	3	3&=	&2	13	13	1	1	0	=1=	74	24	7	2	0	2	0	10&
11:4=	4	0	0	0	0	0	0	4	38=	8<	11	11	2	1	0	4&<	7<	22	&	3	0	3	0	113
12:00	2	0	0	0	0	0	0	2	431	73	11	17	3	3	0	=38	82	28	<	3	0	=	0	124
12:1=	1	0	0	0	0	0	0	1	42<	<<	17	1=	=	3	0	=32	83	22	3	3	0	4	0	11=
12:30	1	0	0	0	0	0	0	1	4=&	==	1&	17	<	=	0	=<1	&2	21	3	3	0	3	0	122
12:4=	1	0	0	0	0	0	0	1	474	<0	22	1=	=	=	0	=81	8&	1<	4	3	0	2	0	114
13:00	1	0	0	0	0	0	0	1	47=	70	21	11	7	3	0	=87	81	14	4	3	0	2	0	104
13:1=	1	0	0	0	0	0	0	1	480	<<	1<	1=	=	4	0	=8<	&1	14	4	2	0	2	0	113
13:30	1	0	0	0	0	0	0	1	4<4	72	12	12	4	2	0	=<<	8&	1=	3	=	0	2	0	114
13:4=	0	0	0	0	0	0	0	0	4=<	74	&	14	7	2	0	=<2	&4	17	3	4	0	3	0	121
14:00	1	0	0	0	0	0	0	1	444	<&	11	14	8	3	0	=4&	&4	18	3	3	2	2	0	122
14:1=	2	1	0	0	0	0	0	3	4==	77	12	12	10	3	0	=<&	8=	2<	4	3	2	2	0	122
14:30	2	1	0	0	0	0	0	3	480	77	13	13	10	4	0	=&7	&0	24	4	0	2	2	0	122
14:4=	2	1	0	0	0	0	0	3	4<7	73	12	13	&	4	0	=78	&4	2=	1	1	2	2	0	12=
1=:00	1	1	0	0	0	0	0	2	471	7&	11	14	=	8	0	=88	107	23	2	1	0	1	0	134
1=:1=	1	0	0	0	0	0	0	1	48<	7=	11	11	<	&	0	=&8	12&	2=	4	2	0	1	0	1<1
1=:30	1	0	0	0	0	0	0	1	=0=	72	&	11	7	10	0	<14	1=7	41	<	2	1	1	0	208
1=:4=	1	0	0	0	0	0	0	1	=<1	80	&	10	=	11	0	<7<	17<	=0	<	1	1	0	0	234
1<:00	1	0	0	0	0	0	0	1	=&2	7=	<	7	=	<	0	<&1	1&=	=2	<	1	1	1	0	2=<
1<:1=	1	0	0	0	0	0	0	1	<02	77	4	&	1	<	1	700	20=	=3	3	2	1	3	0	2<7
1<:30	1	0	0	0	0	0	0	1	<04	78	3	7	2	=	1	700	1&&	40	1	2	0	=	0	247
1<:4=	2	0	0	0	0	0	0	2	=8<	<3	7	7	2	<	1	<72	20<	37	2	2	0	=	0	2=2
17:00	3	0	0	0	0	0	0	3	=&8	=&	10	8	=	<	1	<87	1&2	38	1	2	0	=	1	23&
17:1=	2	0	0	0	0	0	0	2	<1<	4&	11	<	<	4	0	<&2	18<	27	1	0	0	3	1	218
17:30	2	0	0	0	0	0	0	2	<0&	47	11	<	=	2	0	<80	174	28	1	0	0	4	1	208
17:4=	2	0	0	0	0	0	0	2	<1<	48	<	4	=	2	0	<81	1<2	1&	0	0	0	=	1	187
18:00	1	0	0	0	0	0	0	1	=8&	44	=	3	3	2	0	<4<	147	13	0	0	0	4	0	1<4
18:1=	1	0	0	0	0	0	0	1	==2	40	3	2	4	2	0	<03	121	10	1	0	0	4	0	13<
18:30	1	0	0	0	0	0	0	1	=12	32	3	2	=	=	0	==&	&1	10	1	0	0	1	0	103
18:4=	0	0	0	0	0	0	0	0	4<4	27	3	=	=	<	0	=10	<<	&	1	0	0	1	0	77
1&:00	0	0	0	0	0	0	0	0	42<	23	1	4	<	<	0	4<<	=4	10	2	0	0	1	0	<7
1&:1=	0	0	0	0	0	0	0	0	402	20	1	4	4	<	2	43&	44	10	1	0	0	1	0	=<
1&:30	0	0	0	0	0	0	0	0	3=&	1<	0	4	3	3	2	387	43	4	1	0	0	1	0	4&
1&:4=	0	0	0	0	0	0	0	0	322	14	0	1	3	0	2	342	41	4	1	1	0	0	0	47
20:00	0	0	0	0	0	0	0	0	2<4	1=	0	1	1	0	2	283	41	2	0	1	0	0	0	44
20:1=	0	0	0	0	0	0	0	0	212	1=	0	1	1	0	0	22&	4<	2	1	2	0	0	0	=1
20:30	1	0	0	0	0	0	0	1	241	14	0	0	0	1	0	2=<	47	1	1	2	0	0	0	=1
20:4=	1	0	0	0	0	0	0	1	22<	11	0	0	0	1	0	238	43	2	1	1	0	0	0	47
21:00	1	0	0	0	0	0	0	1	214	&	0	1	1	2	0	227	40	1	1	1	0	1	0	44
21:1=	1	0	0	0	0	0	0	1	207	<	0	2	2	=	0	222	3=	1	0	0	0	1	0	37
21:30	0	0	0	0	0	0	0	0	171	4	0	4	2	4	0	18=	33	2	0	0	0	1	0	3<
21:4=	0	0	0	0	0	0	0	0	1&1	7	0	4	2	=	0	20&	3&	1	0	0	0	1	0	41
22:00	0	0	0	0	0	0	0	0	207	=	0	=	1	4	0	222	41	1	0	0	0	0	0	42
22:1=	0	0	0	0	0	0	0	0	203	<	0	4	0	2	0	21=	4&	1	0	0	0	1	0	=1
22:30	0	0	0	0	0	0	0	0	204	8	0	3	1	2	0	218	42	0	0	0	0	1	0	43
22:4=	0	0	0	0	0	0	0	0	200	7	0	3	1	2	0	213	31	0	0	0	0	1	0	32
23:00	0	0	0	0	0	0	0	0	223	8	1	3	3	2	0	240	2=	0	0	2	0	2	0	2&

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 3

Date of Survey: 10.07.2018
Junction Name: A370 / A4174 Colliters Way
Junction Type: 3-arm Ro !"a#o t

!rm !: A370 926:
!rm B: A4174 Colliters Way 9S6:
!rm C: A370 9SW:

	C to C								C to B								C to !"							
Time	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total
00-00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	8	0	0	0	0	0	0	8
00-1=	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	&	1	0	0	0	0	0	10
00-30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	2	3	0	0	0	0	0	=
00-4=	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	<	0	0	0	0	0	0	<
01-00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
01-1=	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	1	0	0	0	0	0	0	1
01-30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	=
01-4=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
02-00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
02-1=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	3	1	0	0	0	0	0	4
02-30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	4
02-4=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	4	1	0	0	1	0	0	<
03-00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	4	0	0	0	0	0	0	4
03-1=	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3	0	0	0	0	1	0	4
03-30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	3	0	0	1	0	0	0	4
03-4=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4
04-00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	<	2	0	0	0	0	0	8
04-1=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	7	1	0	1	0	0	0	&
04-30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	&	1	0	0	0	0	0	10
04-4=	0	0	0	0	0	0	0	0	4	2	0	0	0	1	0	7	4	0	0	1	0	1	0	<
0=-00	0	0	0	0	0	0	0	0	<	1	0	1	0	0	0	8	7	0	1	2	0	1	0	11
0=-1=	0	0	0	0	0	0	0	0	=	0	0	0	0	1	0	<	14	3	1	1	0	1	0	20
0=-30	0	0	0	0	0	0	0	0	<	0	0	0	0	0	0	<	31	4	0	1	0	0	0	3<
0=-4=	0	0	0	0	0	0	0	0	8	3	0	1	0	0	0	12	31	<	2	0	0	1	1	41
0<-00	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4	==	11	0	2	1	2	0	71
0<-1=	0	0	0	0	0	0	0	0	10	<	1	1	0	0	0	18	=3	10	2	3	1	1	0	70
0<-30	0	1	0	0	0	0	0	1	22	4	0	2	1	0	0	2&	13=	2<	7	1	1	<	0	17<
0<-4=	1	0	0	0	0	0	0	1	1&	4	0	2	0	0	0	2=	147	20	<	1	0	10	0	184
07-00	0	0	0	0	0	0	0	0	33	4	0	3	0	0	0	40	18<	23	7	0	3	=	0	224
07-1=	0	0	0	0	0	0	0	0	40	14	1	3	0	0	0	=8	201	22	=	1	0	3	1	233
07-30	0	0	0	0	0	0	0	0	30	12	2	1	0	0	0	4=	1<2	1&	=	1	1	=	0	1&3
07-4=	1	0	0	0	0	0	0	1	43	=	1	0	0	2	0	=1	171	18	7	2	2	4	0	204
08-00	2	0	0	0	0	0	0	2	4=	7	4	1	0	0	0	=7	1=&	20	=	4	2	4	0	1&4
08-1=	0	0	0	0	0	0	0	0	4&	7	0	1	0	1	0	=8	1<4	1=	3	0	2	<	1	1&1
08-30	0	0	0	0	0	0	0	0	3=	<	1	1	0	1	0	44	120	18	1	4	1	8	0	1=2
08-4=	0	0	0	0	0	0	0	0	3=	=	2	0	0	0	0	42	140	13	3	1	2	3	0	1<2
0&-00	0	0	0	0	0	0	0	0	37	<	1	0	2	0	0	4<	14&	1<	4	3	3	=	1	1&1
0&-1=	0	0	0	0	0	0	0	0	34	11	2	0	0	0	0	47	133	14	4	4	3	2	1	1<1
0&-30	0	0	0	0	0	0	0	0	33	&	1	1	0	0	0	44	12&	1<	0	=	2	1	0	1=3
0&-4=	2	0	0	0	0	0	0	2	31	<	2	2	0	0	0	41	117	8	=	2	2	1	0	13=
10-00	1	0	0	0	0	0	0	1	27	4	0	1	0	1	0	33	&3	11	3	3	2	0	0	112
10-1=	0	0	0	0	0	0	0	0	24	<	2	0	0	1	0	33	80	12	=	2	3	0	0	102
10-30	0	0	0	0	0	0	0	0	2=	=	1	0	0	0	0	31	100	1<	=	2	3	0	0	12<
10-4=	1	0	0	0	0	0	0	1	24	2	0	2	0	1	0	2&	83	1<	3	1	1	1	0	10=
11-00	1	0	0	0	0	0	0	1	27	<	3	0	0	0	0	3<	<2	11	4	3	3	0	0	83
11-1=	0	0	0	0	0	0	0	0	24	2	1	1	0	0	0	28	&&	17	&	3	2	1	0	131
11-30	0	0	0	0	0	0	0	0	23	7	0	0	0	2	0	32	82	1<	=	=	0	2	0	110
11-4=	0	0	0	0	0	0	0	0	17	3	0	4	0	0	0	24	8<	1=	4	1	1	0	0	107
12-00	0	0	0	0	0	0	0	0	2&	=	3	1	0	2	0	40	70	&	3	<	3	0	0	&1
12-1=	0	0	0	0	0	0	0	0	22	=	1	1	0	0	0	2&	72	1&	2	3	1	0	0	&7
12-30	0	0	0	0	0	0	0	0	1&	<	3	0	0	0	0	28	7=	&	1	0	0	1	0	8<
12-4=	1	0	0	0	0	0	0	1	1=	=	3	2	1	0	0	2<	70	8	0	1	1	2	0	82
13-00	0	0	0	0	0	0	0	0	2=	&	2	1	0	0	0	37	70	18	2	<	0	1	0	&7
13-1=	1	0	0	0	0	0	0	1	14	8	1	3	0	0	0	2<	77	13	4	3	2	1	0	100
13-30	2	0	0	0	0	0	0	2	23	<	2	0	0	2	0	33	77	17	1	&	1	2	0	107
13-4=	0	0	0	0	0	0	0	0	24	11	1	0	0	0	0	3<	74	13	4	2	1	0	0	&4
14-00	0	0	0	0	0	0	0	0	2<	1	0	0	0	0	0	27	72	7	2	2	1	1	0	8=
14-1=	1	0	0	0	0	0	0	1	2<	12	3	0	0	1	0	42	<&	&	1	1	2	0	0	82
14-30	0	0	0	0	0	0	0	0	28	12	1	1	0	2	0	44	<<	1<	3	=	0	0	0	&0
14-4=	2	0	0	0	0	0	0	2	38	8	1	3	0	1	0	=1	74	1=	1	0	1	0	0	&1
1=-00	0	0	0	0	0	0	0	0	27	<	2	1	0	0	0	3<	<=	13	3	1	2	1	0	8=
1=-1=	1	0	0	0	0	0	0	1	32	7	0	0	0	0	0	3&	73	1=	4	0	2	2	0	&<
1=-30	0	0	0	0	0	0	0	0	30	7	0	0	0	0	0	37	77	17	2	2	2	0	0	100
1=-4=	0	0	0	0	0	0	0	0	3<	12	2	0	0	0	0	=0	84	17	1	0	1	3	0	10<
1<-00	1	0	0	0	0	0	0	1	38	17	1	1	0	1	0	=8	&2	20	0	0	0	1	0	113
1<-1=	0	0	0	0	0	0	0	0	=4	&	1	0	0	0	0	<4	103	18	2	1	4	3	0	131
1<-30	1	0	0	0	0	0	0	1	33	14	0	0	0	1	0	48	7<	14	1	1	1	2	0	&3
1<-4=	0	0	0	0	0	0	0	0	4=	14	0	0	0	0	0	=&	<&	13	2	0	1	2	0	87
17-00	1	0	0	0	0	0	0	1	44	13	0	0	0	1	0	=8	&8	14	1	1	2	=	0	121
17-1=	0	0	0	0	0	0	0	0	41	11	0	0	1	2	0	==	83	1=	0	0	0	0	0	&8
17-30	1	0	0	0	0	0	0	1	40	8	1	3	0	1	0	=3	<&	11	0	0	1	<	0	87
17-4=	0	0	0	0	0	0	0	0	=1	=	0	0	0	0	0	=<	<2	10	0	2	2	3	2	81
18-00	0	0	0	0	0	0	0	0	44	&	0	0	0	0	1	=4	71	8	0	1	0	0	0	80
18-1=	0	0	0	0	0	0	0	0	33	=	0	0	0	0	0	38	7<	4	2	0	1	2	0	8=
18-30	2	0	0	0	0	0	0	2	21	=	1	1	0	2	0	30	78	0	0	0	3	0	0	81
18-4=	0	0	0	0	0	0	0	0	32	3	1	0	0	1	0	37	<7	<	0	3	1	2	0	7&
1&-00	0	0	0	0	0	0	0	0	2<	1	0	0	0	0	0	27	<3	2	0	4	2	1	0	72
1&-1=	0	0	0	0	0	0	0	0	22	1	0	1	0	0	0	24	41	4	0	0	1	1	1	48
1&-30	0	0	0	0	0	0	0	0	23	1	0	0	0	0	0	24	38	1	0	0	0	0	0	3&
1&-4=	0	0	0	0	0	0	0	0	1=	2	0	0	0	1	0	18	3<	1	0	0	0	1	0	38
20-00	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	18	23	=	0	0	1	0	0	2&
20-1=	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	27	2	1	0	0	0	1	31
20-30	0	0	0	0	0	0	0	0	17	3	0	0	0	0	0	20	27	2	0	1	0	1	0	31
20-4=	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4	2=	0	0	1	0	0	0	2<
21-00	0	0	0	0	0	0	0	0	<	2	0	0	0	0	0	8	20	2	0	1	0	2	0	2=
21-1=	0	0	0	0	0	0	0	0	&	0	0	0	0	0	0	&	30	0	0	1	0	1	0	32
21-30	0	0	0	0	0	0	0	0	<	1	0	1	0	1	0	&	27	2	0	0	0	0	0	2&
21-4=	1	0	0	0	0	0	0	1	11	0	0	2	0	0	0	13	41	3	0	0	0	0	0	44
22-00	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	24	0	0	0	0	2	0	2<
22-1=	1	0	0	0	0	0	0	1	13	2	1	0	0	0	0	1<	37	0	0	0	0	2	0	3&
22-30	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	8	1&	3	0	1	0	0	0	23
22-4=	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	11	0	0	0	0	2	0	13
23-00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	17	3	0	0	0	0	0	20
23-1=	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	4	11	1	0	0	0	0	0	12
23-30	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	10	0	0	0	0	0	0	10
23-4=	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4	=	0	0	0	0	0	0	=

Start Time	&olling 6our							Total	&olling 6our							Total	&olling 6our							Total
00:00	0	0	0	0	0	0	0	0	<	1	0	0	0	0	0	7	2=	4	0	0	0	0	0	2&
00:1=	0	0	0	0	0	0	0	0	=	0	0	0	0	0	0	=	20	4	0	0	0	0	0	24
00:30	0	0	0	0	0	0	0	0	<	1	0	0	0	0	0	7	12	3	0	0	0	0	0	1=
00:4=	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	13	1	0	1	0	0	0	1=
01:00	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	11	1	0	1	0	0	0	13
01:1=	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	10	1	0	1	0	0	0	12
01:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	12	2	0	1	0	0	0	1=
01:4=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	10	3	1	0	0	0	0	14
02:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	10	4	1	0	1	0	0	1<
02:1=	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	12	4	1	0	1	0	0	18
02:30	0	0	0	0	0	0	0	0	<	0	0	0	0	0	0	<	12	3	1	0	1	1	0	18
02:4=	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	14	1	0	1	1	1	0	18
03:00	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	14	0	0	1	0	1	0	1<
03:1=	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	1<	2	0	1	0	1	0	20
03:30	0	0	0	0	0	0	0	0	&	0	0	0	0	0	0	&	20	3	0	2	0	0	0	2=
03:4=	0	0	0	0	0	0	0	0	&	0	0	0	0	0	0	&	2<	4	0	1	0	0	0	31
04:00	0	0	0	0	0	0	0	0	11	2	0	0	0	1	0	14	2<	4	0	2	0	1	0	33
04:1=	0	0	0	0	0	0	0	0	14	3	0	1	0	1	0	1&	27	2	1	4	0	2	0	3<
04:30	0	0	0	0	0	0	0	0	17	3	0	1	0	2	0	23	34	4	2	4	0	3	0	47
04:4=	0	0	0	0	0	0	0	0	21	3	0	1	0	2	0	27	=<	7	2	=	0	3	0	73
0=:00	0	0	0	0	0	0	0	0	2=	4	0	2	0	1	0	32	83	13	4	4	0	3	1	108
0=:1=	0	0	0	0	0	0	0	0	21	=	0	1	0	1	0	28	131	24	3	4	1	4	1	1<8
0=:30	0	0	0	0	0	0	0	0	2<	11	1	2	0	0	0	40	170	31	4	<	2	4	1	218
0=:4=	0	1	0	0	0	0	0	1	42	1=	1	4	1	0	0	<3	274	=3	11	<	3	10	1	3=8
0<:00	1	1	0	0	0	0	0	2	=3	1<	1	=	1	0	0	7<	3&0	<7	1=	7	3	1&	0	=01
0<:1=	1	1	0	0	0	0	0	2	84	18	1	8	1	0	0	112	=21	7&	22	=	=	22	0	<=4
0<:30	1	1	0	0	0	0	0	2	114	2<	1	10	1	0	0	1=2	<<&	&1	2=	3	4	24	1	817
0<:4=	1	0	0	0	0	0	0	1	122	34	3	&	0	0	0	1<8	<&<	84	23	3	4	23	1	834
07:00	1	0	0	0	0	0	0	1	14<	3=	4	7	0	2	0	1&4	720	82	24	4	<	17	1	8=4
07:1=	3	0	0	0	0	0	0	3	1=8	38	8	=	0	2	0	211	<&3	7&	22	8	=	1<	1	824
07:30	3	0	0	0	0	0	0	3	1<7	31	7	3	0	3	0	211	<=<	72	20	7	7	1&	1	782
07:4=	3	0	0	0	0	0	0	3	172	2=	<	3	0	4	0	210	<14	71	1<	10	7	22	1	741
08:00	2	0	0	0	0	0	0	2	1<4	2=	7	3	0	2	0	201	=83	<<	12	&	7	21	1	<&&
08:1=	0	0	0	0	0	0	0	0	1=<	24	4	2	2	2	0	1&0	=73	<2	11	8	8	22	2	<8<
08:30	0	0	0	0	0	0	0	0	141	28	<	1	2	1	0	17&	=42	<1	12	12	&	18	2	<=<
08:4=	0	0	0	0	0	0	0	0	13&	31	<	1	2	0	0	17&	==1	=&	11	13	10	11	2	<=7
0&:00	2	0	0	0	0	0	0	2	13=	32	<	3	2	0	0	178	=28	=4	13	14	10	&	2	<30
0&:1=	3	0	0	0	0	0	0	3	12=	30	=	4	0	1	0	1<=	472	4&	12	14	&	4	1	=<1
0&:30	3	0	0	0	0	0	0	3	11=	2=	=	4	0	2	0	1=1	41&	47	13	12	&	2	0	=02
0&:4=	3	0	0	0	0	0	0	3	107	21	=	3	0	2	0	138	3&0	47	18	&	10	1	0	47=
10:00	2	0	0	0	0	0	0	2	100	17	3	3	0	3	0	12<	3=<	==	1<	8	&	1	0	44=
10:1=	2	0	0	0	0	0	0	2	100	1&	<	2	0	2	0	12&	32=	==	17	8	10	1	0	41<
10:30	2	0	0	0	0	0	0	2	100	1=	=	3	0	1	0	124	344	<0	21	&	&	2	0	44=
10:4=	2	0	0	0	0	0	0	2	&8	17	4	3	0	3	0	12=	32<	<0	21	12	<	4	0	42&
11:00	1	0	0	0	0	0	0	1	&1	18	4	=	0	2	0	120	32&	=&	22	12	<	3	0	431
11:1=	0	0	0	0	0	0	0	0	&3	17	4	<	0	4	0	124	337	=7	21	1=	<	3	0	43&
11:30	0	0	0	0	0	0	0	0	&1	20	4	<	0	4	0	12=	310	=&	14	1=	=	2	0	40=
11:4=	0	0	0	0	0	0	0	0	87	1&	7	<	0	2	0	121	303	=2	10	10	=	1	0	381
12:00	1	0	0	0	0	0	0	1	8=	21	10	4	1	2	0	123	287	4=	<	10	=	3	0	3=<
12:1=	1	0	0	0	0	0	0	1	81	2=	&	4	1	0	0	120	287	=4	=	10	2	4	0	3<2
12:30	2	0	0	0	0	0	0	2	73	28	&	<	1	0	0	117	2&2	48	7	10	3	=	0	3<=
12:4=	4	0	0	0	0	0	0	4	77	28	8	<	<	1	2	0	122	2&4	=<	7	1&	4	<	0	38<
13:00	3	0	0	0	0	0	0	3	8<	34	<	4	0	2	0	132	2&8	<1	11	20	4	4	0	3&8
13:1=	3	0	0	0	0	0	0	3	87	2<	4	3	0	2	0	122	300	=0	11	1<	=	4	0	38<
13:30	3	0	0	0	0	0	0	3	&&	30	<	0	0	3	0	138	2&2	4<	8	14	=	3	0	3<8
13:4=	1	0	0	0	0	0	0	1	104	3<	=	1	0	3	0	14&	281	4=	10	10	4	1	0	3=1
14:00	3	0	0	0	0	0	0	3	118	33	=	4	0	4	0	1<4	281	47	7	8	4	1	0	348
14:1=	3	0	0	0	0	0	0	3	11&	38	7	=	0	4	0	173	274	=3	8	7	=	1	0	348
14:30	3	0	0	0	0	0	0	3	12=	33	4	=	0	3	0	170	278	=&	11	<	=	3	0	3<2
14:4=	3	0	0	0	0	0	0	3	127	28	3	4	0	1	0	1<3	28&	<0	10	3	7	3	0	372
1=:00	1	0	0	0	0	0	0	1	12=	32	4	1	0	0	0	1<2	2&&	<2	10	3	7	<	0	387
1=:1=	2	0	0	0	0	0	0	2	13<	43	3	1	0	1	0	184	32<	<&	7	2	=	<	0	41=
1=:30	1	0	0	0	0	0	0	1	1=8	4=	4	1	0	1	0	20&	3=<	72	=	3	7	7	0	4=0
1=:4=	2	0	0	0	0	0	0	2	1<1	=2	4	1	0	2	0	220	3==	<&	4	2	<	7	0	443
1<:00	2	0	0	0	0	0	0	2	170	=4	2	1	0	2	0	22&	340	<=	=	2	<	<	0	424
1<:1=	2	0	0	0	0	0	0	2	17<	=0	1	0	0	2	0	22&	34<	=&	<	3	8	10	0	432
1<:30	2	0	0	0	0	0	0	2	1<3	=2	0	0	1	4	0	220	32<	=<	4	2	4	7	0	3&&
1<:4=	2	0	0	0	0	0	0	2	170	4<	1	3	1	4	0	22=	31&	=3	3	1	4	13	0	3&3
17:00	2	0	0	0	0	0	0	2	17<	37	1	3	1	4	0	222	312	=0	1	3	=	14	2	387
17:1=	1	0	0	0	0	0	0	1	17<	33	1	3	1	3	1	218	28=	44	0	3	3	&	2	34<
17:30	1	0	0	0	0	0	0	1	1<8	27	1	3	0	1	1	201	278	33	2	3	4	11	2	333
17:4=	2	0	0	0	0	0	0	2	14&	24	1	1	0	2	1	178	287	22	2	3	<	=	2	327
18:00	2	0	0	0	0	0	0	2	130	22	2	1	0	3	1	1=&	2&2	18	2	4	=	4	0	32=
18:1=	2	0	0	0	0	0	0	2	112	14	2	1	0	3	0	132	284	12	2	7	7	=	0	317
18:30	2	0	0	0	0	0	0	2	101	10	2	2	0	3	0	118	24&	12	0	7	7	4	1	280
18:4=	0	0	0	0	0	0	0	0	103	<	1	1	0	1	0	112	20&	13	0	7	4	4	1	238
1&:00	0	0	0	0	0	0	0	0	8<	=	0	1	0	1	0	&3	178	8	0	4	3	3	1	1&7
1&:1=	0	0	0	0	0	0	0	0	78	4	0	1	0	1	0	84	138	11	0	0	2	2	1	1=4
1&:30	0	0	0	0	0	0	0	0	73	4	0	0	0	1	0	78	124	&	1	0	1	1	1	137
1&:4=	0	0	0	0	0	0	0	0	<7	<	0	0	0	1	0	74	113	10	1	1	1	2	1	12&
20:00	0	0	0	0	0	0	0	0	=4	<	0	0	0	0	0	<0	102	&	1	2	1	1	1	117
20:1=	0	0	0	0	0	0	0	0	42	8	0	0	0	0	0	=0	&&	<	1	3	0	3	1	113
20:30	0	0	0	0	0	0	0	0	34	7	0	0	0	0	0	41	102	4	0	4	0	4	0	114
20:4=	0	0	0	0	0	0	0	0	23	=	0	1	0	1	0	30	102	4	0	3	0	3	0	112
21:00	1	0	0	0	0	0	0	1	32	3	0	3	0	1	0	3&	118	7	0	2	0	3	0	130
21:1=	1	0	0	0	0	0	0	1	38	1	0	3	0	1	0	43	122	=	0	1	0	3	0	131
21:30	2	0	0	0	0	0	0	2	42	3	1	3	0	1	0	=0	12&	=	0	0	0	4	0	138
21:4=	2	0	0	0	0	0	0	2	43	2	1	3	0	0	0	4&	121	<	0	1	0	4	0	132
22:00	1	0	0	0	0	0	0	1	3&	2	1	1	0	0	0	43	&1	3	0	1	0	<	0	101
22:1=	1	0	0	0	0	0	0	1	30	2	1	1	0	0	0	34	84	<	0	1	0	4	0	&=
22:30	0	0	0	0	0	0	0	0	20	0	0	2	0	0	0	22	=8	7	0	1	0	2	0	<8
22:4=	0	0	0	0	0	0	0	0	17	0	0	1	0	0	0	18	4&	4	0	0	0	2	0	==
23:00	0	0	0	0	0	0	0	0	12	2	0	1	0	0	0	1=	43	4	0	0	0	0	0	47

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 3

Date of Survey: 10.07.2018
Junction Name: A370 / A4174 Colliters Way
Junction Type: 3-arm Ro !"a#o t

	Irm t !pproac)								Irm t 7#it							
Time	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total	Car	L/2	1/23	1/24	Bu e	-5C	Cycle	Total
00:00	2<	2	2	0	0	1	0	31	=4	3	0	0	0	0	0	=7
00:15	3<	0	0	0	0	1	0	37	3=	=	0	0	2	0	0	42
00:30	20	0	0	1	0	0	0	21	21	=	1	1	0	0	0	28
00:45	1&	=	0	2	0	0	0	2<	32	1	1	2	0	0	0	3<
01:00	1=	1	0	1	0	0	0	17	23	3	0	1	0	0	0	27
01:15	24	3	1	0	0	0	0	28	24	3	0	1	0	0	0	28
01:30	17	1	0	0	1	0	0	1&	18	2	0	2	0	0	0	22
01:45	24	1	0	1	1	0	0	27	3=	3	0	0	0	0	0	38
02:00	18	2	1	0	1	0	0	22	32	0	1	0	1	0	0	34
02:15	1=	2	0	0	0	0	0	17	43	4	0	0	1	0	0	48
02:30	13	1	0	0	0	0	0	14	=3	=	1	1	0	0	0	<0
02:45	20	0	1	1	0	0	0	22	32	1	0	0	1	0	0	34
03:00	23	2	1	0	0	0	0	2<	37	2	0	0	0	0	0	3&
03:15	2=	=	1	2	0	0	0	33	30	1	0	0	0	1	0	32
03:30	42	0	0	0	1	1	0	44	2<	3	0	1	0	0	0	30
03:45	41	2	0	0	1	0	0	44	31	4	0	0	1	0	0	3<
04:00	=3	1	1	2	0	0	0	=7	38	4	0	1	0	0	0	43
04:15	4=	8	1	3	0	1	0	=8	4&	2	1	1	2	0	0	==
04:30	<7	4	3	3	1	0	0	78	42	3	0	0	1	0	0	4<
04:45	<&	=	2	1	1	0	0	78	2&	1	0	1	0	1	0	32
0=:00	71	2	2	1	0	2	0	78	=<	=	3	4	1	2	0	71
0=:15	84	<	3	2	0	1	0	&<	70	8	2	2	0	3	0	8=
0=:30	78	<	1	4	2	1	0	&2	100	&	0	3	0	1	0	113
0=:45	<=	<	0	4	0	1	0	7<	&=	13	2	2	2	1	2	117
0<:00	<1	11	3	<	1	1	0	83	144	21	0	=	<	4	0	180
0<:15	112	1<	1	4	2	=	0	140	1=4	2=	=	<	3	3	0	1&
0<:30	102	14	3	4	1	2	0	12<	2<7	<3	8	7	4	&	0	3=8
0<:45	11<	2&	2	=	2	2	0	1=<	324	<0	8	<	2	13	2	41=
07:00	13<	28	8	<	2	0	1	181	383	72	8	=	=	&	0	482
07:15	178	37	=	4	2	1	0	227	410	<<	8	7	=	7	1	=04
07:30	18&	31	=	<	3	3	0	237	371	<=	7	4	1	13	0	4<1
07:45	228	3<	11	7	2	<	0	2&0	33&	==	10	4	3	<	1	418
08:00	208	3&	4	8	1	4	0	2<4	32<	4&	11	10	2	13	1	412
08:15	174	40	<	<	4	3	0	233	37=	=&	<	=	2	8	1	4=<
08:30	174	21	10	<	1	2	0	214	300	38	3	1=	4	10	0	370
08:45	1<3	34	3	7	=	=	0	217	2<&	34	4	=	2	4	0	318
0&:00	1<8	27	7	<	1	2	0	211	31<	34	11	4	3	&	2	37&
0&:15	142	30	=	8	3	0	0	188	312	34	14	8	3	7	2	380
0&:30	1=1	34	<	=	2	3	3	204	28=	34	14	11	4	4	1	3=3
0&:45	148	27	7	7	1	0	0	1&0	241	28	12	7	=	2	0	2&=
10:00	143	31	11	4	4	1	0	1&4	203	37	8	7	2	0	0	2=7
10:15	1<4	3<	1	10	0	1	0	212	188	24	&	3	3	0	0	227
10:30	20=	43	4	10	1	1	0	2<4	222	43	11	10	3	0	0	28&
10:45	1=8	34	8	&	=	=	0	21&	223	31	4	1	4	=	0	2<8
11:00	178	2<	11	<	1	2	0	224	177	3<	1=	7	3	3	0	241
11:15	187	3<	<	7	3	1	0	240	204	3&	1=	<	2	2	0	2<8
11:30	1&<	33	10	8	3	0	0	2=0	201	3<	&	10	0	2	0	2=8
11:45	188	37	=	<	2	3	0	241	1<7	3&	7	2	1	0	0	21<
12:00	1&<	28	8	8	2	3	0	24=	173	34	4	10	4	0	0	22=
12:15	1&4	41	8	8	3	2	0	2=<	1<<	43	7	<	1	1	0	224
12:30	1&7	32	2	8	2	1	0	242	184	23	3	3	1	1	0	21=
12:45	188	41	8	4	2	7	0	2<0	1&7	18	3	8	2	4	0	232
13:00	181	40	7	4	1	<	0	23&	170	3<	&	8	3	1	0	227
13:15	204	37	1	8	2	2	0	2=4	207	2<	11	8	3	4	0	2=&
13:30	207	2&	<	8	3	2	0	2==	201	3<	<	10	1	2	0	2=<
13:45	183	4<	<	8	2	2	0	247	202	33	<	=	4	0	0	2=0
14:00	21=	4<	12	10	3	2	1	28&	17<	21	4	8	2	2	0	213
14:15	240	3&	2	7	<	4	0	2&8	17&	28	4	3	2	1	0	217
14:30	28=	==	8	7	4	4	0	3<3	182	37	=	8	3	0	0	23=
14:45	2<4	44	&	7	4	3	0	331	1&0	30	=	3	=	1	0	234
1=:00	2==	37	<	10	3	3	0	314	17&	3=	<	=	=	2	0	232
1=:15	234	4&	8	8	4	<	0	30&	208	34	&	3	2	4	0	2<0
1=:30	30=	==	<	7	1	=	0	37&	180	3=	3	=	4	0	0	227
1=:45	338	<2	3	13	4	=	1	42<	20=	38	4	4	1	8	0	2<0
1<:00	348	=&	7	&	4	7	0	434	221	38	3	1	4	3	0	270
1<:15	3=0	=&	<	4	1	=	0	42=	2=8	34	4	4	=	<	0	311
1<:30	3=<	43	2	4	1	7	0	413	23=	3&	2	3	1	1	0	281
1<:45	347	4<	3	3	1	&	0	40&	222	2&	2	1	1	2	0	2=7
17:00	3<8	3&	3	3	3	&	0	42=	237	34	2	4	2	7	1	287
17:15	372	2&	2	=	1	12	3	424	240	32	1	1	2	2	0	278
17:30	377	32	0	1	3	7	1	421	20&	21	=	2	1	8	0	24<
17:45	370	21	0	3	1	11	1	407	22=	22	3	4	=	3	2	2<4
18:00	37<	20	3	2	3	8	1	413	228	18	2	2	1	0	0	2=1
18:15	3<&	3<	3	4	1	11	2	42<	22=	20	4	1	2	2	0	2=4
18:30	3<4	24	1	4	=	<	0	404	22<	11	0	0	3	2	0	242
18:45	272	2<	0	0	2	<	0	30<	203	1=	2	4	2	2	0	228
1&:00	20<	1&	1	0	2	=	1	234	184	8	0	4	4	1	0	201
1&:15	203	18	0	1	<	4	0	232	1=2	11	1	1	3	4	1	173
1&:30	1<1	13	1	3	1	1	1	181	137	7	0	3	0	3	0	1=0
1&:45	142	1<	0	2	3	0	0	1<3	137	=	0	0	2	1	0	14=
20:00	1<1	13	0	0	2	2	0	178	120	8	0	0	1	0	2	131
20:15	11=	7	0	0	1	4	0	127	&3	=	1	1	1	0	1	102
20:30	138	18	2	1	1	1	0	1<1	&1	<	0	1	0	1	0	&&
20:45	111	4	0	1	1	4	0	121	<=	=	0	1	0	0	0	71
21:00	11=	11	0	2	1	1	0	130	<=	<	0	1	0	2	0	74
21:15	104	8	0	1	2	3	0	118	12=	2	0	1	0	2	0	130
21:30	&<	&	0	2	1	0	0	108	74	3	0	0	0	0	0	77
21:45	102	8	0	2	0	0	0	112	70	<	0	1	1	1	0	7&
22:00	103	12	1	0	0	0	0	11<	<1	0	0	1	1	=	0	<8
22:15	11=	2	0	1	0	2	0	120	&8	0	0	2	0	2	0	102
22:30	&8	<	0	1	0	1	0	10<	87	7	0	1	0	1	0	&<
22:45	7<	7	1	1	0	2	0	87	==	1	0	2	0	2	0	<0
23:00	74	3	0	4	0	0	0	81	=1	4	0	0	0	1	0	=<
23:15	<4	3	2	0	0	0	0	<&	71	4	0	1	1	0	0	77
23:30	=3	3	0	1	2	0	0	=&	73	3	0	0	0	1	0	77
23:45	43	4	0	2	0	0	0	4&	72	2	1	2	2	0	0	7&

Start Time	&olling 6our							Total	&olling 6our							Total
00:00	101	7	2	3	0	2	0	11=	142	14	2	3	2	0	0	1<3
00:1=	&0	<	0	4	0	1	0	101	111	14	2	4	2	0	0	133
00:30	78	&	1	4	0	0	0	&2	100	12	2	=	0	0	0	11&
00:4=	7=	10	1	3	1	0	0	&0	&7	&	1	<	0	0	0	113
01:00	80	<	1	2	2	0	0	&1	100	11	0	4	0	0	0	11=
01:1=	83	7	2	1	3	0	0	&<	10&	8	1	3	1	0	0	122
01:30	74	<	1	1	3	0	0	8=	128	&	1	2	2	0	0	142
01:4=	70	<	1	1	2	0	0	80	1<3	12	2	1	2	0	0	180
02:00	<<	=	2	1	1	0	0	7=	1<0	10	2	1	3	0	0	17<
02:1=	71	=	2	1	0	0	0	7&	1<=	12	1	1	2	0	0	181
02:30	81	8	3	3	0	0	0	&=	1=2	&	1	1	1	1	0	1<=
02:4=	110	7	3	3	1	1	0	12=	12=	7	0	1	1	1	0	13=
03:00	131	&	2	2	2	1	0	147	124	10	0	1	1	1	0	137
03:1=	1<1	8	2	4	2	1	0	178	12=	12	0	2	1	1	0	141
03:30	181	11	2	=	2	2	0	203	144	13	1	3	3	0	0	1:<4
03:4=	20<	1=	=	8	2	1	0	237	1<0	13	1	2	4	0	0	180
04:00	234	18	7	&	2	1	0	271	1=8	10	1	3	3	1	0	17<
04:1=	2=2	1&	8	8	2	3	0	2&2	17<	11	4	<	4	3	0	204
04:30	2&1	17	10	7	2	3	0	330	1&7	17	=	7	2	<	0	234
04:4=	302	1&	8	8	3	4	0	344	2==	23	=	10	1	7	0	301
0=:00	2&8	20	<	11	2	=	0	342	321	3=	7	11	3	7	2	38<
0=:1=	288	2&	7	1<	3	4	0	347	40&	=1	4	12	8	&	2	4&=
0=:30	31<	3&	=	18	=	8	0	3&1	4&3	<8	7	1<	11	&	2	<0<
0=:4=	340	47	7	18	4	&	0	42=	<<0	122	1=	20	1=	17	2	8=1
0<:00	3&1	70	&	1&	<	10	0	=0=	88&	1<&	21	24	1=	2&	2	114&
0<:1=	4<<	87	14	1&	7	&	1	<03	1128	220	2&	24	14	34	2	14=1
0<:30	=32	108	18	1&	7	=	1	<&0	1384	2<1	32	2=	1<	38	3	17=&
0<:4=	<1&	12=	20	21	&	<	1	801	1488	2<3	31	22	13	42	3	18<2
07:00	731	132	2&	23	&	10	1	&3=	1<03	2=8	33	20	14	3=	2	18<=
07:1=	803	143	2=	2=	8	14	0	1018	144<	23=	3<	2=	11	3&	3	17&=
07:30	7&&	14<	2<	27	10	1<	0	1024	1411	228	34	23	8	40	3	1747
07:4=	784	13<	31	27	8	1=	0	1001	1340	201	30	34	11	37	3	1<=<
08:00	71&	134	23	27	11	14	0	&28	1270	180	24	3=	10	3=	2	1==<
08:1=	<7&	122	2<	2=	11	12	0	87=	12<0	1<=	24	2&	11	31	3	1=23
08:30	<47	112	2=	27	10	&	0	830	11&7	140	32	32	12	30	4	1447
08:4=	<24	12=	21	2<	11	10	3	820	1182	13<	43	28	12	24	=	1430
0&:00	<0&	118	2=	2<	7	=	3	7&3	11=4	130	=1	30	1=	22	=	1407
0&:1=	=84	122	2&	24	10	4	3	77<	1041	133	48	33	14	13	3	128=
0&:30	<0<	128	2=	2<	7	=	3	800	&17	123	43	28	14	<	1	1132
0&:4=	<<0	137	23	31	<	3	0	8<0	8=4	132	40	27	13	2	0	10<8
10:00	<70	144	24	33	10	8	0	88&	83<	13=	32	21	12	=	0	1041
10:1=	70=	13&	24	3=	7	&	0	&1&	810	134	3&	21	13	8	0	102=
10:30	728	13&	2&	32	10	&	0	&47	82<	14&	4=	24	12	10	0	10<<
10:4=	71&	12&	3=	30	12	8	0	&33	80=	142	43	24	&	12	0	103=
11:00	74&	132	32	27	&	<	0	&==	74&	1=0	4<	2=	<	7	0	&83
11:1=	7<7	134	2&	2&	10	7	0	&7<	74=	148	3=	28	7	4	0	&<7
11:30	774	13&	31	30	10	8	0	&&2	707	1=2	27	28	<	3	0	&23
11:4=	77=	138	23	30	&	&	0	&84	<&0	13&	21	21	7	2	0	880
12:00	77=	142	2<	28	&	13	0	&&3	720	118	17	27	8	<	0	8&<
12:1=	7<0	1=4	2=	24	8	1<	0	&87	717	120	22	2=	7	7	0	8&8
12:30	770	1=0	18	24	7	1<	0	&8=	7=8	103	2<	27	&	10	0	&33
12:4=	780	147	22	24	8	17	0	&&8	77=	11<	2&	34	&	11	0	&74
13:00	77=	1=2	20	28	8	12	0	&&=	780	131	32	31	11	7	0	&&2
13:1=	80&	1=8	2=	34	10	8	1	104=	78<	11<	27	31	10	8	0	&78
13:30	84=	1<0	2<	33	14	10	1	108&	7=8	118	20	2<	&	=	0	&3<
13:4=	&23	18<	28	32	1=	12	1	11&7	73&	11&	1&	24	11	3	0	&1=
14:00	1004	184	31	31	17	13	1	1281	727	11<	18	22	12	4	0	8&&
14:1=	1044	17=	2=	31	17	14	0	130<	730	130	20	1&	1=	4	0	&18
14:30	1038	18=	31	32	1=	1<	0	1317	7=&	13<	2=	1&	1=	7	0	&<1
14:4=	10=8	18=	2&	32	12	17	0	1333	7=7	134	23	1<	1<	7	0	&=3
1=:00	1132	203	23	38	12	1&	1	1428	772	142	22	17	12	14	0	&7&
1=:1=	122=	22=	24	37	13	23	1	1=48	814	14=	1&	13	11	1=	0	1017
1=:30	1341	23=	22	33	10	22	1	1<<4	8<4	14=	14	14	14	17	0	10<8
1=:4=	13&2	223	18	30	10	24	1	1<&8	&1&	14&	13	12	11	18	0	1122
1<:00	1401	207	18	20	7	28	0	1<81	&3<	140	11	&	11	12	0	111&
1<:1=	1421	187	14	14	<	30	0	1<72	&=2	13<	10	12	&	1<	1	113<
1<:30	1443	1=7	10	1=	<	37	3	1<71	&34	134	7	&	<	12	1	1103
1<:4=	14<4	14<	8	12	8	37	4	1<7&	&08	11<	10	8	<	1&	1	10<8
17:00	1487	121	=	12	8	3&	=	1<77	&11	10&	11	11	10	20	3	107=
17:1=	14&=	102	=	11	8	38	<	1<<=	&02	&3	11	&	&	13	2	103&
17:30	14&2	10&	<	10	8	37	=	1<<7	887	81	14	&	&	13	2	101=
17:4=	147&	101	7	13	10	3<	4	1<=0	&04	71	&	7	11	7	2	1011
18:00	1381	10<	7	10	11	31	3	1=4&	882	<4	8	7	8	<	0	&7=
18:1=	1211	10=	=	8	10	28	3	1370	838	=4	<	&	11	7	0	&2=
18:30	104=	87	2	=	1=	21	1	117<	7<=	4=	3	&	12	&	1	844
18:4=	842	7<	2	4	11	1<	2	&=3	<7<	41	3	12	&	10	1	7=2
1&:00	712	<<	2	<	12	10	2	810	<10	31	1	8	&	&	1	<<&
1&:1=	<<7	<0	1	<	12	7	1	7=4	=4<	31	1	4	<	8	3	=&&
1&:30	=7&	4&	1	=	7	7	1	<4&	487	2=	1	4	4	4	3	=28
1&:4=	==<	=4	2	3	7	7	0	<2&	441	24	1	2	4	2	3	477
20:00	=2=	42	2	2	=	11	0	=87	3<&	24	1	3	2	1	3	403
20:1=	47&	40	2	4	4	10	0	=3&	314	22	1	4	1	3	1	34<
20:30	4<8	41	2	=	=	&	0	=30	34<	1&	0	4	0	=	0	374
20:4=	42<	32	0	<	=	8	0	477	32&	1<	0	3	0	4	0	3=2
21:00	417	3<	0	7	4	4	0	4<8	334	17	0	3	1	=	0	3<0
21:1=	40=	37	1	=	3	3	0	4=4	330	11	0	3	2	8	0	3=4
21:30	41<	31	1	=	1	2	0	4=<	303	&	0	4	2	8	0	32<
21:4=	418	28	1	4	0	3	0	4=4	31<	13	0	=	2	&	0	34=
22:00	3&2	27	2	3	0	=	0	42&	301	8	0	<	1	10	0	32<
22:1=	3<3	18	1	7	0	=	0	3&4	2&1	12	0	=	0	<	0	314
22:30	312	1&	3	<	0	3	0	343	2<4	1<	0	4	1	4	0	28&
22:4=	2<7	1<	3	<	2	2	0	2&<	2=0	12	0	3	1	4	0	270
23:00	234	13	2	7	2	0	0	2=8	2<7	13	1	3	3	2	0	28&

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 3

Date of Survey: 10.07.2018
Junction Name: A370 / A4174 Colliters Way
Junction Type: 3-arm Ro !"a#o t

	Irm B Approac								Irm B Exit							
Time	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total
00:00	47	3	0	0	0	0	0	=0	23	2	1	0	0	0	0	2<
00:1=	2<	4	0	2	2	0	0	34	28	0	0	0	0	1	0	2&
00:30	20	2	1	1	0	0	0	24	1<	0	0	0	0	0	0	1<
00:4=	27	1	1	2	0	0	0	31	14	4	0	0	0	0	0	18
01:00	20	2	0	1	0	0	0	23	13	0	0	0	0	0	0	13
01:1=	23	3	0	1	0	0	0	27	22	4	0	0	0	0	0	2<
01:30	1=	2	0	1	0	0	0	18	14	2	0	0	1	0	0	17
01:4=	31	3	0	0	0	0	0	34	20	1	0	1	1	0	0	23
02:00	32	1	1	0	1	0	0	3=	1<	1	1	0	0	0	0	18
02:1=	40	3	0	0	1	0	0	44	1<	2	0	0	0	0	0	18
02:30	=3	3	0	1	0	0	0	=7	12	0	0	0	0	0	0	12
02:4=	28	0	0	0	0	0	0	28	1&	0	1	0	0	0	0	20
03:00	33	2	0	0	0	0	0	3=	21	0	0	0	0	0	0	21
03:1=	28	1	0	0	0	0	0	2&	24	4	0	1	0	0	0	2&
03:30	23	4	0	0	0	0	0	27	40	0	0	0	1	1	0	42
03:4=	28	3	0	0	1	0	0	32	40	0	0	0	1	0	0	41
04:00	33	2	0	1	0	0	0	3<	=4	1	1	1	0	0	0	=7
04:1=	42	1	1	0	2	0	0	4<	4=	<	0	3	0	1	0	==
04:30	3=	2	0	0	1	0	0	38	<=	3	1	1	1	0	0	71
04:4=	27	1	0	0	0	0	0	28	71	=	0	1	1	1	0	7&
0=:00	=2	8	2	2	1	1	0	<<	<&	3	0	2	0	1	0	7=
0=:1=	<0	7	1	1	0	2	0	71	83	<	2	2	0	1	0	84
0=:30	74	=	0	2	0	1	0	82	71	4	0	4	2	0	0	81
0=:4=	70	8	0	3	2	0	1	84	<<	<	0	2	0	0	0	74
0<:00	&3	12	3	<	=	2	0	121	48	7	2	4	0	0	0	<1
0<:1=	108	21	3	=	2	2	0	141	87	1<	1	2	2	1	0	10&
0<:30	14<	4=	2	7	3	3	0	20<	&4	14	0	3	1	2	0	114
0<:4=	184	47	2	10	2	3	2	2=0	104	21	0	4	1	1	0	131
07:00	220	=<	1	=	2	4	0	288	124	17	3	<	1	0	1	1=2
07:1=	231	=7	4	<	=	=	0	308	1==	2&	3	<	0	0	0	1&3
07:30	233	<2	2	7	0	&	0	313	148	33	=	2	0	1	0	18&
07:4=	1&<	=3	4	4	1	3	1	2<2	202	28	&	3	2	<	0	2=0
08:00	187	41	<	7	0	10	1	2=2	1&<	22	8	=	0	3	0	234
08:1=	23=	=2	3	7	0	2	0	2&&	1<8	33	<	=	1	3	0	21<
08:30	203	28	3	11	3	2	0	2=0	1=8	14	<	3	1	2	0	184
08:4=	14&	28	3	4	0	2	0	18<	1=1	23	=	4	2	3	0	188
0&:00	183	2<	8	3	0	4	1	22=	1==	28	7	4	3	2	0	1&&
0&:1=	204	23	&	3	0	=	1	24=	130	30	4	=	0	0	0	1<&
0&:30	17<	2=	1<	7	2	3	1	230	133	33	4	3	1	3	0	177
0&:4=	142	24	&	=	3	1	0	184	13=	2=	4	=	1	0	0	170
10:00	127	33	=	=	0	0	0	170	114	2<	8	4	1	1	0	1=4
10:1=	122	1&	4	1	0	0	0	14<	122	21	2	=	0	1	0	1=1
10:30	132	30	7	8	0	0	0	177	1=<	2<	1	3	0	1	0	187
10:4=	1<<	1<	2	2	3	4	0	1&3	12&	21	=	=	4	2	0	1<<
11:00	141	32	12	4	0	4	0	1&3	13<	1<	10	1	0	0	0	1<3
11:1=	12=	27	&	4	0	1	0	1<<	13&	1&	3	7	1	0	0	1<&
11:30	13<	28	4	=	0	0	0	173	143	22	=	3	2	2	0	177
11:4=	103	2=	<	2	0	0	0	13<	128	2=	4	8	1	3	0	1<&
12:00	120	34	4	=	1	1	0	1<=	12=	23	&	=	0	3	0	1<=
12:1=	113	2&	<	3	0	2	0	1=3	12<	31	<	=	1	0	0	1<&
12:30	12&	20	4	4	1	1	0	1=&	12&	18	3	4	1	0	0	1==
12:4=	1<3	18	3	8	1	4	0	187	112	2<	10	=	1	<	0	1<0
13:00	11=	21	7	3	3	0	0	14&	127	33	<	4	0	3	0	173
13:1=	1==	17	8	=	1	3	0	18&	124	2&	2	11	0	2	0	1<8
13:30	141	20	8	2	0	0	0	171	147	22	<	4	1	4	0	184
13:4=	14<	2<	2	4	3	2	0	183	143	3<	<	3	0	1	0	18&
14:00	130	17	2	<	1	1	0	1=7	1=1	27	10	4	0	0	1	1&3
14:1=	137	24	3	=	0	1	0	170	1=8	3<	4	3	3	2	0	20<
14:30	137	24	=	3	3	1	0	173	1&1	44	<	<	2	=	0	2=4
14:4=	13=	22	4	3	<	2	0	172	1&4	37	<	7	3	1	0	248
1=:00	133	34	4	4	3	1	0	17&	181	30	=	<	2	2	0	22<
1=:1=	1<7	22	4	3	0	2	0	1&8	1<1	37	<	=	2	2	0	213
1=:30	128	21	1	4	2	1	0	1=7	210	48	=	3	0	=	0	271
1=:4=	1=1	2<	4	4	0	=	0	1&0	22<	=7	=	11	1	4	1	30=
1<:00	170	31	<	2	4	2	0	21=	233	=7	8	4	1	<	0	30&
1<:1=	214	3=	4	3	2	3	0	2<1	2=2	=2	7	3	0	0	0	314
1<:30	203	38	1	2	0	1	0	24=	24=	40	2	3	0	4	0	2&4
1<:4=	201	23	1	1	0	1	0	227	21&	3&	2	3	0	4	0	2<7
17:00	1&0	34	1	=	0	4	1	23=	238	34	3	2	2	4	0	283
17:1=	210	23	1	1	2	4	0	241	223	2=	1	1	2	<	1	2=&
17:30	1&3	20	<	2	0	2	0	223	22<	2=	1	3	0	1	1	2=7
17:4=	200	20	3	2	3	1	1	230	2=4	1<	0	3	0	4	1	278
18:00	201	13	2	1	1	0	0	218	22&	1&	3	0	1	4	1	2=7
18:1=	1&1	22	1	1	1	3	0	21&	21=	22	1	3	1	<	2	2=0
18:30	188	12	0	0	0	3	0	203	21&	18	1	=	1	7	0	2=1
18:4=	1=7	10	2	1	1	0	0	171	180	1&	1	0	2	3	0	20=
1&:00	138	<	1	0	2	0	0	147	137	1<	1	0	1	2	1	1=8
1&:1=	121	14	1	1	2	3	0	142	12&	11	0	2	3	0	0	14=
1&:30	114	<	0	3	0	4	0	127	100	&	0	2	1	0	1	113
1&:4=	107	7	1	0	2	0	0	117	88	1=	0	1	1	1	0	10<
20:00	104	3	0	0	0	0	2	10&	&7	7	0	0	1	0	0	10=
20:1=	77	4	0	1	1	0	0	83	&3	4	0	0	0	3	0	100
20:30	7=	4	0	1	0	0	0	80	&3	13	0	1	0	1	0	108
20:4=	4&	<	0	0	0	0	0	==	=&	3	0	1	0	2	0	<=
21:00	=7	3	1	1	0	0	0	<2	<&	=	0	2	1	0	0	77
21:1=	108	2	0	0	0	1	0	111	71	4	0	1	2	1	0	7&
21:30	=<	2	0	0	0	0	0	=8	=1	4	0	2	1	1	0	=&
21:4=	34	3	0	1	1	2	0	41	<4	4	0	4	0	0	0	72
22:00	4=	0	0	1	1	3	0	=0	72	12	1	0	0	0	0	8=
22:1=	<&	1	0	2	0	0	0	72	73	4	1	1	0	1	0	80
22:30	82	4	0	0	0	1	0	87	<<	2	0	2	0	0	0	70
22:4=	=2	1	0	2	0	0	0	==	4&	<	1	0	0	1	0	=7
23:00	4&	1	0	0	0	2	0	=2	=4	2	0	1	0	0	0	=7
23:1=	<3	2	0	1	1	0	0	<7	37	1	2	1	0	0	0	41
23:30	<7	3	0	0	0	1	0	71	41	0	0	1	2	0	0	44
23:4=	<&	2	1	4	2	1	0	7&	31	3	0	1	0	0	0	3=

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Start Time	&olling &our							Total	&olling &our							Total
00:00	120	10	2	=	2	0	0	13&	81	<	1	0	0	1	0	8&
00:1=	&3	&	2	<	2	0	0	112	71	4	0	0	0	1	0	7<
00:30	&0	8	2	=	0	0	0	10=	<=	8	0	0	0	0	0	73
00:4=	8=	8	1	=	0	0	0	&&	<3	10	0	0	1	0	0	74
01:00	8&	10	0	3	0	0	0	102	<&	7	0	1	2	0	0	7&
01:1=	101	&	1	2	1	0	0	114	72	8	1	1	2	0	0	84
01:30	118	&	1	1	2	0	0	131	<<	<	1	1	2	0	0	7<
01:4=	1=<	10	1	1	2	0	0	170	<4	4	1	1	1	0	0	71
02:00	1=3	7	1	1	2	0	0	1<4	<3	3	2	0	0	0	0	<8
02:1=	1=4	8	0	1	1	0	0	1<4	<8	2	1	0	0	0	0	71
02:30	142	<	0	1	0	0	0	14&	7<	4	1	1	0	0	0	82
02:4=	112	7	0	0	0	0	0	11&	104	4	1	1	1	1	0	112
03:00	112	10	0	0	1	0	0	123	12=	4	0	1	2	1	0	133
03:1=	112	10	0	1	1	0	0	124	1=8	=	1	2	2	1	0	1<&
03:30	12<	10	1	1	3	0	0	141	17&	7	1	4	2	2	0	1&=
03:4=	138	8	1	1	4	0	0	1=2	204	10	2	=	2	1	0	224
04:00	137	<	1	1	3	0	0	148	23=	1=	2	<	2	2	0	2<2
04:1=	1=<	12	3	2	4	1	0	178	2=0	17	1	7	2	3	0	280
04:30	174	18	3	3	2	3	0	203	288	17	3	<	2	3	0	31&
04:4=	213	21	3	=	1	4	0	247	2&4	18	2	&	3	3	0	32&
0=:00	2=<	28	3	8	3	4	1	303	28&	1&	2	10	2	2	0	324
0=:1=	2&7	32	4	12	7	=	1	3=8	2<8	23	4	12	2	1	0	310
0=:30	34=	4<	<	1<	&	=	1	428	272	33	3	12	4	1	0	32=
0=:4=	417	8<	8	21	12	7	1	==2	2&=	43	3	11	3	3	0	3=8
0<:00	=31	12=	10	28	12	10	2	718	333	=8	3	13	4	4	0	41=
0<:1=	<=8	1<&	8	27	&	12	2	88=	40&	<8	4	1=	=	4	1	=0<
0<:30	781	20=	&	28	12	1=	2	10=2	477	81	<	1&	3	3	1	=&0
0<:4=	8<8	222	&	28	&	21	2	11=&	=31	100	11	18	2	2	1	<<=
07:00	880	228	11	22	8	21	1	1171	<2&	107	20	17	3	7	1	784
07:1=	847	213	1<	24	<	27	2	113=	701	112	2=	1<	2	10	0	8<<
07:30	8=1	208	1=	2=	1	24	2	112<	714	11<	28	1=	3	13	0	88&
07:4=	821	174	1<	2&	4	17	2	10<3	724	&7	2&	1<	4	14	0	884
08:00	774	14&	1=	2&	3	1<	1	&87	<73	&2	2=	17	4	11	0	822
08:1=	770	134	17	2=	3	10	1	&<0	<32	&8	24	1<	7	10	0	787
08:30	73&	10=	23	21	3	13	2	&0<	=&4	&=	22	1<	<	7	0	740
08:4=	712	102	3<	17	2	14	3	88<	=<&	114	20	1<	<	8	0	733
0&:00	70=	&8	42	18	=	13	3	884	==3	11<	1&	17	=	=	0	71=
0&:1=	<4&	10=	3&	20	=	&	2	82&	=12	114	20	17	3	4	0	<70
0&:30	=<7	101	34	18	=	4	1	730	=04	10=	18	17	3	=	0	<=2
0&:4=	=23	10<	2=	1&	3	1	0	<77	=27	&8	1=	17	2	3	0	<<2
10:00	=47	&8	18	1<	3	4	0	<8<	=21	&4	1<	17	=	=	0	<=8
10:1=	=<1	&7	2=	1=	3	8	0	70&	=43	84	18	14	4	4	0	<<7
10:30	=<4	10=	30	18	3	&	0	72&	=<0	82	1&	1<	=	3	0	<8=
10:4=	=<8	103	27	1=	3	&	0	72=	=47	78	23	1<	7	4	0	<7<
11:00	=0=	112	31	1=	0	=	0	<<8	=4<	82	22	1&	4	=	0	<78
11:1=	484	114	23	1<	1	2	0	<40	=3=	8&	21	23	4	8	0	<80
11:30	472	11<	20	1=	1	3	0	<27	=22	101	24	21	4	8	0	<80
11:4=	4<=	108	20	14	2	4	0	<13	=08	&7	22	22	3	<	0	<=8
12:00	=1=	101	17	20	3	8	0	<<4	4&2	&8	28	1&	3	&	0	<4&
12:1=	=10	88	20	18	=	7	0	<48	4&4	108	2=	18	3	&	0	<=7
12:30	==2	7<	22	20	<	8	0	<84	4&2	10<	21	24	2	11	0	<=<
12:4=	=<4	7<	2<	18	=	7	0	<&<	=10	110	24	24	2	1=	0	<8=
13:00	==7	84	2=	14	7	=	0	<&2	=41	120	20	22	1	10	0	714
13:1=	=72	80	20	17	=	<	0	700	=<=	114	24	22	1	7	1	734
13:30	==4	87	1=	17	4	4	0	<81	=&&	121	2<	14	4	7	1	772
13:4=	==0	&1	12	18	7	=	0	<83	<43	143	2<	1<	=	8	1	842
14:00	=3&	87	14	17	10	=	0	<72	<&4	144	2<	20	8	8	1	&01
14:1=	=42	104	1<	1=	12	=	0	<&4	724	147	21	22	10	10	0	&34
14:30	=72	102	17	13	12	<	0	722	727	148	23	24	&	10	0	&41
14:4=	=<3	&&	13	14	11	<	0	70<	74<	1=2	22	21	7	10	0	&=8
1=:00	=7&	103	13	1=	=	&	0	724	778	172	21	2=	=	13	1	101=
1=:1=	<1<	100	1=	13	<	10	0	7<0	830	1&&	24	23	4	17	1	10&8
1=:30	<<3	113	1=	13	8	11	0	823	&21	214	2=	21	2	1=	1	11&&
1=:4=	738	130	1=	11	<	11	0	&11	&=<	20<	22	21	2	14	1	1222
1<:00	788	127	12	8	<	7	0	&48	&4&	188	1&	13	1	14	0	1184
1<:1=	808	130	7	11	2	&	1	&<8	&=4	1<=	14	11	2	12	0	11=8
1<:30	804	118	4	&	2	10	1	&48	&2=	138	8	&	4	18	1	1103
1<:4=	7&4	100	&	&	2	11	1	&2<	&0<	123	7	&	4	1=	2	10<<
17:00	7&3	&7	11	10	=	11	2	&2&	&41	100	=	&	4	1=	3	1077
17:1=	804	7<	12	<	<	7	1	&12	&32	8=	=	7	3	1=	4	10=1
17:30	78=	7=	12	<	=	<	1	8&0	&24	82	=	&	2	1=	=	1042
17:4=	780	<7	<	4	=	7	1	870	&17	7=	=	11	3	21	4	103<
18:00	737	=7	=	3	3	<	0	811	843	78	<	8	=	20	3	&<3
18:1=	<74	=0	4	2	4	<	0	740	7=1	7=	4	8	=	18	3	8<4
18:30	<04	42	4	2	=	<	0	<<3	<<=	<4	3	7	7	12	1	7=&
18:4=	=30	3<	4	=	=	7	0	=87	=4<	==	2	4	7	=	2	<21
1&:00	480	33	3	4	<	7	0	=33	4=4	=1	1	=	<	3	2	=22
1&:1=	44<	30	2	4	4	7	2	4&=	414	42	0	=	<	1	1	4<&
1&:30	402	20	1	4	3	4	2	43<	378	3=	0	3	3	4	1	424
1&:4=	3<3	18	1	2	3	0	2	38&	371	3&	0	2	2	=	0	41&
20:00	30=	17	0	2	1	0	2	327	342	27	0	2	1	<	0	378
20:1=	2=8	17	1	3	1	0	0	280	314	2=	0	4	1	<	0	3=0
20:30	28&	1=	1	2	0	1	0	308	2&2	2=	0	=	3	4	0	32&
20:4=	270	13	1	1	0	1	0	28<	2=0	1<	0	<	4	4	0	280
21:00	2==	10	1	2	1	3	0	272	2==	17	0	&	4	2	0	287
21:1=	243	7	0	2	2	<	0	2<0	2=8	24	1	7	3	2	0	2&=
21:30	204	<	0	4	2	=	0	221	2<0	24	2	7	1	2	0	2&<
21:4=	230	8	0	4	2	<	0	2=0	27=	22	2	7	0	1	0	307
22:00	248	<	0	=	1	4	0	2<4	2<0	24	3	3	0	2	0	2&2
22:1=	2=2	7	0	4	0	3	0	2<<	242	14	2	4	0	2	0	2<4
22:30	24<	8	0	3	1	3	0	2<1	20<	11	3	4	0	1	0	22=
22:4=	231	7	0	3	1	3	0	24=	181	&	3	3	2	1	0	1&&
23:00	248	8	1	=	3	4	0	2<&	1<3	<	2	4	2	0	0	177

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Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 3

Date of Survey: 10.07.2018
Junction Name: A370 / A4174 Colliters Way
Junction Type: 3-arm Ro !"a#o t

	Irm C Iproac)								Irm C 7#it							
Time	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total	Car	L / 2	1 / 23	1 / 24	Bu e	- 5C	Cycle	Total
00-00	&	1	0	0	0	0	0	10	=	1	1	0	0	1	0	8
00-1=	10	1	0	0	0	0	0	11	&	0	0	2	0	0	0	11
00-30	=	3	0	0	0	0	0	8	8	0	0	1	0	0	0	&
00-4=	7	0	0	0	0	0	0	7	7	1	0	2	0	0	0	10
01-00	3	0	0	0	0	0	0	3	2	0	0	1	0	0	0	3
01-1=	3	1	0	0	0	0	0	4	4	0	1	0	0	0	0	=
01-30	3	1	0	1	0	0	0	=	3	0	0	0	0	0	0	3
01-4=	4	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4
02-00	2	0	0	0	0	0	0	2	4	2	0	0	1	0	0	7
02-1=	=	1	0	0	0	0	0	<	1	0	0	0	0	0	0	1
02-30	1	2	1	0	0	0	0	4	2	1	0	0	0	0	0	3
02-4=	<	1	0	0	1	0	0	8	3	0	0	1	0	0	0	4
03-00	7	0	0	0	0	0	0	7	=	2	1	0	0	0	0	8
03-1=	4	0	0	0	0	1	0	=	3	1	1	1	0	0	0	<
03-30	=	0	0	1	0	0	0	<	4	1	0	0	0	0	0	=
03-4=	<	0	0	0	0	0	0	<	4	1	0	0	0	0	0	=
04-00	&	2	0	0	0	0	0	11	3	0	0	1	0	0	0	4
04-1=	&	1	0	1	0	0	0	11	2	2	1	0	0	0	0	=
04-30	11	1	0	0	0	0	0	12	<	1	2	2	0	0	0	11
04-4=	8	2	0	1	0	2	0	13	4	2	2	0	0	0	0	8
0=-00	13	1	1	3	0	1	0	1&	11	3	2	0	0	1	0	17
0=-1=	1&	3	1	1	0	2	0	2<	10	2	1	0	0	1	0	14
0=-30	37	4	0	1	0	0	0	42	18	2	1	0	0	1	0	22
0=-4=	3&	&	2	1	0	1	1	=3	13	4	0	4	0	1	0	22
0<-00	=7	13	0	2	1	2	0	7=	1&	8	4	=	1	1	0	38
0<-1=	<3	1<	3	4	1	1	0	88	42	12	1	=	0	4	0	<4
0<-30	1=7	31	7	3	2	<	0	20<	44	13	4	4	1	0	0	<<
0<-4=	1<7	24	<	3	0	10	0	210	3&	1&	2	8	1	1	0	70
07-00	21&	27	7	3	3	=	0	2<4	<8	22	=	3	1	0	0	&&
07-1=	241	3<	<	4	0	3	1	2&1	8=	3=	4	1	2	2	0	12&
07-30	1&2	31	7	2	1	=	0	238	&=	2<	2	&	3	3	0	138
07-4=	21=	23	8	2	2	<	0	2=<	&8	2&	4	<	0	3	0	140
08-00	20<	27	&	=	2	4	0	2=3	7&	3<	0	=	1	2	0	123
08-1=	213	22	3	1	2	7	1	24&	7&	22	0	4	3	1	0	10&
08-30	1==	24	2	=	1	&	0	1&<	74	21	<	4	0	1	0	10<
08-4=	17=	18	=	1	2	3	0	204	<7	23	2	3	3	3	0	101
0&-00	18<	22	=	3	=	=	1	227	<<	13	2	4	0	0	0	8=
0&-1=	1<7	2=	<	4	3	2	1	208	71	14	2	2	3	0	0	&2
0&-30	1<2	2=	1	<	2	1	0	1&7	71	17	=	4	1	0	3	101
0&-4=	1=0	14	7	4	2	1	0	178	<4	12	7	4	0	0	0	87
10-00	121	1=	3	4	2	1	0	14<	74	1<	3	2	3	1	0	&&
10-1=	104	18	7	2	3	1	0	13=	80	28	1	=	0	1	0	11=
10-30	12=	21	<	2	3	0	0	1=7	84	2=	=	7	1	0	0	122
10-4=	108	18	3	3	1	2	0	13=	80	1<	4	8	1	4	0	113
11-00	&0	17	7	3	3	0	0	120	&<	23	=	=	1	3	0	133
11-1=	123	1&	10	4	2	1	0	1=&	&2	24	7	2	2	1	0	128
11-30	10=	23	=	=	0	4	0	142	&3	2<	=	=	1	0	0	130
11-4=	103	18	4	=	1	0	0	131	&&	1<	4	3	1	0	0	123
12-00	&&	14	<	7	3	2	0	131	117	1&	=	=	2	3	0	1=1
12-1=	&4	24	3	4	1	0	0	12<	10&	20	4	4	2	3	0	142
12-30	&4	1=	4	0	0	1	0	114	107	2<	4	=	1	2	0	14=
12-4=	8<	13	3	3	2	2	0	10&	118	28	1	2	2	3	0	1=4
13-00	&=	27	4	7	0	1	0	134	&4	1&	3	2	1	3	0	122
13-1=	&2	21	=	<	2	1	0	127	120	20	1	0	2	0	0	143
13-30	102	23	3	&	1	4	0	142	102	14	=	=	2	0	0	128
13-4=	&8	24	=	2	1	0	0	130	82	27	1	<	2	3	0	121
14-00	&8	8	2	2	1	1	0	112	11<	23	2	<	3	2	0	1=2
14-1=	&<	21	4	1	2	1	0	12=	13<	20	1	7	3	3	0	170
14-30	&4	28	4	<	0	2	0	134	143	2<	<	2	2	2	0	181
14-4=	114	23	2	3	1	1	0	144	12&	22	4	3	3	4	0	1<=
1==00	&2	1&	=	2	2	1	0	121	120	2=	4	=	1	1	0	1=<
1==1=	10<	22	4	0	2	2	0	13<	138	22	1	3	2	4	0	170
1==30	107	24	2	2	2	0	0	137	1=0	17	1	=	1	1	0	17=
1==4=	120	2&	3	0	1	3	0	1=<	178	22	1	2	3	1	0	207
1<-00	131	37	1	1	0	2	0	172	1&=	32	3	7	3	2	0	242
1<-1=	1=7	27	3	1	4	3	0	1&=	211	3=	2	1	2	=	0	2=<
1<-30	110	28	1	1	1	1	0	142	18&	30	0	1	1	4	0	22=
1<-4=	114	27	2	0	1	2	0	14<	221	28	2	0	1	<	0	2=8
17-00	143	27	1	1	2	<	0	180	22<	32	0	3	1	8	0	270
17-1=	124	2<	0	0	1	2	0	1=3	243	21	1	4	0	10	2	281
17-30	110	1&	1	3	1	7	0	141	24=	2=	1	1	3	7	0	282
17-4=	113	1=	0	2	2	3	2	137	204	18	0	0	1	8	1	232
18-00	11=	17	0	1	0	0	1	134	23=	13	0	2	2	4	1	2=7
18-1=	10&	&	2	0	1	2	0	123	22&	2=	1	1	0	8	0	2<4
18-30	101	=	1	1	3	2	0	113	208	12	1	0	4	2	0	227
18-4=	&&	&	1	3	1	3	0	11<	14=	11	0	0	0	4	0	1<0
1&-00	8&	3	0	4	2	1	0	&&	112	4	1	0	1	3	0	121
1&-1=	<3	=	0	1	1	1	1	72	10<	1=	0	0	3	4	0	128
1&-30	<1	2	0	0	0	0	0	<3	&&	=	1	1	0	2	0	108
1&-4=	=1	3	0	0	0	2	0	=<	7=	<	1	1	2	0	0	8=
20-00	41	=	0	0	1	0	0	47	8&	<	0	0	1	2	0	&8
20-1=	44	3	1	0	0	0	1	4&	=0	=	0	0	1	1	0	=7
20-30	44	=	0	1	0	1	0	=1	73	8	2	1	1	0	0	8=
20-4=	27	2	0	1	0	0	0	30	<3	4	0	0	1	2	0	70
21-00	2<	4	0	1	0	2	0	33	<4	7	1	1	0	1	0	74
21-1=	3&	0	0	1	0	1	0	41	==	4	0	0	0	2	0	<1
21-30	33	3	0	1	0	1	0	38	<0	7	0	1	0	0	0	<8
21-4=	=3	3	0	2	0	0	0	=8	==	4	0	0	0	1	0	<0
22-00	3<	0	0	0	0	2	0	38	=1	0	0	0	0	0	0	=1
22-1=	=1	2	1	0	0	2	0	=<	<4	1	0	0	0	1	0	<<
22-30	2<	3	0	2	0	0	0	31	=3	4	0	0	0	1	0	=8
22-4=	18	0	0	0	0	2	0	20	42	1	0	1	0	1	0	4=
23-00	20	3	0	0	0	0	0	23	38	1	0	3	0	1	0	43
23-1=	14	1	0	1	0	0	0	1<	33	1	0	0	0	0	0	34
23-30	14	0	0	0	0	0	0	14	20	3	0	0	0	0	0	23
23-4=	7	2	0	0	0	0	0	&	1<	3	0	3	0	1	0	23

Start Time	&olling 6our							Total	&olling 6our							Total
00:00	31	=	0	0	0	0	0	3<	2&	2	1	=	0	1	0	38
00:1=	2=	4	0	0	0	0	0	2&	2<	1	0	<	0	0	0	33
00:30	18	4	0	0	0	0	0	22	21	1	1	4	0	0	0	27
00:4=	1<	2	0	1	0	0	0	1&	1<	1	1	3	0	0	0	21
01:00	13	2	0	1	0	0	0	1<	13	0	1	1	0	0	0	1=
01:1=	12	2	0	1	0	0	0	1=	1=	2	1	0	1	0	0	1&
01:30	14	2	0	1	0	0	0	17	12	2	0	0	1	0	0	1=
01:4=	12	3	1	0	0	0	0	1<	11	3	0	0	1	0	0	1=
02:00	14	4	1	0	1	0	0	20	10	3	0	1	1	0	0	1=
02:1=	1&	4	1	0	1	0	0	2=	11	3	1	1	0	0	0	1<
02:30	18	3	1	0	1	1	0	24	13	4	2	2	0	0	0	21
02:4=	22	1	0	1	1	1	0	2<	1=	4	2	2	0	0	0	23
03:00	22	0	0	1	0	1	0	24	1<	=	2	1	0	0	0	24
03:1=	24	2	0	1	0	1	0	28	14	3	1	2	0	0	0	20
03:30	2&	3	0	2	0	0	0	34	13	4	1	1	0	0	0	1&
03:4=	3=	4	0	1	0	0	0	40	1=	4	3	3	0	0	0	2=
04:00	37	<	0	2	0	2	0	47	1=	=	=	3	0	0	0	28
04:1=	41	=	1	=	0	3	0	==	23	8	7	2	0	1	0	41
04:30	=1	7	2	=	0	=	0	70	31	8	7	2	0	2	0	=0
04:4=	77	10	2	<	0	=	0	100	43	&	<	0	0	3	0	<1
0=:00	108	17	4	<	0	4	1	140	=2	11	4	4	0	4	0	7=
0=:1=	1=2	2&	3	=	1	=	1	1&<	<0	1<	<	&	1	4	0	&<
0=:30	1&<	42	=	8	2	4	1	2=8	&2	2<	<	14	1	7	0	14<
0=:4=	31<	<&	12	10	4	10	1	422	118	37	&	18	2	<	0	1&0
0<:00	444	84	1<	12	4	1&	0	=7&	144	=2	11	22	3	<	0	238
0<:1=	<0<	&8	23	13	<	22	0	7<8	1&3	<<	12	20	3	=	0	2&&
0<:30	784	118	2<	13	=	24	1	&71	23<	8&	1=	1<	=	3	0	3<4
0<:4=	81&	118	2<	12	4	23	1	1003	287	102	13	21	7	<	0	43<
07:00	8<7	117	28	11	<	1&	1	104&	34<	112	1=	1&	<	8	0	=0<
07:1=	8=4	117	30	13	=	18	1	1038	3=7	12<	10	21	<	10	0	=30
07:30	82<	103	27	10	7	22	1	&&<	3=1	113	<	24	7	&	0	=10
07:4=	78&	&<	22	13	7	2<	1	&=4	330	108	10	1&	4	7	0	478
08:00	74&	&1	1&	12	7	23	1	&02	2&&	102	8	1<	7	7	0	43&
08:1=	72&	8<	1=	10	10	24	2	87<	28<	7&	10	1=	<	=	0	401
08:30	<83	8&	18	13	11	1&	2	83=	278	71	12	13	<	4	0	384
08:4=	<&0	&0	17	14	12	11	2	83<	27=	<7	11	13	7	3	3	37&
0&:00	<<=	8<	1&	17	12	&	2	810	272	=<	1<	14	4	0	3	3<=
0&:1=	<00	7&	17	18	&	=	1	72&	280	=&	17	12	7	1	3	37&
0&:30	=37	72	18	1<	&	4	0	<=<	28&	73	1<	1=	4	2	3	402
0&:4=	=00	<8	23	12	10	3	0	<1<	302	81	1<	18	4	2	0	423
10:00	4=8	72	1&	11	&	4	0	=73	318	8=	13	22	=	<	0	44&
10:1=	427	74	23	10	10	3	0	=47	340	&2	1=	2=	3	8	0	483
10:30	44<	7=	2<	12	&	3	0	=71	3=2	88	21	22	=	8	0	4&<
10:4=	42<	77	2=	1=	<	7	0	==<	3<1	8&	21	20	=	8	0	=04
11:00	421	77	2<	17	<	=	0	==2	380	8&	21	1=	=	4	0	=14
11:1=	430	74	2=	21	<	7	0	=<3	401	8=	21	1=	<	4	0	=32
11:30	401	7&	18	21	=	<	0	=30	418	81	18	17	<	<	0	=4<
11:4=	3&0	71	17	1<	=	3	0	=02	432	81	17	17	<	8	0	=<1
12:00	373	<<	1<	14	<	=	0	480	4=1	&3	14	1<	7	11	0	=&2
12:1=	3<&	7&	14	14	3	4	0	483	428	&3	12	13	<	11	0	=<3
12:30	3<7	7<	1<	1<	4	=	0	484	43&	&3	&	&	<	8	0	=<4
12:4=	37=	84	1=	2=	=	8	0	=12	434	81	10	&	7	<	0	=47
13:00	387	&=	17	24	4	<	0	=33	3&8	80	10	13	7	<	0	=14
13:1=	3&0	7<	1=	1&	=	<	0	=11	420	84	&	17	&	=	0	=44
13:30	3&4	7<	14	14	=	<	0	=0&	43<	84	&	24	10	8	0	=71
13:4=	38<	81	1=	11	4	4	0	=01	477	&<	10	21	10	10	0	<24
14:00	402	80	12	12	4	=	0	=1=	=24	&1	13	18	11	11	0	<<8
14:1=	3&<	&1	1=	12	=	=	0	=24	=28	&3	1=	17	&	10	0	<72
14:30	40<	&2	1=	11	=	<	0	=3=	=30	&=	1=	13	8	11	0	<72
14:4=	41&	88	13	7	7	4	0	=38	=37	8<	10	1<	7	10	0	<<<
1=:00	42=	&4	14	4	7	<	0	==0	=8<	8<	7	1=	7	7	0	708
1=:1=	4<4	112	10	3	=	7	0	<01	<<1	&3	<	17	&	8	0	7&4
1=:30	=1=	117	&	4	7	8	0	<<0	734	10<	7	1=	&	&	0	880
1=:4=	=18	121	8	3	<	&	0	<<=	773	11&	<	11	&	12	0	&30
1<:00	=12	11&	7	3	<	8	0	<==	81<	12=	7	&	7	17	0	&81
1<:1=	=24	10&	7	3	8	12	0	<<3	847	12=	4	=	=	23	0	100&
1<:30	4&1	108	4	2	=	11	0	<21	87&	111	3	8	3	28	2	1034
1<:4=	4&1	&&	4	4	=	17	0	<20	&3=	10<	4	8	=	31	2	10&1
17:00	4&0	87	2	<	<	18	2	<11	&18	&<	2	8	=	33	3	10<=
17:1=	4<2	77	1	<	4	12	3	=<=	&27	77	2	7	<	2&	4	10=2
17:30	447	<0	3	<	4	12	3	=3=	&13	81	2	4	<	27	2	103=
17:4=	438	4<	3	4	<	7	3	=07	87<	<8	2	3	7	22	2	&80
18:00	424	40	4	=	=	7	1	48<	817	<1	2	3	<	18	1	&08
18:1=	3&8	2<	4	8	7	8	0	4=1	<&4	=2	3	1	=	17	0	772
18:30	3=2	22	2	&	7	7	1	400	=71	42	2	0	8	13	0	<3<
18:4=	312	1&	1	8	4	=	1	3=0	4<2	3=	2	1	4	13	0	=17
1&:00	2<4	13	0	=	3	4	1	2&0	3&2	30	3	2	<	&	0	442
1&:1=	21<	1=	0	1	2	3	1	238	3<&	32	2	2	<	8	0	41&
1&:30	1&7	13	1	0	1	2	1	21=	313	22	2	2	4	=	0	348
1&:4=	180	1<	1	1	1	3	1	203	287	2=	3	2	=	3	0	32=
20:00	1=<	1=	1	2	1	1	1	177	27=	23	2	1	4	=	0	310
20:1=	141	14	1	3	0	3	1	1<3	2=0	24	3	2	3	4	0	28<
20:30	13<	11	0	4	0	4	0	1==	2==	23	3	2	2	=	0	2&0
20:4=	12=	&	0	4	0	4	0	142	242	22	1	2	1	=	0	273
21:00	1=1	10	0	=	0	4	0	170	234	22	1	2	0	4	0	2<3
21:1=	1<1	<	0	4	0	4	0	17=	221	1=	0	1	0	3	0	240
21:30	173	8	1	3	0	=	0	1&0	230	12	0	1	0	2	0	24=
21:4=	1<<	8	1	4	0	4	0	183	223	&	0	0	0	3	0	23=
22:00	131	=	1	2	0	<	0	14=	210	<	0	1	0	3	0	220
22:1=	11=	8	1	2	0	4	0	130	1&7	7	0	4	0	4	0	212
22:30	78	7	0	3	0	2	0	&0	1<<	7	0	4	0	3	0	180
22:4=	<<	4	0	1	0	2	0	73	133	<	0	4	0	2	0	14=
23:00	==	<	0	1	0	0	0	<2	107	8	0	<	0	2	0	123

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Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 3

Date of Survey: 10.07.2018
Junction Name: A370 / A4174 Colliters Way
Junction Type: 3-arm Ro ! "a#o t

	Total Junction (lo "							
Time	Car	L / 2	1 / 2 3	1 / 2 4	Bu e	- 5C	Cycle	Total
00·00	82	<	2	0	0	1	0	&1
00·1=	72	=	0	2	2	1	0	82
00·30	4=	=	1	2	0	0	0	=3
00·4=	=3	<	1	4	0	0	0	<4
01·00	38	3	0	2	0	0	0	43
01·1=	=0	7	1	1	0	0	0	=&
01·30	3=	4	0	2	1	0	0	42
01·4=	=&	4	0	1	1	0	0	<=
02·00	=2	3	2	0	2	0	0	=&
02·1=	<0	<	0	0	1	0	0	<7
02·30	<7	<	1	1	0	0	0	7=
02·4=	=4	1	1	1	1	0	0	=8
03·00	<3	4	1	0	0	0	0	<8
03·1=	=7	<	1	2	0	1	0	<7
03·30	70	4	0	1	1	1	0	77
03·4=	7=	=	0	0	2	0	0	82
04·00	&=	=	1	3	0	0	0	104
04·1=	&<	10	2	4	2	1	0	11=
04·30	113	7	3	3	2	0	0	128
04·4=	104	8	2	2	1	2	0	11&
0=·00	13<	11	=	<	1	4	0	1<3
0=·1=	1<3	1<	=	4	0	=	0	1&3
0=·30	18&	1=	1	7	2	2	0	21<
0=·4=	174	23	2	8	2	2	2	213
0<·00	211	3<	<	14	7	=	0	27&
0<·1=	283	=3	7	13	=	8	0	3<&
0<·30	40=	&0	12	14	<	11	0	=38
0<·4=	4<7	100	10	18	4	1=	2	<1<
07·00	=7=	111	1<	14	7	&	1	733
07·1=	<=0	130	1=	14	7	&	1	82<
07·30	<14	124	14	1=	4	17	0	788
07·4=	<3&	112	23	13	=	1=	1	808
08·00	<01	107	1&	20	3	18	1	7<&
08·1=	<22	114	12	14	<	12	1	781
08·30	=32	73	1=	22	=	13	0	<<0
08·4=	487	80	11	12	7	10	0	<07
0&·00	=37	7=	20	12	<	11	2	<<3
0&·1=	=13	78	20	1=	<	7	2	<41
0&·30	48&	84	23	18	<	7	4	<31
0&·4=	440	<=	23	1<	<	2	0	==2
10·00	3&1	7&	1&	13	<	2	0	=10
10·1=	3&0	73	12	13	3	2	0	4&3
10·30	4<2	&4	17	20	4	1	0	=&8
10·4=	432	<8	13	14	&	11	0	=47
11·00	40&	7=	30	13	4	<	0	=37
11·1=	43=	82	2=	1=	=	3	0	=<=
11·30	437	84	1&	18	3	4	0	=<=
11·4=	3&4	80	1=	13	3	3	0	=08
12·00	41=	7<	18	20	<	<	0	=41
12·1=	401	&4	17	1=	4	4	0	=3=
12·30	420	<7	10	12	3	3	0	=1=
12·4=	427	72	14	1=	=	13	0	=4<
13·00	3&1	88	18	14	4	7	0	=22
13·1=	4=1	7=	14	1&	=	<	0	=70
13·30	4=0	72	17	1&	4	<	0	=<8
13·4=	427	&<	13	14	<	4	0	=<0
14·00	443	71	1<	18	=	4	1	==8
14·1=	473	84	&	13	8	<	0	=&3
14·30	=1<	107	17	1<	7	7	0	<70
14·4=	=13	8&	1=	13	11	<	0	<47
1=·00	480	&0	1=	1<	8	=	0	<14
1=·1=	=07	&3	1<	11	<	10	0	<43
1=·30	=40	100	&	13	=	<	0	<73
1=·4=	<0&	117	10	17	=	13	1	772
1<·00	<4&	127	14	12	8	11	0	821
1<·1=	721	121	13	8	7	11	0	881
1<·30	<<&	10&	4	7	2	&	0	800
1<·4=	<<2	&<	<	4	2	12	0	782
17·00	701	100	=	&	=	1&	1	840
17·1=	70<	78	3	<	4	18	3	818
17·30	<80	71	7	<	4	1<	1	78=
17·4=	<83	=<	3	7	<	1=	4	774
18·00	<&2	=0	=	4	4	8	2	7<=
18·1=	<<&	<7	<	=	3	1<	2	7<8
18·30	<=3	41	2	=	8	11	0	720
18·4=	=28	4=	3	4	4	&	0	=&3
1&·00	433	28	2	4	<	<	1	480
1&·1=	387	37	1	3	&	8	1	44<
1&·30	33<	21	1	<	1	=	1	371
1&·4=	300	2<	1	2	=	2	0	33<
20·00	30<	21	0	0	3	2	2	334
20·1=	23<	14	1	1	2	4	1	2=&
20·30	2=7	27	2	3	1	2	0	2&2
20·4=	187	12	0	2	1	4	0	20<
21·00	1&8	18	1	4	1	3	0	22=
21·1=	2=1	10	0	2	2	=	0	270
21·30	18=	14	0	3	1	1	0	204
21·4=	18&	14	0	=	1	2	0	211
22·00	184	12	1	1	1	=	0	204
22·1=	23=	=	1	3	0	4	0	248
22·30	20<	13	0	3	0	2	0	224
22·4=	14<	8	1	3	0	4	0	1<2
23·00	143	7	0	4	0	2	0	1=<
23·1=	141	<	2	2	1	0	0	1=2
23·30	134	<	0	1	2	1	0	144
23·4=	11&	8	1	<	2	1	0	137

Start Time	&olling 6our							Total
00:00	2=2	22	4	8	2	2	0	2&0
00:1=	208	1&	2	10	2	1	0	242
00:30	18<	21	3	&	0	0	0	21&
00:4=	17<	20	2	&	1	0	0	208
01:00	182	18	1	<	2	0	0	20&
01:1=	1&<	18	3	4	4	0	0	22=
01:30	20<	17	2	3	=	0	0	233
01:4=	238	1&	3	2	4	0	0	2<<
02:00	233	1<	4	2	4	0	0	2=&
02:1=	244	17	3	2	2	0	0	2<8
02:30	241	17	4	4	1	1	0	2<8
02:4=	244	1=	3	4	2	2	0	270
03:00	2<=	1&	2	3	3	2	0	2&4
03:1=	2&7	20	2	<	3	2	0	330
03:30	33<	24	3	8	=	2	0	378
03:4=	37&	27	<	10	<	1	0	42&
04:00	408	30	8	12	=	3	0	4<<
04:1=	44&	3<	12	1=	<	7	0	=2=
04:30	=1<	42	1=	1=	4	11	0	<03
04:4=	=&2	=0	13	1&	4	13	0	<&1
0=:00	<<2	<=	13	2=	=	13	2	78=
0=:1=	737	&0	14	33	11	14	2	&01
0=:30	8=7	127	1<	42	1<	17	2	1077
0=:4=	1073	202	27	4&	20	2<	2	13&&
0<:00	13<<	27&	3=	=&	22	3&	2	1802
0<:1=	1730	3=4	4=	=&	22	43	3	22=<
0<:30	20&7	431	=3	<0	24	44	4	2713
0<:4=	230<	4<=	==	<1	22	=0	4	2&<3
07:00	2478	477	<8	=<	23	=0	3	31==
07:1=	2=04	473	71	<2	1&	=&	3	31&1
07:30	247<	4=7	<8	<2	18	<2	3	314<
07:4=	23&4	40<	<&	<&	1&	=8	3	3018
08:00	2242	374	=7	<8	21	=3	2	2817
08:1=	2178	342	=8	<0	24	4<	3	2711
08:30	20<&	30<	<<	<1	24	41	4	2=71
08:4=	202<	317	74	=7	2=	3=	8	2=42
0&:00	1&7&	302	8<	<1	24	27	8	2487
0&:1=	1833	30<	8=	<2	24	18	<	2334
0&:30	1710	301	77	<0	21	13	4	218<
0&:4=	1<83	311	71	<2	1&	7	0	21=3
10:00	1<7=	314	<1	<0	22	1<	0	2148
10:1=	1<&3	310	72	<0	20	20	0	217=
10:30	1738	31&	8=	<2	22	21	0	2247
10:4=	1713	30&	87	<0	21	24	0	2214
11:00	1<7=	321	8&	=&	1=	1<	0	217=
11:1=	1<81	322	77	<<	17	1<	0	217&
11:30	1<47	334	<&	<<	1<	17	0	214&
11:4=	1<30	317	<0	<0	1<	1<	0	20&&
12:00	1<<3	30&	=&	<2	18	2<	0	2137
12:1=	1<3&	321	=&	=<	1<	27	0	2118
12:30	1<8&	302	=<	<0	17	2&	0	21=3
12:4=	171&	307	<3	<7	18	32	0	220<
13:00	171&	331	<2	<<	1&	23	0	2220
13:1=	1771	314	<0	70	20	20	1	22=<
13:30	17&3	323	==	<4	23	20	1	227&
13:4=	18=&	3=8	==	<1	2<	21	1	2381
14:00	1&4=	3=1	=7	<0	31	23	1	24<8
14:1=	1&82	370	=<	=8	34	24	0	2=24
14:30	201<	37&	<3	=<	32	28	0	2=74
14:4=	2040	372	==	=3	30	27	0	2=77
1=:00	213<	400	=0	=7	24	34	1	2702
1=:1=	230=	437	4&	=3	24	40	1	2&0&
1=:30	2=1&	4<=	4<	=0	2=	41	1	3147
1=:4=	2<48	474	41	44	22	44	1	3274
1<:00	2701	4=3	37	31	1&	43	0	3284
1<:1=	27=3	42<	28	28	1<	=1	1	3303
1<:30	2738	383	18	2<	13	=8	4	3240
1<:4=	274&	34=	21	2=	1=	<=	=	322=
17:00	2770	30=	18	28	1&	<8	&	3217
17:1=	27<1	2==	18	23	18	=7	10	3142
17:30	2724	244	21	22	17	==	&	30&2
17:4=	2<&7	214	1<	21	21	=0	8	3027
18:00	2=42	203	1<	18	1&	44	4	284<
18:1=	2283	181	13	18	21	42	3	2=<1
18:30	2001	1=1	8	1<	27	34	2	223&
18:4=	1<84	131	7	17	20	28	3	18&0
1&:00	14=<	112	=	1=	21	21	3	1<33
1&:1=	132&	10=	3	11	18	17	4	1487
1&:30	1178	82	3	&	11	13	4	1300
1&:4=	10&&	88	4	<	11	10	3	1221
20:00	&8<	74	3	<	7	12	3	10&1
20:1=	878	71	4	10	=	13	1	&82
20:30	8&3	<7	3	11	=	14	0	&&3
20:4=	821	=4	1	11	=	13	0	&0=
21:00	823	=<	1	14	=	11	0	&10
21:1=	80&	=0	1	11	=	13	0	88&
21:30	7&3	4=	2	12	3	12	0	8<7
21:4=	814	44	2	12	2	13	0	887
22:00	771	38	3	10	1	1=	0	838
22:1=	730	33	2	13	0	12	0	7&0
22:30	<3<	34	3	12	1	8	0	<&4
22:4=	=<4	27	3	10	3	7	0	<14
23:00	=37	27	3	13	=	4	0	=8&

Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018
Project Number:	ID04020	Junction Name:	A370 / A4174 Colliters Way
Junction Number:	Site 3	Junction Type:	3-arm Ro !"a#o t

!rm !: A370 926: !rm B: A4174 Colliters Way 9S6: !rm C: A370 9SW:

	PC9 Summary								
Time	! to !	! to C	! to B	B to B	B to !	B to C	C to C	C to B	C to !
00>00	1	<	2=	0	48	2	0	2	8
00>1=	0	&	27	0	3=	<	0	1	10
00>30	0	10	13	0	2<	1	0	3	=
00>4=	0	13	17	0	3=	1	0	1	<
01>00	1	=	13	0	2=	0	0	0	3
01>1=	0	<	23	0	2&	0	0	3	1
01>30	0	3	18	1	1&	0	0	0	7
01>4=	0	4	2<	0	34	0	0	0	4
02>00	0	<	1&	0	34	3	0	0	2
02>1=	0	1	1<	0	4<	0	0	2	4
02>30	0	2	12	0	=8	1	0	0	=
02>4=	0	<	1&	0	28	0	0	2	8
03>00	0	&	18	0	3=	0	0	3	4
03>1=	0	8	30	0	28	1	0	1	3
03>30	0	4	41	0	2<	1	0	2	<
03>4=	1	4	41	0	33	1	0	2	4
04>00	0	=	=7	0	37	1	0	3	8
04>1=	0	<	=8	0	=0	0	0	2	11
04>30	1	14	73	0	37	3	0	2	10
04>4=	0	&	74	1	2<	1	0	<	7
0=>00	0	12	<8	0	<7	<	0	10	1=
0=>1=	0	&	&3	1	<7	=	0	=	22
0=>30	0	17	8<	0	80	=	0	<	38
0=>4=	0	1&	<4	0	82	10	0	14	41
0<>00	1	31	<<	0	120	21	0	4	7=
0<>1=	0	=3	&=	0	13<	1&	0	21	78
0<>30	0	=1	8<	0	1&7	27	1	34	182
0<>4=	2	=<	111	0	240	31	1	2&	18=
07>00	0	81	121	0	2<&	30	0	4<	232
07>1=	0	&&	143	0	2&0	37	0	<=	237
07>30	0	108	148	0	271	=2	0	4&	1&8
07>4=	0	100	213	0	220	=2	1	=1	21=
08>00	0	&<	18<	0	228	3=	2	<3	207
08>1=	0	83	171	0	27<	38	0	=&	1&2
08>30	0	87	147	2	244	31	0	4<	1=7
08>4=	0	81	1=7	1	1<4	30	0	44	1<8
0&>00	0	<4	1<=	1	203	31	0	=0	1&1
0&>1=	=	74	133	0	227	28	0	4&	17=
0&>30	0	80	137	2	224	32	0	47	1<=
0&>4=	0	73	138	0	180	2<	2	47	14<
10>00	0	83	134	1	1=7	2<	1	34	123
10>1=	0	104	128	0	131	21	0	34	11=
10>30	2	12<	1=&	2	182	1=	0	32	13&
10>4=	1	&4	1=3	0	1<=	3<	1	32	111
11>00	2	108	13=	0	172	37	1	3&	&7
11>1=	1	107	1==	1	147	34	0	31	147
11>30	1	120	1=8	0	1<0	2<	0	31	123
11>4=	1	103	1=4	2	113	31	0	32	114
12>00	0	132	13<	1	144	34	0	43	110
12>1=	1	127	1=4	0	13<	27	0	32	10<
12>30	1	12=	13=	1	137	33	0	31	8<
12>4=	0	121	142	0	1<<	38	1	34	84
13>00	2	10=	144	0	143	23	0	41	110
13>1=	4	111	1=7	0	171	3=	1	33	112
13>30	1	11<	1<2	1	1=4	27	2	34	12=
13>4=	0	107	1<3	0	1<8	28	0	37	103
14>00	1	13&	182	0	141	30	0	27	&2
14>1=	0	14=	17=	0	141	41	1	44	88
14>30	1	1<1	22=	0	1=<	31	0	4<	102
14>4=	0	144	213	1	1=8	30	2	=7	&3
1=>00	0	13&	202	2	1<1	31	0	40	&2
1=>1=	2	141	1&1	0	171	3=	1	3&	101
1=>30	2	1=3	241	0	13=	33	0	37	10&
1=>4=	1	178	277	0	1<0	38	0	=2	107
1<>00	0	1&&	2<1	1	1<<	<2	1	<0	112
1<>1=	1	174	2<1	0	18<	8=	0	<=	13&
1<>30	1	1<7	2=2	0	1&1	=8	1	47	&7
1<>4=	2	1&8	213	0	170	=&	0	=&	8&
17>00	0	201	232	1	170	71	1	=7	124
17>1=	1	221	20=	0	184	<1	0	==	&8
17>30	0	220	202	1	1<<	<4	1	=&	8=
17>4=	0	183	223	1	1&4	44	0	=<	84
18>00	0	213	20=	0	17<	47	0	=3	82
18>1=	3	212	21=	0	171	=0	0	38	87
18>30	1	18&	22<	1	1=&	41	2	32	8<
18>4=	1	13=	170	0	1=3	23	0	37	8=
1&>00	1	102	131	0	131	20	0	27	82
1&>1=	2	111	127	0	127	1&	0	2<	48
1&>30	0	&4	&3	0	11=	1=	0	24	3&
1&>4=	3	77	&1	0	107	14	0	17	37
20>00	1	&0	8&	0	&&	8	0	18	31
20>1=	0	4<	80	0	74	12	0	18	31
20>30	2	74	8&	0	<<	1<	0	20	32
20>4=	0	<0	<2	0	4=	10	0	4	28
21>00	2	=8	74	0	47	18	0	8	2<
21>1=	0	48	73	1	&7	12	0	&	33
21>30	0	<0	=3	0	48	10	0	10	2&
21>4=	1	=2	<3	0	37	<	1	17	44
22>00	0	43	74	0	44	8	0	12	2=
22>1=	2	=3	<=	0	<=	11	1	17	38
22>30	1	42	<4	0	71	1=	0	10	2=
22>4=	0	38	=0	0	=1	8	0	7	12
23>00	1	32	=<	0	34	1<	0	3	20
23>1=	1	31	3&	0	<7	3	0	<	12

23>30	0	1&	4=	0	<<	4	0	4	10
23>4=	0	20	33	0	82	8	0	4	=

Start Time	&olling 6our								
00>00	1	38	82	0	144	10	0	7	2&
00>1=	1	37	70	0	120	8	0	=	24
00>30	1	34	<<	0	114	2	0	7	1=
00>4=	1	27	71	1	107	1	0	4	17
01>00	1	18	80	1	107	0	0	3	1=
01>1=	0	18	8<	1	11<	3	0	3	14
01>30	0	14	7&	1	133	3	0	2	17
01>4=	0	13	73	0	172	4	0	2	1=
02>00	0	14	<<	0	1<<	4	0	4	18
02>1=	0	18	<=	0	1<<	1	0	7	20
02>30	0	2=	7&	0	14&	2	0	<	20
02>4=	0	27	108	0	117	2	0	8	21
03>00	1	2=	12&	0	122	3	0	8	17
03>1=	1	21	1<8	0	123	4	0	8	21
03>30	1	1&	1&<	0	14=	3	0	&	2&
03>4=	2	28	22&	0	1=<	=	0	&	33
04>00	1	33	2<3	1	14&	=	0	13	3<
04>1=	1	41	274	1	17&	10	0	20	43
04>30	1	44	30&	2	1&<	1=	0	24	==
04>4=	0	48	321	2	23&	17	0	28	83
0=>00	0	=8	310	1	2&=	2<	0	3=	11<
0=>1=	1	7<	30&	1	34&	41	0	2&	17<
0=>30	1	120	311	0	418	==	0	4=	233
0=>4=	1	1=4	311	0	=3=	77	1	73	377
0<>00	3	1&1	3=8	0	<&3	&8	2	88	=21
0<>1=	2	241	413	0	842	10<	2	130	<78
0<>30	2	287	4<0	0	&&<	12=	2	173	83<
0<>4=	2	344	=22	0	10<&	1=0	1	188	8=2
07>00	0	387	<24	0	10=0	171	1	210	881
07>1=	0	402	<8&	0	100&	177	3	227	8=<
07>30	0	38<	718	0	&&=	177	3	221	811
07>4=	0	3<<	718	2	&<8	1=<	3	21&	771
08>00	0	347	<<2	3	&12	134	2	212	724
08>1=	0	31=	<40	4	887	130	0	1&&	708
08>30	=	30<	<02	4	838	120	0	18&	<&0
08>4=	=	2&&	=&2	4	818	121	0	18&	<&8
0&>00	=	2&1	=74	3	834	11<	2	1&2	<7<
0&>1=	=	310	=43	3	788	111	3	177	<0&
0&>30	0	33&	=37	3	<&2	104	3	1<2	=4&
0&>4=	2	38<	==&	3	<4&	88	3	147	=23
10>00	3	407	=74	3	<34	&8	2	133	488
10>1=	=	433	=74	2	<4&	10&	2	137	4<1
10>30	<	43<	<02	3	<<=	122	2	134	4&3
10>4=	=	42&	<01	1	<43	133	2	133	477
11>00	=	438	<02	3	=&1	128	1	132	481
11>1=	3	4<2	<03	4	=<3	124	0	137	4&4
11>30	3	482	<02	3	==2	118	0	138	4=2
11>4=	3	488	=7&	4	=2&	12=	0	138	41<
12>00	2	=0<	=<8	2	=83	132	1	140	38<
12>1=	4	47&	=7=	1	=82	121	1	137	38<
12>30	7	4<3	=78	1	<1<	12&	2	138	3&2
12>4=	7	4=4	<04	1	<34	122	4	141	431
13>00	7	440	<2=	1	<3<	112	3	144	4=0
13>1=	<	473	<<3	1	<34	11&	3	130	431
13>30	2	=07	<80	1	<04	12=	3	142	408
13>4=	2	==1	744	0	<0<	130	1	1=4	384
14>00	2	=8&	7&4	1	=&<	132	3	174	37=
14>1=	1	=8&	814	3	<1<	133	3	18<	37=
14>30	3	=8=	831	3	<4<	127	3	181	38&
14>4=	4	=77	847	3	<2=	130	3	173	3&=
1=>00	=	<11	&11	2	<27	137	1	1<8	40&
1=>1=	=	<71	&<&	1	<32	1<8	2	188	42&
1=>30	4	704	1040	1	<48	218	1	214	4<7
1=>4=	3	718	10=0	1	704	243	2	224	4==
1<>00	4	73&	&8<	1	714	2<4	2	232	438
1<>1=	4	741	&=8	1	718	273	2	22&	44&
1<>30	4	787	&01	1	71=	24&	2	21&	408
1<>4=	3	840	8=2	2	<&0	2==	2	231	3&<
17>00	1	82=	8<2	3	714	240	2	228	3&1
17>1=	1	838	83=	2	720	21<	1	223	34&
17>30	3	82&	84=	2	708	20<	1	20<	338
17>4=	4	7&8	8<&	2	700	183	2	17&	33&
18>00	=	74&	81=	1	<<0	1<2	2	1<0	340
18>1=	<	<37	742	1	<14	13=	2	134	340
18>30	=	=37	<==	1	=70	103	2	122	300
18>4=	4	442	=22	0	=2<	77	0	114	2=4
1&>00	<	384	443	0	480	<8	0	&4	20<
1&>1=	<	373	401	0	448	=<	0	8=	1==
1&>30	4	307	3=3	0	3&=	4&	0	77	138
1&>4=	<	287	34&	0	34<	=0	0	73	131
20>00	3	271	320	0	284	4<	0	<0	122
20>1=	4	23&	30<	0	232	=<	0	=0	117
20>30	4	241	2&&	1	2==	=<	0	41	11&
20>4=	2	22<	2<3	1	237	=0	0	31	11<
21>00	3	218	2<4	1	22&	4<	1	44	132
21>1=	1	203	2<3	1	22<	3<	1	48	131
21>30	3	208	2==	0	1&3	3=	2	=<	13<
21>4=	4	1&1	2<<	0	217	40	2	=<	132
22>00	3	177	2=3	0	231	42	1	4<	&&
22>1=	4	1<<	23=	0	221	=0	1	37	&=
22>30	3	143	20&	0	224	42	0	2<	<&
22>4=	2	120	1&0	0	21&	31	0	20	=4
23>00	2	102	173	0	2=0	32	0	17	47

Intelligent Data Collection Limited

Client:	Peter Brett Associates	Date of Survey:	10.07.2018		
Project Number:	ID04020	Junction Name:	A370 / A4174 Colliters Way		
Junction Number:	Site 3	Junction Type:	3-arm Ro !"a#o t		

!rm !: A370 926:
!rm B: A4174 Colliters Way 9S6:
!rm C: A370 9SW:

Count -et)od: ?e,icles Cla e Included: All Classes *Select t,e co !t met,o" a!" "esire" ser classes 4rom t,e "ro'-"o5 !s i! cells D10 a!" (10*

-a8imum 3:$minute Junction (lo":

! - Pea+	from:	07>1=	until:	07>30	flo":	82<
Inter$Pea+	from:	1=>4=	until:	1<>00	flo":	772
P - Pea+	from:	1<>1=	until:	1<>30	flo":	881

A. Pea co%ers 0<>00 !til 10>00*
!!ter-Pea co%ers 10>00 !til 1<>00*
P. Pea co%ers 1<>00 !til 20>00*

Period Starting: 00>00 *Select t,e time 4rom t,e "ro'-"o5 ! i! cell D18 to s,o5 t,e 1=-mi! te "ata 4or t,at 'erio"*

-ovement Count

3rom \ Co	!	B	C	Total
!	1	24	<	31
B	>?	0	2	:@
C	8	2	0	10
Total	:<	2<	8	&1

6/2 Proportion

3rom \ Co	!	B	C	Total
!	0.0@	4.2@	3;#< =	;#: =
B	0.0@	0.0@	0.0@	0.0@
C	0.0@	0.0@	0.0@	0.0@
Total	0.0@	3.8@	34#: =	2.2@

-a8imum 6ourly Junction (lo":

! - Pea+	from:	07>1=	until:	08>1=	flo":	31&1
Inter$Pea+	from:	1=>4=	until:	1<>4=	flo":	3274
P - Pea+	from:	1<>1=	until:	17>1=	flo":	3303

Period Starting: 00>00 *Select t,e time 4rom t,e "ro'-"o5 ! i! cell D34 to s,o5 t,e ,o rly "ata 4or t,at 'erio"*

-ovement Count

3rom \ Co	!	B	C	Total
!	1	82	32	11=
B	3AA	0	<	3AB
C	2&	7	0	3<
Total	3;A	8&	38	2&0

6/2 Proportion

3rom \ Co	!	B	C	Total
!	0.0@	1.2@	12.=@	4.3@
B	=.3@	0.0@	AA#A =	;#: =
C	0.0@	0.0@	0.0@	0.0@
Total	4.3@	1.1@	3:#? =	4.8@

Bol" e!tries i! t,e a#o%e ta#les i!"icate t,e maAim m mo%eme!t% a'roac, a!" eAit 4lo5s 4or t,e selecte" time 'erio"% a!" similarly 5it, t,e ;(? 'ro'ortio!s

Intelligent Data Collection Limited
Bri tol !irport

Client:	Peter Brett Associates
Project Number:	ID04020
Junction Number:	Site 4
Date of Survey:	10.07.2018
Junction Name:	Lime Kiln Roundabout
Junction Type:	4 arm Roundabout

%uality ! urance and I ue &ecord

! ualit" Assurance

Re#ision	Re# A			
Date	0$.08.2018			
Pre%ared b"	&abriela 'elen(o#a			
Si)nature				
*+ec(ed b"	Lu(e , artin			
Si)nature				
Pro-ect Director	Paul ./0eill			
Si)nature				
Pro-ect number	ID04020			
1ile Re2	ID04020 Bristol Air%ort , ** Site 4 10.07.2018			

Issue S+eet

Issued to	Date			
	10.08.2018			
Andre3 Lo#e)ro#e	4 mail			

Content Page

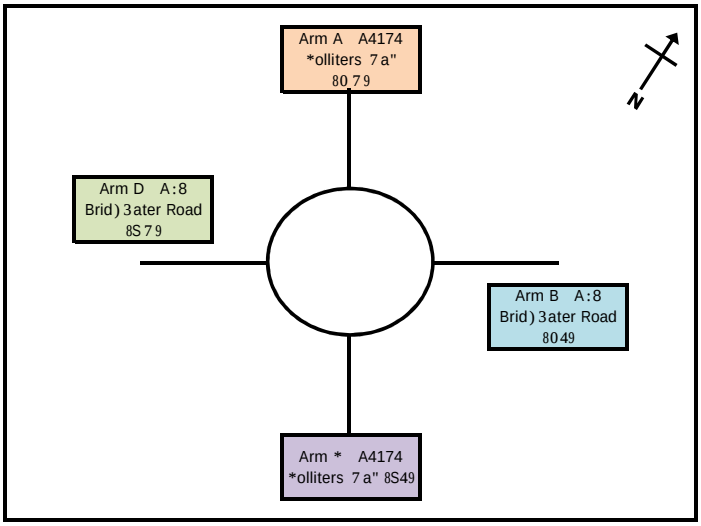
Location Plan 5 Summar"
, ** Data
P*6 Data
, o#ement , atrices

Intelligent Data Collection Limited

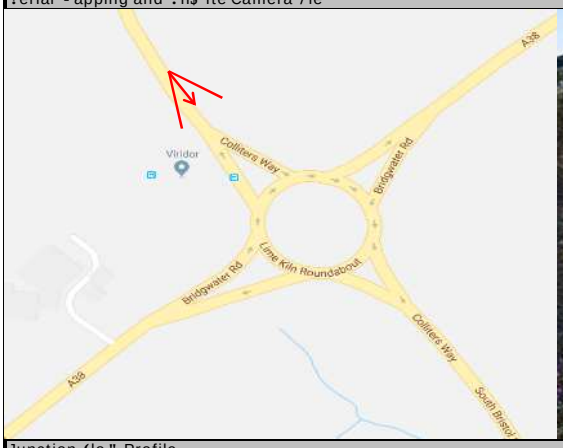
Client:	Peter Brett Associates	Date of Survey:	10.07.2018
Project Number:	ID04020	Junction Name:	Lime Kiln Roundabout
Junction Number:	Site 4	Junction Type:	4 arm Roundabout

0 Coordinate	2 Coordinate	1oogle - ap Lin+	
=1.41$0$=0178<242	2.<:<0=7<<27:2:==:	*lic(;ere	
! - Pea+ Condition	Inter$Pea+ Condition	P - Pea+ Condition	
Dr"	Dr"	Dr"	

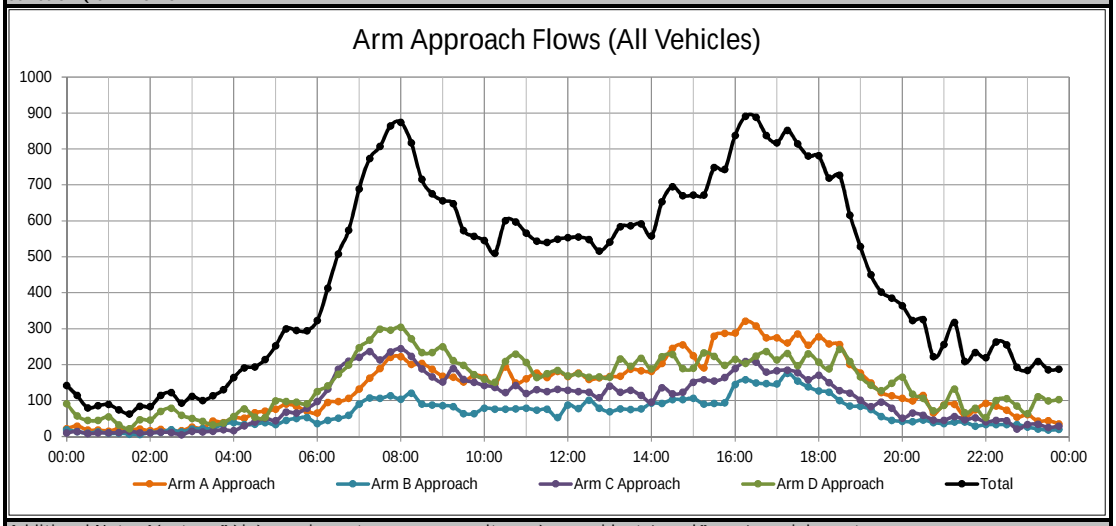
Junction Layout



!erial - apping and .n$ ite Camera /ie"



Junction (lo" Profile



!dditional Note '(actor ")ic) may impact on urvey re ult uc) a accident *road"or+ * pecial event ,:

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 4

Date of Survey: 10.07.2018
Junction Name: Lime Kiln Roundabout
Junction Type: 4 arm Roundabout

!rm 1: A4174 *olliters 7a" 80 79
!rm B: A:8 Brid)3ater Road 8049

!rm C: A4174 *olliters 7a" 8549
!rm D: A:8 Brid)3ater Road 8S 79

	! to !								! to D								! to C							
Time	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total	Car	L1/	. 1/3	. 1/4	Bu e	-5C	Cycle	Total
00-00	0	0	0	0	0	0	0	0	1=	0	0	0	0	0	0	1=	<	1	0	0	0	0	0	7
00-1=	0	0	0	0	0	0	0	0	21	1	0	0	0	0	0	22	7	0	0	0	0	0	0	7
00:-0	0	0	0	0	0	0	0	0	1=	0	0	0	0	0	0	1=	:	0	0	0	0	0	0	:
00-4=	0	0	0	0	0	0	0	0	10	2	0	0	0	0	0	12	4	2	0	0	0	0	0	<
01-00	0	0	0	0	0	0	0	0	1=	0	0	0	0	0	0	1=	0	0	0	0	0	0	0	0
01-1=	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	18	:	0	0	0	0	0	0	:
01:-0	0	0	0	0	0	0	0	0	1<	2	0	0	1	0	0	1$	0	0	0	0	0	0	0	0
01-4=	0	0	0	0	0	0	0	0	1=	0	0	0	1	0	0	1<	4	0	0	0	0	0	0	4
02-00	0	0	0	0	0	0	0	0	11	2	0	0	0	0	0	1:	2	0	0	0	0	0	0	2
02-1=	0	0	0	0	0	0	0	0	1=	1	2	0	0	0	0	18	2	0	0	0	0	0	0	2
02:-0	0	0	0	0	0	0	0	0	$	2	0	0	0	0	0	11	2	0	0	0	0	0	0	2
02-4=	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	14	1	0	0	0	0	0	0	1
0:-00	0	0	0	0	0	0	0	0	24	0	1	0	0	0	0	2=	1	0	0	0	0	0	0	1
0:-1=	0	0	0	0	0	0	0	0	21	2	0	0	0	0	0	2:	0	0	0	0	0	0	0	0
0::-0	0	0	0	0	0	0	0	0	41	0	0	0	0	1	0	42	1	0	0	0	0	0	0	1
0:-4=	0	0	0	0	0	0	0	0	:=	0	0	0	2	0	0	:7	2	0	0	0	0	0	0	2
04-00	0	0	0	0	0	0	0	0	47	2	0	1	0	0	0	=0	2	0	0	0	0	0	0	2
04-1=	0	0	0	0	0	0	0	0	:8	=	0	:	0	1	0	47	:	0	0	0	0	0	0	4
04:-0	0	0	0	0	0	0	0	0	=8	2	1	1	1	0	0	<:	2	1	0	0	0	0	0	:
04-4=	0	0	0	0	0	0	0	0	<=	2	0	0	1	0	0	<8	1	0	0	1	0	1	0	:
0=-00	0	0	0	0	0	0	0	0	<:	1	0	0	0	0	0	<4	=	=	0	1	0	0	0	11
0=-1=	0	0	0	0	0	0	0	0	<<	8	1	1	0	1	0	77	10	0	0	1	0	1	0	12
0=:-0	0	0	0	0	0	0	0	0	<8	1	0	1	1	0	0	71	<	:	1	2	0	0	0	12
0=-4=	0	0	0	0	0	0	0	0	4$	:	0	1	1	0	0	=4	10	2	0	2	0	0	0	14
0<-00	0	0	0	0	0	0	0	0	41	1	2	:	0	0	0	47	10	2	1	1	0	0	0	14
0<-1=	0	0	0	0	0	0	0	0	:8	<	0	1	1	1	0	47	:4	=	2	1	0	0	0	42
0<:-0	0	0	0	0	0	0	0	0	=0	0	0	0	0	1	0	=1	24	$	0	2	:	0	0	:8
0<-4=	0	0	0	0	0	0	0	0	::	$	0	2	1	0	0	4=	:8	8	0	2	0	0	0	48
07-00	0	0	0	0	0	0	0	0	2:	4	1	2	1	0	0	:1	7:	11	1	=	0	0	0	$0
07-1=	1	0	0	0	0	0	0	1	:$	7	0	2	0	0	0	48	70	17	:	:	0	0	0	$:
07:-0	0	0	0	0	0	0	0	0	4<	8	:	1	0	0	0	=8	8:	18	:	2	0	0	0	10<
07-4=	2	0	0	0	0	0	0	2	47	8	2	1	1	0	0	=$	8:	17	=	0	0	1	0	10<
08-00	1	0	0	0	0	0	0	1	=7	7	4	2	1	2	0	7:	81	1<	2	=	0	0	0	104
08-1=	0	0	0	0	0	0	0	0	41	$	<	:	0	0	0	=$	77	1=	:	2	0	0	0	$7
08:-0	0	0	0	0	0	0	0	0	<:	=	1	1	1	0	0	71	<<	11	2	4	1	0	0	84
08-4=	2	0	0	0	0	0	0	2	4:	8	1	1	0	0	0	=:	<7	17	7	4	2	1	0	$8
0$-00	0	0	0	0	0	0	0	0	44	7	1	0	0	0	0	=2	<:	10	:	4	1	0	0	81
0$-1=	1	0	0	0	0	0	0	1	=:	8	0	4	0	0	0	<=	=<	8	:	:	0	1	0	71
0$:-0	0	0	0	0	0	0	0	0	4=	14	0	1	0	2	0	<2	=7	8	1	2	0	1	0	<$
0$-4=	0	0	0	0	0	0	0	0	<7	7	0	2	0	0	0	7<	=0	1<	7	:	2	0	0	78
10-00	0	0	0	0	0	0	0	0	<<	:	2	2	1	0	0	74	=:	14	2	4	0	1	0	74
10-1=	0	0	0	0	0	0	0	0	=<	<	1	4	0	0	0	<7	44	20	1	0	0	0	0	<=
10:-0	1	0	0	0	0	0	1	$4	=	1	<	0	1	0	0	107	=7	1<	2	0	0	0	0	7=
10-4=	1	0	0	0	0	0	1	=:	4	1	:	2	0	0	0	<:	=7	8	2	2	2	2	0	7:
11-00	0	0	0	0	0	0	0	0	7<	=	=	1	0	0	0	87	4$	12	:	0	0	0	0	<4
11-1=	0	0	0	0	0	0	0	0	77	11	0	=	1	0	0	$4	=4	7	:	0	0	0	0	<4
11:-0	0	0	0	0	0	0	0	0	=$	14	1	2	1	0	0	77	<:	10	2	0	0	0	0	7=
11-4=	0	0	0	0	0	0	0	0	<8	8	:	1	2	1	0	8:	<0	1:	1	7	0	2	0	8:
12-00	0	0	0	0	0	0	0	0	<4	<	1	:	2	0	0	7<	==	17	4	:	0	2	0	81
12:1=	0	0	0	0	0	0	0	0	<1	$	:	1	1	0	0	7=	=1	21	=	1	0	1	0	7$
12::-0	0	0	0	0	0	0	0	0	<4	7	1	:	0	0	0	7=	=8	10	:	0	0	0	0	71
12-4=	0	0	0	0	0	0	0	0	=8	8	2	2	1	<	0	77	=7	$	=	2	1	1	0	7=
1:-00	0	0	0	0	0	0	0	0	=8	8	0	2	0	1	0	<$	=1	21	:	1	0	:	0	7$
1:-1=	0	0	0	0	0	0	0	0	<7	7	0	2	0	0	0	7<	<1	1<	1	4	0	1	0	8:
1::-0	0	0	0	0	0	0	0	0	=2	11	1	=	0	2	0	71	77	1=	:	1	0	2	0	$8
1:-4=	0	0	0	0	0	0	0	0	=$	8	2	1	1	0	0	71	=<	27	4	1	0	1	0	88
14-00	0	0	0	0	0	0	0	0	8<	1	:	1	1	0	0	$2	=2	18	4	1	0	0	0	7=
14-1=	0	0	0	0	0	0	0	0	74	8	0	2	1	0	1	8<	82	1<	0	:	1	:	0	10=
14:-0	0	0	0	0	0	0	0	0	7=	8	1	1	1	0	0	8<	$:	:1	=	:	2	2	0	1:<
14-4=	0	0	0	0	0	0	0	0	$:	10	1	=	4	1	0	114	8<	27	2	4	0	2	0	121
1=-00	0	0	0	0	0	0	0	0	$1	4	2	:	0	:	0	10:	7$	24	1	2	0	0	0	10<
1=-1=	0	0	0	0	0	0	0	0	74	8	:	4	2	0	0	$1	=4	17	2	1	1	1	0	7<
1=:-0	0	0	0	0	0	0	0	0	111	10	1	1	0	2	0	12=	87	:=	4	0	0	:	0	12$
1=-4=	0	0	0	0	0	0	0	0	$=	14	2	7	1	0	0	11$	$8	:1	:	<	0	4	0	142
1<-00	0	0	0	0	0	0	0	0	10$	10	2	:	1	1	0	12<	$8	:0	2	0	0	4	0	1:4
1<-1=	0	0	0	0	0	0	0	0	1:4	18	2	1	0	2	0	1=7	101	:2	=	0	0	0	0	1:8
1<:-0	0	1	0	0	0	0	0	1	1=1	14	0	1	0	2	0	1<8	8:	1$	0	1	0	1	0	104
1<-4=	0	0	0	0	0	0	0	0	101	1=	1	2	0	1	0	120	10:	18	1	0	0	:	0	12=
17-00	0	0	0	0	0	0	0	0	10:	$	2	1	2	4	0	121	$1	22	0	0	0	2	0	11=
17-1=	0	0	0	0	0	0	0	0	10=	=	2	1	1	:	0	117	$<	17	0	0	0	=	1	11$
17:-0	0	0	0	0	0	0	0	0	117	<	0	0	0	2	2	127	111	1=	1	:	0	2	0	1:2
17-4=	0	0	0	0	0	0	0	0	$$	2	0	1	0	:	2	107	$7	17	0	0	0	0	0	114
18-00	0	0	0	0	0	0	0	0	11$	:	1	1	0	:	0	127	11:	$	1	1	0	1	0	12=
18-1=	0	0	0	0	0	0	0	0	102	:	0	2	0	:	0	110	101	12	1	1	2	4	0	121
18:-0	0	0	0	0	0	0	0	0	88	=	0	2	0	2	0	$7	11:	14	1	2	0	1	:	1:4
18-4=	0	0	0	0	0	0	0	0	87	4	0	0	0	0	0	$1	7:	7	1	1	1	2	0	8=
1$-00	1	0	0	0	0	0	0	1	74	0	0	0	2	1	0	77	<4	11	1	0	0	1	0	77
1$-1=	0	0	0	0	0	0	0	0	70	=	0	0	2	0	0	77	=2	<	0	1	1	0	1	<1
1$:-0	1	0	0	0	0	0	0	1	=:	1	0	1	0	0	0	==	47	8	0	0	0	0	1	=<
1$-4=	0	0	0	0	0	0	0	0	:<	<	0	1	0	0	0	4:	4$	8	0	1	2	0	0	<0
20-00	0	0	0	0	0	0	0	0	=4	0	0	0	1	0	0	==	:<	4	0	0	1	0	0	41
20-1=	0	0	0	0	0	0	0	0	42	2	0	0	1	1	0	4<	42	2	0	0	1	1	0	4<
20:-0	0	0	0	0	0	0	0	0	=$	8	0	1	0	1	0	<$	:<	4	0	0	0	0	0	40
20-4=	0	0	0	0	0	0	0	0	:1	0	0	1	0	1	0	::	22	:	0	0	1	1	0	27
21-00	0	0	0	0	0	0	0	0	:<	2	1	2	0	0	0	41	:1	2	0	0	1	0	0	:4
21-1=	0	0	0	0	0	0	0	0	44	=	0	0	1	0	0	=0	:=	0	0	0	1	1	0	:7
21:-0	0	0	0	0	0	0	0	0	28	0	0	1	0	0	0	2$	1$	2	0	1	0	1	0	2:
21-4=	0	0	0	0	0	0	0	0	2<	4	0	0	1	1	0	:2	:4	0	0	:	0	0	0	:7
22-00	0	0	0	0	0	0	0	0	4:	:	0	0	0	1	0	47	:4	7	0	1	0	0	0	42
22-1=	0	0	0	0	0	0	0	0	:0	4	0	0	0	0	0	:4	41	=	0	0	0	1	0	47
22:-0	0	0	0	0	0	0	0	0	44	1	1	1	0	0	0	47	17	0	0	2	0	0	0	1$
22-4=	0	0	0	0	0	0	0	0	::	:	0	0	0	0	0	:<	1=	0	0	0	0	1	0	1<
2:-00	0	0	0	0	0	0	0	0	41	:	0	1	0	0	0	4=	1:	2	0	0	0	0	0	1=
2:-1=	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	28	12	0	0	1	0	0	0	1:
2::-0	0	0	0	0	0	0	0	0	:4	0	0	1	:	0	0	:8	<	0	0	0	0	0	0	<
2:-4=	0	0	0	0	0	0	0	0	2<	0	0	0	0	0	0	2<	4	:	0	1	0	0	0	8

Start Time	Rolling Hour								Total	Rolling Hour								Total	Rolling Hour								Total
00:00	0	0	0	0	0	0	0	0	0	<1	:	0	0	0	0	0	<4	20	:	0	0	0	0	0	2:
00:1=	0	0	0	0	0	0	0	0	0	<1	:	0	0	0	0	0	<4	14	2	0	0	0	0	0	1<
00:2:	0	0	0	0	0	0	0	0	0	=8	2	0	0	0	0	0	<0	10	2	0	0	0	0	0	12
00:4=	0	0	0	0	0	0	0	0	0	=$	4	0	0	1	0	0	<4	7	2	0	0	0	0	0	$
01:00	0	0	0	0	0	0	0	0	0	<4	2	0	0	2	0	0	<8	7	0	0	0	0	0	0	7
01:1=	0	0	0	0	0	0	0	0	0	<0	4	0	0	2	0	0	<<	$	0	0	0	0	0	0	$
01:2:	0	0	0	0	0	0	0	0	0	=7	=	2	0	2	0	0	<<	8	0	0	0	0	0	0	8
01:4=	0	0	0	0	0	0	0	0	0	=0	=	2	0	1	0	0	=8	10	0	0	0	0	0	0	10
02:00	0	0	0	0	0	0	0	0	0	4$	=	2	0	0	0	0	=<	7	0	0	0	0	0	0	7
02:1=	0	0	0	0	0	0	0	0	0	<2	:	:	0	0	0	0	<8	<	0	0	0	0	0	0	<
02:2:	0	0	0	0	0	0	0	0	0	<8	4	1	0	0	0	0	7:	4	0	0	0	0	0	0	4
02:4=	0	0	0	0	0	0	0	0	0	100	2	1	0	0	1	0	104	:	0	0	0	0	0	0	:
0::00	0	0	0	0	0	0	0	0	0	121	2	1	0	2	1	0	127	4	0	0	0	0	0	0	4
0::1=	0	0	0	0	0	0	0	0	0	144	4	0	1	2	1	0	1=2	=	0	0	0	0	0	0	=
0::2:	0	0	0	0	0	0	0	0	0	1<1	7	0	4	2	2	0	17<	8	0	1	0	0	0	0	$
0::4=	0	0	0	0	0	0	0	0	0	178	$	1	=	:	1	0	1$7	$	1	1	0	0	0	0	11
04:00	0	0	0	0	0	0	0	0	0	208	11	1	=	2	1	0	228	8	1	1	1	0	1	0	12
04:1=	0	0	0	0	0	0	0	0	0	224	10	1	4	2	1	0	242	11	<	1	2	0	1	0	21
04::0	0	0	0	0	0	0	0	0	0	2=2	1:	2	2	2	1	0	272	18	<	0	:	0	2	0	2$
04:4=	0	0	0	0	0	0	0	0	0	2<2	12	1	2	2	1	0	280	22	8	1	=	0	2	0	:8
0=:00	0	0	0	0	0	0	0	0	0	24<	1:	1	:	2	1	0	2<<	:1	10	1	<	0	1	0	4$
0=:1=	0	0	0	0	0	0	0	0	0	224	1:	:	<	2	1	0	24$	:<	7	2	<	0	1	0	=2
0=::0	0	0	0	0	0	0	0	0	0	1$<	11	2	<	:	1	0	21$	<0	12	4	<	0	0	0	82
0=:4=	0	0	0	0	0	0	0	0	0	178	10	2	=	2	2	0	1$$	78	18	:	<	:	0	0	108
0<:00	0	0	0	0	0	0	0	0	0	1<2	1<	2	<	2	2	0	1$0	10<	24	:	<	:	0	0	142
0<:1=	0	0	0	0	0	0	0	0	0	144	1$	1	=	:	2	0	174	1<$	: :	:	10	:	0	0	218
0<::0	1	0	0	0	0	0	0	0	1	14=	20	1	<	2	1	0	17=	20=	4=	4	12	:	0	0	2<$
0<:4=	1	0	0	0	0	0	0	0	1	141	28	4	7	2	0	0	182	2<4	=4	7	12	0	0	0	: :7
07:00	:	0	0	0	0	0	0	0	:	1==	27	<	<	2	0	0	1$<	:0$	<:	12	10	0	1	0	:$=
07:1=	4	0	0	0	0	0	0	0	4	18$	:0	$	<	2	2	0	2:8	:17	<8	1:	10	0	1	0	40$
07::0	:	0	0	0	0	0	0	0	:	1$1	:2	1=	7	2	2	0	24$	:24	<<	1:	$	0	1	0	41:
07:4=	:	0	0	0	0	0	0	0	:	208	2$	1:	7	:	2	0	2<2	:07	=$	12	11	1	1	0	:$1
08:00	:	0	0	0	0	0	0	0	:	204	2$	12	7	2	2	0	2=<	2$1	=$	14	1=	:	1	0	:8:
08:1=	2	0	0	0	0	0	0	0	2	1$1	2$	$	=	1	0	0	2:=	27:	=:	1=	14	4	1	0	:<0
08::0	:	0	0	0	0	0	0	0	:	20:	28	:	<	1	0	0	241	2=2	4<	1=	1=	4	2	0	: :4
08:4=	:	0	0	0	0	0	0	0	:	18=	:7	2	<	0	2	0	2:2	24:	4:	14	1:	:	:	0	:1$
0$:00	1	0	0	0	0	0	0	0	1	20$	:<	1	7	0	2	0	2==	22<	42	14	12	:	2	0	2$$
0$:1=	1	0	0	0	0	0	0	0	1	2:1	:2	2	$	1	2	0	277	21<	4<	1:	12	2	:	0	2$2
0$::0	0	0	0	0	0	0	0	0	0	2:4	:0	:	$	1	2	0	27$	204	=8	11	$	2	2	0	28<
0$:4=	1	0	0	0	0	0	0	0	1	28:	21	4	14	1	1	0	:24	204	<<	12	7	2	1	0	2$2
10:00	2	0	0	0	0	0	0	0	2	2<$	18	=	1=	:	1	0	:11	211	=8	7	<	2	:	0	287
10:1=	2	0	0	0	0	0	0	0	2	27$	20	8	14	2	1	0	:24	207	=<	8	2	2	2	0	277
10::0	2	0	0	0	0	0	0	0	2	:00	2=	7	1=	:	1	0	:=1	217	4:	10	2	2	2	0	27<
10:4=	1	0	0	0	0	0	0	0	1	2<=	:4	7	11	4	0	0	:21	22:	:7	10	2	2	2	0	27<
11:00	0	0	0	0	0	0	0	0	0	280	:8	$	$	4	1	0	:41	22<	42	$	7	0	2	0	28<
11:1=	0	0	0	0	0	0	0	0	0	2<8	:$	=	11	<	1	0	: :0	2:2	47	10	10	0	4	0	:0:
11::0	0	0	0	0	0	0	0	0	0	2=2	:7	8	7	<	1	0	:11	22$	<1	12	11	0	=	0	:18
11:4=	0	0	0	0	0	0	0	0	0	2=7	:0	8	8	=	1	0	:0$	224	<1	1:	11	0	=	0	:14
12:00	0	0	0	0	0	0	0	0	0	247	:0	7	$	4	<	0	:0:	221	=7	17	<	1	4	0	:0<
12:1=	0	0	0	0	0	0	0	0	0	241	:2	<	8	2	7	0	2$<	217	<1	1<	4	1	=	0	:04
12::0	0	0	0	0	0	0	0	0	0	247	:0	:	$	1	7	0	2$7	227	=<	12	7	1	=	0	:08
12:4=	0	0	0	0	0	0	0	0	0	2:=	:4	:	11	1	$	0	2$:	24<	<1	12	8	1	7	0	: :=
1:>00	0	0	0	0	0	0	0	0	0	2:<	:4	:	10	1	:	0	287	24=	7$	11	7	0	7	0	:4$
1:>1=	0	0	0	0	0	0	0	0	0	2<4	27	<	$	2	2	0	:10	24<	7<	12	7	0	4	0	:4=
1::>0	0	0	0	0	0	0	0	0	0	271	28	<	$	:	2	1	:20	2<7	7<	11	<	1	<	0	:<7
1::4=	0	0	0	0	0	0	0	0	0	2$4	2=	<	=	4	0	1	: :=	28:	$2	1:	8	:	<	0	40=
14:00	0	0	0	0	0	0	0	0	0	:28	27	=	$	7	1	1	:78	:1:	$2	11	11	:	7	0	4:7
14:1=	0	0	0	0	0	0	0	0	0	: : :	:0	4	11	<	4	1	:8$	:40	$8	8	12	:	7	0	4<8
14::0	0	0	0	0	0	0	0	0	0	: : :	:0	7	1:	7	4	0	:$4	:12	$$	10	10	:	=	0	4:$
14:4=	0	0	0	0	0	0	0	0	0	:<$	:2	7	1:	<	<	0	4::	:0<	10:	$	7	1	<	0	4:2
1=:00	0	0	0	0	0	0	0	0	0	:71	:<	8	1=	:	=	0	4:8	:18	107	10	$	1	8	0	4=:
1=:1=	0	0	0	0	0	0	0	0	0	:8$	42	8	1=	4	:	0	4<1	: :7	11:	11	7	1	12	0	481
1=::0	0	0	0	0	0	0	0	0	0	44$	=2	7	12	2	=	0	=27	:84	128	14	<	0	11	0	=4:
1=:4=	0	1	0	0	0	0	0	0	1	48$	=<	<	12	2	=	0	=70	:80	112	10	7	0	$	0	=18
1<:00	0	1	0	0	0	0	0	0	1	4$=	=7	=	7	1	<	0	=71	:8=	$$	8	1	0	8	0	=01
1<:1=	0	1	0	0	0	0	0	0	1	48$	=<	=	=	2	$	0	=<<	:78	$1	<	1	0	<	0	482
1<::0	0	1	0	0	0	0	0	0	1	4<0	4:	=	=	:	10	0	=2<	:7:	7<	1	1	0	11	1	4<:
1<:4=	0	0	0	0	0	0	0	0	0	42<	:=	=	4	:	10	2	48=	401	72	2	:	0	12	1	4$1
17:00	0	0	0	0	0	0	0	0	0	424	22	4	:	:	12	4	472	.$=	71	1	:	0	$	1	480
17:1=	0	0	0	0	0	0	0	0	0	440	1<	:	:	1	11	4	478	417	=8	2	4	0	8	1	4$0
17::0	0	0	0	0	0	0	0	0	0	4:7	14	1	4	0	11	4	471	422	=:	:	=	2	7	0	4$2
17:4=	0	0	0	0	0	0	0	0	0	408	1:	1	<	0	11	2	441	424	=2	:	4	2	<	:	4$4
18:00	0	0	0	0	0	0	0	0	0	:$<	1=	1	=	0	8	0	42=	400	42	4	=	:	8	:	4<=
18:1=	1	0	0	0	0	0	0	0	1	:=1	12	0	4	2	<	0	:7=	:=1	44	4	4	:	8	:	417
18::0	1	0	0	0	0	0	0	0	1	::1$	14	0	2	4	:	0	:42	.02	:8	:	4	2	4	4	: =7
18:4=	2	0	0	0	0	0	0	0	2	284	10	0	1	4	1	0	:00	2:<	:2	2	2	2	:	2	27$
1$:00	2	0	0	0	0	0	0	0	2	2::	12	0	2	4	1	0	2=2	212	: :	1	2	:	1	2	2=4
1$:1=	1	0	0	0	0	0	0	0	1	21:	12	0	2	:	0	0	2:0	184	2<	0	2	4	0	2	218
1$::0	1	0	0	0	0	0	0	0	1	18=	$	0	2	2	1	0	1$$	174	22	0	1	4	1	1	20:
1$:4=	0	0	0	0	0	0	0	0	0	1$1	1<	0	2	2	2	0	21:	1<:	18	0	1	4	1	0	187
20:00	0	0	0	0	0	0	0	0	0	18<	10	0	2	2	:	0	20:	1:<	1:	0	0	:	2	0	1=4
20:1=	0	0	0	0	0	0	0	0	0	1<8	12	1	4	1	:	0	18$	1:1	11	0	0	:	2	0	147
20::0	0	0	0	0	0	0	0	0	0	170	1=	1	4	1	2	0	1$:	124	$	0	0	:	2	0	1:8
20:4=	0	0	0	0	0	0	0	0	0	1:$	7	1	4	1	1	0	1=:	107	7	0	1	:	:	0	121
21:00	0	0	0	0	0	0	0	0	0	1:4	11	1	:	2	1	0	1=2	11$	4	0	4	2	2	0	1:1
21:1=	0	0	0	0	0	0	0	0	0	141	12	0	1	2	2	0	1=8	122	$	0	=	1	2	0	1:$
21::0	0	0	0	0	0	0	0	0	0	127	11	0	1	1	2	0	142	128	14	0	=	0	2	0	14$
21:4=	0	0	0	0	0	0	0	0	0	14:	12	1	1	1	2	0	1<0	12<	12	0	<	0	1	0	14=
22:00	0	0	0	0	0	0	0	0	0	1<0	11	1	1	0	1	0	1<4	107	12	0	:	0	2	0	124
22:1=	0	0	0	0	0	0	0	0	0	148	11	1	2	0	0	0	1<2	8<	7	0	2	0	2	0	57
22::0	0	0	0	0	0	0	0	0	0	14<	7	1	2	0	0	0	1=<	=7	2	0	:	0	1	0	<:
22:4=	0	0	0	0	0	0	0	0	0	1:<	<	0	2	:	0	0	147	4<	2	0	1	0	1	0	=0
2::00	0	0	0	0	0	0	0	0	0	12$	:	0	2	:	0	0	1:7	:=	=	0	2	0	0	0	42

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 4

Date of Survey: 10.07.2018
Junction Name: Lime Kiln Roundabout
Junction Type: 4 arm Roundabout

!rm 1: A4174 *olliters 7a" 80 79
!rm B: A:8 Brid)3ater Road 8049
!rm C: A4174 *olliters 7a" 8549
!rm D: A:8 Brid)3ater Road 8S 79

	! to B								B to B								B to !							
Time	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total	Car	L1 /	. 1 / 3	. 1 / 4	Bu e	- 5C	Cycle	Total
00-00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00-1=	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:-0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00-4=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01-1=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:-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
01-4=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02-00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02-1=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:-0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02-4=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:-00	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	2
0:-4=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04-1=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:-0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-4=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0=-00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
0=-1=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
0=:-0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
0=-4=	2	1	0	0	0	0	0	:	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	11
0<-00	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	$
0<-1=	4	2	0	0	0	0	0	<	0	0	0	0	0	0	0	0	:	4	0	0	0	0	0	7
0<:-0	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	$	=	0	0	0	0	0	14
0<-4=	11	2	0	0	0	0	0	1:	0	0	0	0	0	0	0	0	1:	<	0	0	0	0	0	1$
07-00	$	2	0	0	0	0	0	11	0	0	0	0	0	0	0	0	:0	4	0	0	0	0	0	:4
07-1=	1<	4	0	0	0	0	0	20	0	0	0	0	0	0	0	0	2<	=	0	0	0	0	0	:1
07:-0	2:	2	0	0	0	0	0	2=	0	0	0	0	0	0	0	0	17	$	0	0	0	1	0	27
07-4=	:$	11	0	2	0	1	0	=:	0	0	0	0	0	0	0	0	2<	$	1	0	0	0	0	:<
08-00	:$	=	0	0	0	0	0	44	0	0	0	0	0	0	0	0	27	4	0	0	0	0	0	:1
08-1=	:7	:	1	0	0	4	0	4=	0	1	0	0	0	0	0	1	2:	=	1	0	0	0	0	2$
08:-0	42	<	0	0	0	0	0	48	0	0	0	0	0	0	0	0	1$	7	0	0	0	0	0	2<
08-4=	2:	$	0	0	0	2	0	:4	0	0	0	0	0	0	0	0	14	:	1	0	0	0	0	18
0$-00	28	4	0	0	2	1	0	:=	0	0	0	0	0	0	0	0	17	4	1	0	0	0	0	22
0$-1=	20	8	0	0	0	0	0	28	0	0	0	0	0	0	0	0	27	2	0	0	0	0	0	2$
0$:-0	1$	2	0	0	0	0	0	21	0	0	0	0	0	0	0	0	1:	:	0	0	0	0	0	1<
0$-4=	1:	2	1	0	0	0	0	1<	0	0	0	0	0	0	0	0	7	4	0	1	0	0	0	12
10-00	10	=	1	0	0	0	0	1<	0	0	0	0	0	0	0	0	$	2	2	0	0	0	0	1:
10-1=	10	4	0	0	0	0	0	14	1	0	0	0	0	0	0	1	$	=	0	0	0	0	0	14
10:-0	$	2	0	0	0	0	0	11	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11
10-4=	<	=	1	0	0	0	0	12	0	0	0	0	0	0	0	0	8	4	1	0	0	0	0	1:
11-00	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	1=	=	1	0	0	0	0	21
11-1=	1:	2	2	2	0	0	0	1$	0	0	0	0	0	0	0	0	$	4	0	0	0	0	0	1:
11:-0	11	1	0	0	0	0	0	12	0	0	0	0	0	0	0	0	1:	2	0	0	0	0	0	1=
11-4=	1:	2	0	0	0	0	0	1=	0	0	0	0	0	0	0	0	11	2	0	1	0	0	0	14
12-00	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	1=	<	2	0	0	0	0	2:
12-1=	1<	7	0	0	0	0	0	2:	0	0	0	0	0	0	0	0	12	:	0	0	0	1	0	1<
12:-0	10	2	0	1	0	0	0	1:	0	0	0	0	0	0	0	0	14	4	0	2	0	0	0	20
12-4=	8	2	1	0	0	0	0	11	0	0	0	0	0	0	0	0	11	0	0	0	0	1	0	12
1:-00	1=	2	2	0	0	0	0	1$	0	0	0	0	0	0	0	0	=	7	1	0	0	0	0	1:
1:-1=	=	:	1	0	0	0	0	$	0	0	0	0	0	0	0	0	12	:	1	0	0	0	0	1<
1::-0	18	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	$	:	1	0	0	0	0	1:
1:-4=	20	2	1	0	0	0	0	2:	1	0	0	0	0	0	0	1	8	:	0	0	0	0	0	11
14-00	8	<	0	0	0	0	0	14	0	0	0	0	0	0	0	0	1:	:	0	0	0	0	0	1<
14-1=	8	:	1	0	0	0	0	12	0	0	0	0	0	0	0	0	1:	1	0	1	0	0	0	1=
14:-0	17	:	1	0	0	2	0	2:	0	0	0	0	0	0	0	0	1<	1	2	0	0	0	0	1$
14-4=	17	:	0	0	0	0	0	20	0	1	0	0	0	0	0	1	1<	=	0	0	1	0	0	22
1=-00	10	4	1	0	1	0	0	1<	0	0	0	0	0	0	0	0	1=	$	2	0	0	0	0	2<
1=-1=	18	=	1	0	0	0	0	24	0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	14
1=:-0	1=	10	0	0	0	0	0	2=	0	0	0	0	0	0	0	0	10	:	0	0	0	0	0	1:
1=-4=	18	<	2	0	0	0	0	2<	0	1	0	0	0	0	0	1	1=	2	2	0	0	0	0	1$
1<-00	22	=	1	0	0	0	0	28	0	0	0	0	0	0	0	0	4=	8	1	0	0	0	0	=4
1<-1=	17	$	0	0	0	0	0	2<	0	0	0	0	0	0	0	0	=2	=	0	0	0	0	0	=7
1<:-0	2=	<	1	0	0	:	0	:=	0	0	0	0	0	0	0	0	=2	=	0	0	0	0	0	=7
1<-4=	27	:	0	0	0	0	0	:0	0	0	0	0	0	0	0	0	:=	<	0	0	0	1	0	42
17-00	:1	8	0	0	0	0	0	:$	0	0	0	0	0	0	0	0	40	:	0	0	0	1	2	4<
17-1=	18	=	1	0	0	0	0	24	0	0	0	0	0	0	0	0	:7	:	1	0	0	4	0	4=
17:-0	2:	:	0	0	0	0	0	2<	0	0	0	0	0	0	0	0	41	:	0	0	0	0	0	44
17-4=	2$	4	0	0	0	0	0	::	0	0	0	0	0	0	0	0	:2	:	0	0	0	1	0	:<
18-00	22	2	1	0	0	0	0	2=	0	0	0	0	0	0	0	0	2<	4	0	0	0	1	0	:1
18-1=	24	:	0	0	0	0	0	27	0	0	0	0	0	0	0	0	2=	2	0	0	0	1	0	28
18:-0	22	2	0	0	0	1	0	2=	0	0	0	0	0	0	0	0	12	1	0	0	0	1	0	14
18-4=	21	4	0	0	0	0	0	2=	0	0	0	0	0	0	0	0	$	0	0	0	0	0	0	$
1$-00	1$	:	0	0	0	0	0	22	0	0	0	0	0	0	0	0	1:	1	0	0	0	0	0	14
1$-1=	$	1	0	1	0	0	0	11	0	0	0	0	0	0	0	0	1=	1	0	0	0	0	0	1<
1$:-0	$	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	14
1$-4=	10	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	:	:	0	0	0	0	0	<
20-00	$	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
20-1=	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	:	0	0	0	0	0	0	:
20:-0	:	2	0	0	0	0	0	=	0	1	0	0	0	0	0	1	7	0	0	0	0	0	0	7
20-4=	4	1	0	0	0	0	0	=	0	0	0	0	0	0	0	0	7	4	0	0	0	0	0	11
21-00	1:	0	0	0	0	0	0	1:	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10
21-1=	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	11	4	0	0	0	0	0	1=
21:-0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	<	0	0	0	0	0	0	<
21-4=	=	0	0	0	0	0	0	=	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
22-00	:	0	0	0	0	0	0	:	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	4
22-1=	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
22:-0	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	<	0	0	0	0	0	0	<
22-4=	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
2:-00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	=	0	0	0	0	0	0	=
2:-1=	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2::-0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
2:-4=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	:

Start Time	&olling &our							Total	&olling &our							Total	&olling &our							Total
00:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:1=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
00::	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:4=	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
01:00	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
01:1=	:	0	0	0	0	0	0	:	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
01::0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	:
01:4=	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
02:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:1=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02::0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:4=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
0::00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
0::1=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	:
0:::0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	:
0::4=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:1=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
04::0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
04:4=	2	0	0	1	0	0	0	:	0	0	0	0	0	0	0	0	<	0	0	0	0	0	0	<
0=:00	4	1	0	1	0	0	0	<	0	0	0	0	0	0	0	0	1<	1	0	0	0	0	0	17
0=::1=	=	:	0	1	0	0	0	$	0	0	0	0	0	0	0	0	21	:	0	0	0	0	0	24
0=::0	8	=	0	1	0	0	0	14	0	0	0	0	0	0	0	0	22	7	0	0	0	0	0	2$
0=:4=	1=	<	0	0	0	0	0	21	0	0	0	0	0	0	0	0	2$	12	0	0	0	0	0	41
0<:00	24	7	0	0	0	0	0	:1	0	0	0	0	0	0	0	0	:2	17	0	0	0	0	0	4$
0<:1=	:1	7	0	0	0	0	0	:8	0	0	0	0	0	0	0	0	==	1$	0	0	0	0	0	74
0<::0	4:	$	0	0	0	0	0	=2	0	0	0	0	0	0	0	0	78	20	0	0	0	0	0	$8
0<:4=	=$	10	0	0	0	0	0	<$	0	0	0	0	0	0	0	0	8<	24	0	0	0	1	0	111
07:00	87	1$	0	2	0	1	0	10$	0	0	0	0	0	0	0	0	$$	27	1	0	0	1	0	128
07:1=	117	22	0	2	0	1	0	142	0	0	0	0	0	0	0	0	$<	27	1	0	0	1	0	12=
07::0	1:8	21	1	2	0	=	0	1<7	0	1	0	0	0	0	0	1	$:	27	2	0	0	1	0	12:
07:4=	1=7	2=	1	2	0	=	0	1$0	0	1	0	0	0	0	0	1	$=	2=	2	0	0	0	0	122
08:00	141	2:	1	0	0	<	0	171	0	1	0	0	0	0	0	1	8:	1$	2	0	0	0	0	104
08:1=	1:0	22	1	0	2	7	0	1<2	0	1	0	0	0	0	0	1	7:	1$	:	0	0	0	0	$=
08::0	11:	27	0	0	2	:	0	14=	0	0	0	0	0	0	0	0	77	1<	2	0	0	0	0	$=
08:4=	$0	2:	0	0	2	:	0	118	0	0	0	0	0	0	0	0	71	12	2	0	0	0	0	8=
0$:00	80	1<	1	0	2	1	0	100	0	0	0	0	0	0	0	0	<4	1:	1	1	0	0	0	7$
0$:1=	<2	17	2	0	0	0	0	81	0	0	0	0	0	0	0	0	=<	11	2	1	0	0	0	70
0$::0	=2	1:	2	0	0	0	0	<7	1	0	0	0	0	0	0	1	:8	14	2	1	0	0	0	==
0$:4=	42	1:	2	0	0	0	0	=7	1	0	0	0	0	0	0	1	:<	11	2	1	0	0	0	=0
10:00	:=	1<	2	0	0	0	0	=:	1	0	0	0	0	0	0	1	:7	11	:	0	0	0	0	=1
10:1=	::	1:	1	0	0	0	0	47	1	0	0	0	0	0	0	1	4:	14	2	0	0	0	0	=$
10::0	:<	11	:	2	0	0	0	=2	0	0	0	0	0	0	0	0	4:	1:	2	0	0	0	0	=8
10:4=	:8	10	:	2	0	0	0	=:	0	0	0	0	0	0	0	0	4=	1=	2	0	0	0	0	<2
11:00	4=	7	2	2	0	0	0	=<	0	0	0	0	0	0	0	0	48	1:	1	1	0	0	0	<:
11:1=	4=	7	2	2	0	0	0	=<	0	0	0	0	0	0	0	0	48	14	2	1	0	0	0	<=
11::0	48	12	0	0	0	0	0	<0	0	0	0	0	0	0	0	0	=1	1:	2	1	0	1	0	<8
11:4=	47	1:	0	1	0	0	0	<1	0	0	0	0	0	0	0	0	=2	1=	2	:	0	1	0	7:
12:00	42	1:	1	1	0	0	0	=7	0	0	0	0	0	0	0	0	=2	1:	2	2	0	2	0	71
12:1=	4$	1:	:	1	0	0	0	<<	0	0	0	0	0	0	0	0	42	14	1	2	0	2	0	<1
12::0	:8	$	4	1	0	0	0	=2	0	0	0	0	0	0	0	0	42	14	2	2	0	1	0	<1
12:4=	4<	7	4	0	0	0	0	=7	0	0	0	0	0	0	0	0	:7	1:	:	0	0	1	0	=4
1:>00	=8	7	4	0	0	0	0	<$	1	0	0	0	0	0	0	1	:4	1<	:	0	0	0	0	=:
1:>1=	=1	11	2	0	0	0	0	<4	1	0	0	0	0	0	0	1	42	12	2	0	0	0	0	=<
1::>0	=4	11	2	0	0	0	0	<7	1	0	0	0	0	0	0	1	4:	10	1	1	0	0	0	==
1:>4=	=:	14	:	0	0	2	0	72	1	0	0	0	0	0	0	1	=0	8	2	1	0	0	0	<1
14:00	=0	1=	2	0	0	2	0	<$	0	1	0	0	0	0	0	1	=8	10	2	1	1	0	0	72
14:1=	=2	1:	:	0	1	2	0	71	0	1	0	0	0	0	0	1	<0	1<	4	1	1	0	0	82
14::0	<2	1=	:	0	1	2	0	8:	0	1	0	0	0	0	0	1	=$	17	4	0	1	0	0	81
14:4=	<0	22	2	0	1	0	0	8=	0	1	0	0	0	0	0	1	=:	1$	2	0	1	0	0	7=
1=:00	<1	2=	4	0	1	0	0	$1	0	1	0	0	0	0	0	1	=2	1<	4	0	0	0	0	72
1=:1=	7:	2<	4	0	0	0	0	10:	0	1	0	0	0	0	0	1	82	1=	:	0	0	0	0	100
1=::0	72	:0	:	0	0	0	0	10=	0	1	0	0	0	0	0	1	122	18	:	0	0	0	0	14:
1=:4=	82	2<	4	0	0	:	0	11=	0	1	0	0	0	0	0	1	1<4	20	:	0	0	0	0	187
1<:00	$1	2:	2	0	0	:	0	11$	0	0	0	0	0	0	0	0	184	24	1	0	0	1	0	210
1<:1=	100	2<	1	0	0	:	0	1:0	0	0	0	0	0	0	0	0	17$	1$	0	0	0	2	2	202
1<::0	101	22	2	0	0	:	0	128	0	0	0	0	0	0	0	0	1<4	17	1	0	0	<	2	1$0
1<:4=	$$	1$	1	0	0	0	0	11$	0	0	0	0	0	0	0	0	1=:	1=	1	0	0	<	2	177
17:00	101	20	1	0	0	0	0	122	0	0	0	0	0	0	0	0	1=0	12	1	0	0	<	2	171
17:1=	$2	14	2	0	0	0	0	108	0	0	0	0	0	0	0	0	1:<	1:	1	0	0	<	2	1=<
17::0	$8	12	1	0	0	0	0	111	0	0	0	0	0	0	0	0	124	12	0	0	0	:	0	1:$
17:4=	$7	11	1	0	0	1	0	110	0	0	0	0	0	0	0	0	$=	10	0	0	0	4	0	10$
18:00	8$	11	1	0	0	1	0	102	0	0	0	0	0	0	0	0	72	7	0	0	0	:	0	82
18:1=	8<	12	0	0	0	1	0	$$	0	0	0	0	0	0	0	0	=$	4	0	0	0	2	0	<=
18::0	71	10	0	1	0	1	0	8:	0	0	0	0	0	0	0	0	4$	:	0	0	0	1	0	=:
18:4=	=8	$	0	1	0	0	0	<8	0	0	0	0	0	0	0	0	=1	2	0	0	0	0	0	=:
1$:00	47	=	0	1	0	0	0	=:	0	0	0	0	0	0	0	0	4=	=	0	0	0	0	0	=0
1$:1=	:7	:	0	1	0	0	0	41	0	0	0	0	0	0	0	0	:$	4	0	0	0	0	0	4:
1$::0	:=	2	0	0	0	0	0	:7	0	0	0	0	0	0	0	0	27	:	0	0	0	0	0	:0
1$:4=	2$	:	0	0	0	0	0	:2	0	1	0	0	0	0	0	1	20	:	0	0	0	0	0	2:
20:00	2:	4	0	0	0	0	0	27	0	1	0	0	0	0	0	1	24	4	0	0	0	0	0	28
20:1=	27	:	0	0	0	0	0	:0	0	1	0	0	0	0	0	1	27	4	0	0	0	0	0	:1
20::0	22	:	0	0	0	0	0	2=	0	1	0	0	0	0	0	1	:=	8	0	0	0	0	0	4:
20:4=	2:	1	0	0	0	0	0	24	0	0	0	0	0	0	0	0	:4	8	0	0	0	0	0	42
21:00	24	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	:1	4	0	0	0	0	0	:=
21:1=	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	2:	4	0	0	0	2	0	2$
21::0	1<	0	0	0	0	0	0	1<	0	0	0	0	0	0	0	0	1<	0	0	0	0	2	0	18
21:4=	1$	0	0	0	0	0	0	1$	0	0	0	0	0	0	0	0	1<	0	0	0	0	2	0	18
22:00	1<	0	0	0	0	0	0	1<	0	0	0	0	0	0	0	0	1<	0	0	0	0	2	0	18
22:1=	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	1$	0	0	0	0	0	0	1$
22::0	11	1	0	0	0	0	0	12	0	0	0	0	0	0	0	0	1=	0	0	0	0	0	0	1=
22:4=	4	1	0	0	0	0	0	=	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11
2:>00	:	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	$	0	1	0	0	0	0	10

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 4

Date of Survey: 10.07.2018
Junction Name: Lime Kiln Roundabout
Junction Type: 4 arm Roundabout

Arm A: A4174 Collier's Way 07:45
Arm B: A38 Bridgwater Road 08:45

Arm C: A4174 Collier's Way 08:45
Arm D: A38 Bridgwater Road 08:45

	B to D								B to C								C to C							
Time	Car	LGV	2 Axle HGV	3 Axle HGV	Bus	5 Axle HGV	Cycle	Total	Car	LGV	2 Axle HGV	3 Axle HGV	Bus	5 Axle HGV	Cycle	Total	Car	LGV	2 Axle HGV	3 Axle HGV	Bus	5 Axle HGV	Cycle	Total
00:00	17	1	0	0	1	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	10	1	0	0	1	0	0	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:30	8	2	0	0	1	0	0	11	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
00:45	10	2	0	0	0	0	0	12	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:00	7	0	0	0	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	8	0	0	0	0	0	0	8	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:30	4	0	0	0	1	0	0	5	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:45	4	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	10	1	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	18	0	0	1	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	12	0	0	0	1	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	20	1	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	22	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	21	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	23	0	0	0	1	0	0	24	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:00	18	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	10	1	0	2	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	25	3	0	0	1	0	0	29	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:45	31	1	1	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	41	0	0	1	0	0	0	42	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
05:15	48	0	0	0	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	42	0	0	2	1	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	27	4	0	0	1	1	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	24	1	1	1	2	1	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	27	7	1	0	2	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	40	7	0	0	2	1	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	68	11	1	0	1	0	0	81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	41	10	0	1	1	0	0	53	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:15	48	10	0	2	2	1	0	63	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:30	78	10	0	1	2	1	0	92	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
07:45	78	18	0	1	2	1	0	100	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
08:00	71	10	0	1	2	0	0	84	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
08:15	85	11	2	1	2	0	0	101	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
08:30	40	11	1	0	1	0	0	53	2	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0
08:45	41	11	1	2	2	0	0	57	2	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0
09:00	44	12	1	1	1	0	0	59	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
09:15	44	9	1	1	1	0	0	56	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
09:30	40	9	1	2	2	1	0	55	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
09:45	47	10	0	1	2	0	0	60	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
10:00	48	7	1	1	1	1	0	59	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
10:15	44	4	0	0	0	0	0	48	2	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
10:30	44	12	1	1	1	0	0	59	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10:45	44	9	1	1	1	0	0	56	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
11:00	44	9	1	1	1	0	0	57	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:15	44	9	1	2	2	1	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	44	10	2	0	1	0	0	57	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
11:45	41	4	0	1	2	0	0	48	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:00	42	7	0	1	1	1	0	52	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:15	44	11	0	0	1	0	0	56	2	1	0	1	0	0	0	4	0	0	0	0	0	0	0	0
12:30	48	12	2	2	2	0	0	66	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
12:45	45	12	1	1	1	0	0	60	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
13:00	40	7	2	2	2	0	0	53	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
13:15	47	7	1	2	1	0	0	58	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
13:30	44	11	2	0	4	0	0	61	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
13:45	44	12	0	0	1	2	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	71	8	0	0	2	1	0	82	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
14:15	77	12	0	0	2	2	0	93	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
14:30	110	9	0	0	1	4	0	124	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0
14:45	97	7	0	0	2	1	0	107	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
15:00	74	7	0	0	2	4	1	88	4	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0
15:15	80	4	0	1	0	2	0	87	7	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0
15:30	78	8	0	0	0	4	0	90	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
15:45	88	7	0	0	2	0	2	99	6	1	0	0	0	0	0	7	2	0	0	0	0	0	0	2
16:00	74	7	0	0	1	0	0	82	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
16:15	74	6	0	0	2	0	0	82	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0
16:30	74	7	0	0	2	0	0	83	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
16:45	77	7	0	0	2	0	0	86	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
17:00	77	12	0	0	2	0	4	95	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
17:15	110	9	0	0	1	4	0	124	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0
17:30	97	7	0	0	2	1	0	107	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
17:45	74	7	0	0	2	4	1	88	4	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0
18:00	80	4	0	1	0	2	0	87	7	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0
18:15	78	8	0	0	0	4	0	90	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
18:30	88	7	0	0	2	0	2	99	6	1	0	0	0	0	0	7	2	0	0	0	0	0	0	2
18:45	74	7	0	0	1	0	0	82	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
19:00	74	6	0	0	2	0	0	82	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0
19:15	74	7	0	0	2	0	0	83	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
19:30	77	7	0	0	2	0	0	86	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
19:45	77	12	0	0	2	0	4	95	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
20:00	74	7	0	0	1	0	0	82	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
20:15	74	6	0	0	2	0	0	82	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0
20:30	74	7	0	0	2	0	0	83	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
20:45	77	7	0	0	2	0	0	86	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
21:00	22	2	0	0	1	0	0	25	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
21:15	20	0	0	0	1	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	27	2	0	0	0	1	0	30	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
21:45	20	1	0	0	1	1	0	23	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
22:00	27	1	0	0	1	0	0	29	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
22:15	24	0	0	0	1	2	0	27	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
22:30	24	0	0	0	0	0	0	24	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
22:45	27	2	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	17	2	0	0	2	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	17	2	0	0	1	0	0	20	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
23:30	19	0	0	1	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	19	1	0	0	0	0	0	20	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Start Time	&olling 6our							Total	&olling 6our							Total	&olling 6our							Total
00:00	42	<	0	0	:	0	0	=1	2	1	0	0	0	0	0	:	0	0	0	0	0	0	0	0
00:1=	:2	=	0	0	:	0	0	40	2	1	0	0	0	0	0	:	0	0	0	0	0	0	0	0
00:2	:0	4	0	0	2	0	0	:<	2	1	0	0	0	0	0	:	0	0	0	0	0	0	0	0
00:4=	2$	2	0	0	2	0	0	: :	2	1	0	0	0	0	0	:	0	0	0	0	0	0	0	0
01:00	2:	0	0	1	2	0	0	2<	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
01:1=	27	0	0	1	1	0	0	2$	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
01:2	0	1	0	1	1	0	0	:2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
01:4=	4:	1	0	2	0	0	0	4<	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	=1	1	0	1	1	0	0	=4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:1=	<0	2	0	1	1	0	0	<4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:2	72	1	0	1	1	0	0	7=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:4=	7=	1	0	0	1	0	0	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0::00	$=	1	0	0	1	0	0	$7	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0::1=	11:	0	0	0	1	0	0	114	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0::2	121	1	0	2	1	0	0	12=	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0::4=	12$	4	0	2	2	0	0	1:7	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
04:00	1:2	7	0	2	1	1	0	14:	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:1=	12:	8	1	2	1	1	0	1:<	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:2	1:4	7	1	0	2	1	0	14=	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
04:4=	1=1	<	1	0	1	1	0	1<0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0=:00	148	8	1	2	2	2	0	1<:	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0=:1=	140	11	0	2	:	:	0	1=$	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0=::0	12:	20	1	:	4	4	0	1==	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0=:4=	104	2=	2	:	<	4	0	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0<:00	102	27	2	1	7	:	0	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0<:1=	11$	:<	:	1	7	2	:	171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0<::0	14$	4=	2	1	<	2	:	208	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0<:4=	18:	48	1	:	7	:	4	24$	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
07:00	20<	=$	4	:	<	2	4	284	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
07:1=	22<	=<	:	:	<	4	1	2$$	=	0	0	1	0	0	0	<	0	0	0	0	0	0	0	0
07:2	2:8	=4	=	:	8	4	1	:1:	=	1	0	1	0	0	0	7	0	0	0	0	0	0	0	0
07:4=	217	=$	<	1	<	:	0	2$2	$	2	0	1	1	0	0	1:	0	0	0	0	0	0	0	0
08:00	21=	=2	4	2	7	4	0	284	$	2	0	1	2	0	0	14	0	0	0	0	0	0	0	0
08:1=	202	=2	$	2	8	:	0	27<	$	2	0	0	2	0	0	1:	0	0	0	0	0	0	0	0
08::0	178	4=	7	1	7	2	0	240	$	1	0	0	2	0	0	12	0	0	0	0	0	0	0	0
08:4=	172	40	<	1	7	4	0	2:0	4	0	1	0	1	0	0	<	0	0	0	0	0	0	0	0
0$:00	1<1	:=	<	2	7	:	0	214	:	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0
0$:1=	1<7	: :	2	4	7	2	0	21=	:	1	1	0	0	0	0	=	0	0	0	0	0	0	0	0
0$::0	17:	:1	:	=	<	:	0	221	:	2	1	0	0	0	0	<	0	0	0	0	0	0	0	0
0$:4=	1$4	2=	:	=	8	1	0	2:<	=	2	0	1	0	0	0	8	0	0	0	0	0	0	0	0
10:00	1$8	:1	=	4	7	1	0	24<	7	2	0	1	0	0	0	10	0	0	0	0	0	0	0	0
10:1=	1$2	:2	=	:	<	1	0	2:$	7	1	0	1	0	0	0	$	0	0	0	0	0	0	0	0
10::0	18$	:4	=	4	7	1	0	240	<	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0
10:4=	180	40	7	4	=	1	0	2::7	<	0	0	0	0	0	0	<	0	0	0	0	0	0	0	0
11:00	1<7	:2	4	4	<	1	0	214	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
11:1=	174	:0	:	4	8	2	0	221	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
11::0	17=	:2	2	2	7	1	0	21$	<	1	0	1	0	0	0	8	0	0	0	0	0	0	0	0
11:4=	188	:4	:	4	8	1	0	2:8	<	2	0	1	0	0	0	$	0	0	0	0	0	0	0	0
12:00	20<	:$	4	<	7	1	0	2<:	$	2	0	1	0	0	0	12	0	0	0	0	0	0	0	0
12:1=	1$4	:7	<	7	7	0	0	2=1	11	:	0	1	0	0	0	1=	0	0	0	0	0	0	0	0
12::0	1$:	: :	7	$	7	0	0	24$	11	=	0	0	0	0	0	1<	0	0	0	0	0	0	0	0
12:4=	18:	27	4	7	7	:	0	2:1	11	4	0	0	0	0	0	1=	0	0	0	0	0	0	0	0
1:00	171	:4	4	=	7	7	0	228	11	4	1	0	0	0	0	1<	0	0	0	0	0	0	0	0
1::1=	184	41	2	4	7	$	0	247	10	<	1	1	0	0	0	18	0	0	0	0	0	0	0	0
1:::0	1$8	41	:	2	7	$	0	2<0	14	4	2	1	0	0	0	21	0	0	0	0	0	0	0	0
1::4=	208	4<	=	2	$	10	0	280	14	4	4	1	0	0	0	2:	0	0	0	0	0	0	0	0
14:00	2:<	:$	4	1	$	8	0	2$7	10	7	:	1	0	0	0	21	0	0	0	0	0	0	0	0
14:1=	2=0	:=	4	0	8	7	0	:04	10	4	:	0	0	0	0	17	0	0	0	0	0	0	0	0
14::0	2=1	:=	2	1	$	$	0	:07	7	4	2	0	0	0	0	1:	0	1	0	0	0	0	0	1
14:4=	2=2	:7	0	1	7	7	0	:04	7	4	0	0	0	0	0	11	0	1	0	0	0	0	0	1
1=:00	244	:<	0	1	7	$	0	2$7	10	2	0	0	0	0	0	12	0	1	0	0	0	0	0	1
1=:1=	24<	:$	0	4	7	8	0	:04	1:	:	0	0	0	0	0	1<	0	1	0	0	0	0	0	1
1=::0	2<8	4:	0	4	7	<	0	:28	14	:	0	0	0	0	0	17	0	0	0	0	0	0	0	0
1=:4=	274	4<	0	=	7	4	0	::<	18	4	0	0	0	0	0	22	0	0	0	0	0	0	0	0
1<:00	2$<	4$	:	7	8	1	0	:<4	21	4	0	0	0	0	0	2=	0	0	0	0	0	0	0	0
1<:1=	:04	=0	:	4	8	4	4	:77	18	:	0	0	0	0	0	21	0	0	0	0	0	0	0	0
1<::0	::2	48	:	:	7	8	4	40=	1$	4	0	0	0	0	0	2:	0	0	0	0	0	0	0	0
1<:4=	:<:	:$	:	2	7	$	4	427	1<	:	0	0	0	0	0	1$	0	0	0	0	0	0	0	0
17:00	:<:	:7	0	0	7	12	=	424	14	=	0	0	0	0	0	1$	0	0	0	0	0	0	0	0
17:1=	:<<	2$	0	1	=	11	1	41:	1$	7	0	0	0	0	0	2<	0	0	0	0	0	0	0	0
17::0	::=	2=	0	1	4	11	1	:77	20	<	0	0	0	0	0	2<	2	0	0	0	0	0	0	2
17:4=	:11	2:	0	1	=	1:	:	:=<	17	<	0	0	0	0	0	2:	2	0	0	0	0	0	0	2
18:00	2$7	20	0	1	4	12	2	::<	14	:	0	0	0	0	0	17	2	0	0	0	0	0	0	2
18:1=	277	1$	0	0	<	1:	2	:17	$	1	0	0	0	0	0	10	2	0	0	0	0	0	0	2
18::0	244	21	0	0	<	$	2	282	$	0	0	0	0	0	0	$	0	0	0	0	0	0	0	0
18:4=	20=	21	0	0	:	<	0	2:=	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
1$:00	172	18	0	0	:	:	0	1$<	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0
1$:1=	1:<	21	0	0	2	0	0	1=$	1=	1	0	0	0	0	0	1<	0	0	0	0	0	0	0	0
1$::0	11<	17	0	1	2	0	0	1:<	12	4	0	0	0	2	0	18	0	0	0	0	0	0	0	0
1$:4=	11:	1<	0	1	2	1	0	1::	11	4	0	0	0	2	0	17	0	0	0	0	0	0	0	0
20:00	104	14	0	1	2	2	0	12:	10	4	0	0	0	2	0	1<	1	0	0	0	0	0	0	1
20:1=	102	10	0	1	2	2	0	117	8	:	0	0	0	2	0	1:	1	0	0	0	0	0	0	1
20::0	$$	7	0	0	:	2	0	111	<	0	0	0	0	0	0	<	1	1	0	0	0	0	0	2
20:4=	$=	=	0	0	:	2	0	10=	8	0	0	0	0	0	0	8	1	1	0	0	0	0	0	2
21:00	$2	=	0	0	:	2	0	102	8	0	0	0	0	0	0	8	1	1	0	0	0	0	0	2
21:1=	$=	4	0	0	:	2	0	104	$	0	0	0	0	0	0	$	1	1	0	0	0	0	0	2
21::0	$<	4	0	0	:	4	0	107	10	0	0	0	0	0	0	10	1	0	0	0	0	0	0	1
21:4=	$=	2	0	0	:	:	0	10:	7	0	0	0	0	0	0	7	1	0	0	0	0	0	0	1
22:00	102	:	0	0	2	2	0	10$	=	0	0	0	0	0	0	=	0	0	0	0	0	0	0	0
22:1=	$4	4	0	0	:	2	0	10:	:	0	0	0	0	0	0	:	0	0	0	0	0	0	0	0
22::0	87	<	0	0	:	0	0	$<	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
22:4=	7<	<	0	1	:	0	0	8<	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2::00	<4	=	0	1	:	0	0	7:	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

Intelligent Data Collection Limited

Client: Peter Brett Associates
Project Number: ID04020
Junction Number: Site 4

Date of Survey: 10.07.2018
Junction Name: Lime Kiln Roundabout
Junction Type: 4 arm Roundabout

!rm 1: A4174 *olliters 7a" 80 79
!rm B: A:8 Brid)3ater Road 8049

!rm C: A4174 *olliters 7a" 8549
!rm D: A:8 Brid)3ater Road 8S 79

	C to B								C to !								C to D							
Time	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total	Car	L1/	.1/3	.1/4	Bu e	-5C	Cycle	Total
00-00	0	0	0	0	0	0	0	0	=	1	0	0	0	0	0	<	:	0	0	1	0	0	0	4
00-1=	0	0	0	0	0	0	0	0	2	1	0	2	0	0	0	=	$	0	0	0	0	0	0	$
00:0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	=	2	1	0	0	0	0	0	:
00-4=	0	0	0	0	0	0	0	0	:	0	0	1	0	0	0	4	<	0	0	0	0	0	0	<
01-00	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	:	7	0	0	0	0	0	0	7
01-1=	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4	7	0	0	0	0	0	0	7
01:0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1:	0	0	0	1	0	0	14
01-4=	1	0	0	0	0	0	0	1	0	1	0	2	0	0	0	:	<	0	0	0	0	0	0	<
02-00	0	0	0	0	0	0	0	0	:	0	0	0	0	0	0	:	<	0	0	0	0	1	0	7
02-1=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	$	0	0	0	1	0	0	10
02:0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	$	0	0	0	0	0	0	$
02-4=	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4	0	0	0	0	0	0	4
0:>00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	11	2	0	0	0	0	0	1:
0:>1=	0	0	0	0	0	0	0	0	:	0	0	0	0	0	0	:	8	1	0	1	0	0	0	10
0::0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	=	$	0	1	0	0	0	0	10
0:-4=	0	0	0	0	0	0	0	0	=	0	0	0	1	0	0	<	12	0	0	0	1	0	0	1:
04-00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	10	2	0	0	0	0	0	12
04-1=	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	2:	:	2	0	0	0	0	28
04:0	0	0	0	0	0	0	0	0	12	2	0	0	1	0	0	1=	22	1	2	0	0	0	0	2=
04-4=	0	0	0	0	0	0	0	0	1$	:	0	0	0	0	0	22	2=	0	:	0	1	0	0	2$
0=>00	2	0	0	0	0	0	0	2	8	0	0	1	1	2	0	12	28	2	0	0	0	0	0	:0
0=>1=	0	0	1	0	0	0	0	1	2=	4	0	0	0	1	0	:0	:1	4	1	0	1	0	0	:7
0=>:0	0	2	0	0	0	0	0	2	2$	:	0	0	0	1	0	::	2=	4	0	0	1	0	0	:0
0=>4=	0	0	0	0	0	0	0	0	::	8	1	1	:	0	0	4<	27	=	0	1	0	0	0	::
0<>00	0	0	0	0	0	0	0	0	=0	1:	2	0	:	0	0	<8	21	7	0	0	0	1	0	2$
0<>1=	0	0	0	0	0	0	0	0	<8	1<	1	2	1	1	0	8$	:1	10	1	0	1	0	0	4:
0<>:0	:	0	0	0	0	0	0	:	8$	:=	2	1	:	2	0	1:2	40	$	2	0	0	1	0	=2
0<>4=	0	0	0	0	0	0	0	0	118	2=	1	1	2	:	1	1=1	:7	17	2	0	2	1	0	=$
07-00	1	0	0	1	0	0	0	2	112	42	1	1	4	4	0	1<4	41	1:	0	0	0	0	0	=4
07-1=	0	0	0	0	0	0	0	0	1:0	:$	0	:	1	2	0	17=	:8	20	1	1	0	1	0	<1
07:0	0	0	0	0	0	0	0	0	101	::	0	:	0	=	0	142	=0	1:	2	0	1	=	0	71
07-4=	1	0	0	0	0	0	0	1	11=	::	2	:	1	:	0	1=7	=0	21	1	:	1	1	0	77
08-00	0	0	0	0	0	0	2	2	120	:1	0	:	0	<	2	1<2	==	18	:	2	2	0	0	80
08-1=	1	0	0	0	0	0	0	1	114	:0	4	4	0	1	0	1=:	4:	18	4	0	1	:	0	<$
08:0	:	0	0	0	0	0	0	:	101	1=	1	:	1	2	0	12:	42	18	0	1	1	0	0	<2
08-4=	4	0	0	0	0	0	0	4	80	1$	:	1	0	2	1	10<	4:	$	2	2	0	0	0	=<
0$-00	1	:	0	0	0	0	0	4	78	1:	2	:	0	4	0	100	::	8	4	0	1	2	0	48
0$-1=	0	0	0	0	0	1	0	1	107	1$	4	<	0	2	0	1:8	:4	1:	1	1	0	1	0	=0
0$:0	:	1	0	0	0	0	0	4	8=	1<	<	1	0	:	0	111	::	<	0	:	2	0	0	44
0$-4=	:	0	1	0	0	0	0	4	<8	22	:	2	0	0	0	$=	4:	=	1	1	2	0	0	=2
10-00	<	:	0	0	0	0	0	$	7=	18	:	2	0	0	0	$8	2:	11	0	0	1	0	0	:=
10-1=	1	0	0	1	0	0	0	2	<<	1<	4	1	0	1	0	88	:=	=	1	2	:	1	0	47
10:0	2	0	0	0	0	0	0	2	44	1=	4	=	0	0	0	<8	44	<	0	0	0	2	0	=2
10-4=	:	1	0	0	0	0	0	4	<2	1:	1	2	1	:	0	82	4=	4	2	4	0	1	0	=<
11>00	4	0	1	0	0	0	0	=	==	11	$	1	0	1	0	77	:0	=	0	2	1	0	0	:8
11-1=	:	0	0	0	0	0	0	:	=4	1=	:	1	0	0	0	7:	44	<	1	1	0	2	0	=4
11:0	0	0	0	0	0	0	0	0	=<	1<	0	0	1	0	0	7:	44	7	1	0	0	0	0	=2
11-4=	:	2	0	0	0	0	0	=	4$	1<	2	2	0	0	1	70	47	<	1	1	1	0	0	=<
12-00	2	:	0	0	0	0	0	=	<0	1$	:	:	0	1	0	8<	:2	4	0	0	1	1	0	:8
12-1=	1	0	0	0	0	0	0	1	==	17	2	0	0	0	0	74	40	7	2	1	0	0	0	=0
12:0	1	0	0	0	0	0	0	1	<2	8	2	1	1	0	0	74	40	7	0	0	0	1	0	48
12-4=	2	0	1	0	0	0	0	:	=1	12	:	=	1	2	0	74	24	<	0	0	0	1	0	:1
1:>00	:	4	0	0	0	0	0	7	<<	1:	:	2	0	0	0	84	42	4	0	2	1	0	0	4$
1:>1=	=	2	1	0	0	0	0	8	=2	11	=	0	0	1	0	<$	:<	<	1	0	1	2	0	4<
1::0	1	0	0	0	0	0	0	1	<4	11	4	1	0	1	0	81	:8	7	2	0	0	0	0	47
1:-4=	:	0	0	0	0	0	0	:	=0	11	1	2	0	0	0	<4	:8	=	0	0	0	4	0	47
14-00	2	0	1	0	0	0	0	:	42	11	0	2	0	2	0	=7	2$	=	0	0	1	1	0	:<
14-1=	<	0	0	1	0	0	0	7	<0	1:	:	2	0	0	0	78	4:	7	1	0	0	0	0	=1
14:0	4	1	0	0	0	0	0	=	4=	11	0	2	1	1	0	<0	4<	7	0	1	0	0	0	=4
14-4=	1	1	0	0	0	0	0	2	=<	1=	2	1	4	1	0	7$	:4	:	4	0	1	0	0	42
1=>00	1	=	0	0	0	0	0	<	<8	14	:	2	0	0	0	87	4$	8	0	0	0	1	0	=8
1=>1=	=	1	0	0	0	0	0	<	7<	$	1	4	0	2	0	$2	47	7	:	0	1	1	0	=$
1=>:0	=	2	0	0	0	2	0	$	<:	1=	0	4	0	0	0	82	=:	=	1	2	2	0	0	<:
1=>4=	$	2	0	0	1	1	0	1:	<=	11	:	=	0	1	0	8=	=4	8	:	1	0	0	0	<<
1<>00	8	1	0	0	0	0	0	$	$8	1<	:	0	2	0	0	11$	==	=	0	1	0	0	0	<1
1<>1=	1<	0	0	0	0	0	0	1<	81	27	:	1	1	0	0	11:	<<	10	0	1	1	2	0	80
1<>:0	1:	1	0	0	0	0	0	14	87	27	0	0	0	1	0	11=	<0	1<	1	1	0	0	0	78
1<-4=	$	2	0	0	0	0	0	11	$1	20	1	:	0	0	0	11=	41	$	0	0	2	1	0	=:
17-00	0	0	0	0	0	0	0	0	88	12	0	1	0	0	0	101	<2	1$	0	0	0	0	1	82
17-1=	2	0	0	0	0	0	0	2	$4	12	:	1	1	0	0	111	<=	<	0	0	1	0	0	72
17:0	2	2	0	0	0	0	0	4	$7	11	:	:	0	0	0	114	4$	$	2	0	0	0	0	<0
17-4=	2	0	0	0	0	0	0	2	84	11	2	0	0	0	0	$7	=:	4	0	1	1	0	0	=$
18-00	4	0	0	0	0	0	0	4	$0	<	0	0	0	0	0	$<	=$	7	1	1	0	0	2	70
18-1=	2	0	0	0	0	0	0	2	87	=	0	1	0	2	0	$=	:8	$	2	0	1	1	0	=1
18:0	1	0	0	0	0	0	0	1	<$	7	0	0	0	0	0	7<	44	7	0	0	0	0	0	=1
18-4=	1	0	0	0	0	0	0	1	<4	2	1	0	0	0	0	<7	4=	=	0	1	1	1	0	=:
1$>00	:	0	0	0	0	0	0	:	=$	=	0	0	2	0	0	<<	24	=	0	0	0	:	0	:2
1$-1=	:	0	0	0	0	0	0	:	42	$	1	0	1	:	0	=<	22	2	0	0	0	0	0	24
1$:0	1	0	0	0	0	0	0	1	48	4	0	0	0	:	0	==	:4	=	1	0	0	0	0	40
1$-4=	1	0	0	0	0	0	0	1	:7	2	1	0	1	0	0	41	:=	1	0	0	1	0	0	:7
20-00	0	0	0	0	0	0	0	0	27	1	0	0	0	0	0	20	20	1	0	0	0	0	0	21
20-1=	0	0	0	0	0	0	0	0	:<	=	0	0	0	0	0	41	21	2	0	0	0	1	0	24
20:0	4	0	0	0	0	0	0	4	27	:	0	0	0	0	0	:0	2=	0	0	0	0	0	0	2=
20-4=	2	=	0	0	0	0	0	7	21	0	0	0	0	0	0	21	1=	2	0	0	0	0	0	17
21>00	2	1	0	0	0	0	0	:	2=	0	1	1	0	0	0	27	11	:	0	1	0	0	0	1=
21-1=	:	0	0	0	0	0	0	:	:<	0	0	0	0	1	0	:7	1=	0	0	0	0	0	0	1=
21:0	:	0	0	0	0	0	0	:	22	0	0	0	0	0	0	22	17	=	0	0	0	0	0	22
21-4=	2	0	0	0	0	0	0	2	20	0	0	0	0	2	0	22	2=	2	0	0	0	0	0	27
22-00	4	0	0	0	0	0	0	4	2=	0	0	0	0	1	0	2<	11	0	0	0	0	0	0	11
22-1=	0	0	0	0	0	0	0	0	2=	0	0	0	0	0	0	2=	17	:	0	0	0	0	0	20
22:0	1	0	0	0	0	0	0	1	22	2	0	0	0	1	0	2=	14	2	0	0	1	1	0	18
22-4=	1	0	0	0	0	0	0	1	10	0	0	1	0	0	0	11	8	0	0	1	0	0	0	$
2:>00	1	0	0	0	0	0	0	1	1<	0	0	0	0	2	0	18	14	0	0	0	0	0	0	14
2:>1=	0	0	0	0	0	0	0	0	12	2	0	0	1	0	0	1=	1$	0	0	0	0	0	0	1$
2::0	0	0	0	0	0	0	0	0	1:	1	0	0	0	0	0	14	11	0	0	0	0	0	0	11
2:-4=	0	0	0	0	0	0	0	0	=	0	0	4	0	1	0	10	1<	1	1	0	1	0	0	1$