

Appendix 12 - Traffic & Transport

12.1 Transport Assessment



Lomond Banks

Transport Assessment

On behalf of Flamingo Land Ltd.

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For and on behalf of Stantec UK Limited

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Contents

1	Intro	duction	1
	1.1	Background	1
	1.2	Report Structure	1
2	Site I	Location & Background	2
	2.1	Introduction	2
	2.2	Site Location	2
	2.3	Background	3
3	Deve	elopment Proposals	5
	3.1	Quantum of Development	5
	3.2	Access Proposals	7
	3.3	Parking Provision	7
4	Polic	y Review	8
	4.1	Introduction	8
	4.2	National Policy	8
	4.3	Regional Policy	8
	4.4	Local Policy	9
5	Exist	ting Conditions	11
	5.1	Introduction	11
	5.2	Pedestrian Facilities	11
	5.3	Cycling Facilities	13
	5.4	Public Transport	14
	5.5	Vehicular Access	15
	5.6	Water-based Transport	16
	5.7	Access Opportunities & Constraints	16
6	Acce	ess and Parking Management	18
	6.1	Introduction	18
	6.2	Pedestrian & Cycle Access	18
	6.3	Public Transport	18
	6.4	Parking Provision	19
	6.5	Access Points and Layout Considerations	21
7	Traff	ic Impact Assessment	24
	7.1	Introduction	24
	7.2	Junction Capacity Assessments	28
8	Outli	ne Travel Plan	34
	8.2	Potential Measures	34
	8.3	Pedestrian Initiatives	35
	8.4	Cycle Initiatives	35
	8.5	Public Transport Initiatives	36

Lomond Banks, Balloch

Transport Assessment



9	Summa	ary & Conclusion	38
	8.9	Implementation	37
	8.8	Additional Measures for Staff	37
	8.7	Additional Measures for Lodges	37
	8.6	Car Sharing Initiatives	37



Tables

Table 3.1 Proposals by Development Zones	
Table 5.1 Train Services Summary	14
Table 5.2 Bus Services Summary	
Table 6.1 Parking Standards	20
Table 6.2 Proposed Parking Provision	20
Table 7.1 NRTF Growth Factors	25
Table 7.2 Proposed Development Land Uses, Trip Rates and Trip Generation	26
Table 7.3 A82 Stoneymollan Roundabout Threshold Assessment	28
Table 7.4 Ben Lomond Way/ Loch Lomond Shores Roundabout (Internal)	29
Table 7.5 Ben Lomond Way, Old Luss Road, Balloch Road Roundabout	30
Table 7.6 A811, Ben Lomond Way Roundabout	30
Table 7.7 A82/ A811 Stoneymollan Roundabout	31
Table 7.8 A811/ Carrochan Road Roundabout	31
Table 7.9 Pier Road/ Balloch Road Priority	32
Table 7.10 Balloch Road/ Drymen Road/ Carrochan Road Priority	32
Table 7.11 Drymen Road/ A811 Stirling Road Priority	32

Figures

Figure 2.1 Site Location

Appendices

Appendix	Α	Parameters Plan
Appendix	В	2017 Traffic Surveys
Appendix	С	Lomond Banks Traffic Survey Comparison Technical Note
Appendix	D	TRICS Reports
Appendix	Ε	Flow Diagrams
Appendix	F	Junctions 10 Output



1 Introduction

1.1 Background

- 1.1.1 Stantec UK Limited has been appointed by Flamingo Land Ltd to prepare a Transport Assessment (TA) in support of a Planning Permission in Principle (PPiP) application for a leisure development at Lomond Banks, Balloch, Loch Lomond.
- 1.1.2 The proposed development at Lomond Banks will be sited at the West Riverside and Woodbank House site, located to the west of Balloch riverside and village, at the southern end of Loch Lomond.

1.2 Report Structure

- 1.2.1 This TA has been produced to provide the following:
 - Section 2: Site Location & Background;
 - Section 3: Development Proposals;
 - Section 4: Policy Review;
 - Section 5: Existing Conditions;
 - Section 6: Access & Parking Management;
 - Section 7: Traffic Impact Assessment;
 - Section 8: Outline Travel Plan; and
 - Section 9: Summary & Conclusion.



2 Site Location & Background

2.1 Introduction

2.1.1 Lomond Banks is a 18.9ha site comprised mainly of woodland and grassed areas. It is located on the south west bank of Loch Lomond at Balloch within the Loch Lomond & Trossachs National Park (LLTNP). Often considered the gateway village to the LLTNP, Balloch is an accessible location just off the main Glasgow to West Highlands Road (A82) and readily accessible from Stirling to the east, via the A811. Balloch Rail Station is also served by a half hourly rail service and a bus station operates adjacent to the village centre.

2.2 Site Location

- 2.2.1 The Lomond Banks sites of West Riverside and Woodbank House are adjacent but separate sites located to the west of Balloch riverside and village, at the southern end of Loch Lomond.
- 2.2.2 The West Riverside area is formed from the boundary with the west bank of the mouth of the River Leven as it opens to Loch Lomond to the north and surrounds the Loch Lomond Shores area and residential properties of Clairinsh in west Balloch. The Woodbank House site is located further west of the main site to the west of Old Luss Road, and accommodates the former Woodbank House constructed in circa 1775, which went on to become the Woodbank Hotel (1930s) and then the Hamilton House Hotel (1979). The house was severely damaged by fire in 1996 and has remained in a ruinous condition since.
- 2.2.3 Balloch is a small village located to the south of Loch Lomond and considered a gateway village to the wider Loch Lomond and Trossachs National Park, whilst located in the West Dunbartonshire Council (WDC) authority area. The village is home to a local population of circa 6,090¹ and following the opening of Loch Lomond Shores in 2002, is a popular destination for various retail, commercial, tourism and leisure activities. Lomond Shores includes an anchor House of Fraser store amongst other retail offers, and includes the Sea Life Centre, Bird of Prey Centre, Tree Zone and hosts various farmer's markets, food shows and events. Located immediately adjacent to Loch Lomond, the "Shores" area offers a host of water-based sports and activities.
- 2.2.4 Balloch is located to the north of the Vale of Leven and configured around the River Leven for the extents of the village, connected to the smaller town of Jamestown and, further south, Alexandria and onwards to Dumbarton.
- 2.2.5 Balloch Road and Drymen Road constitute the main east-west access road through the village for local-access purposes, albeit the A811 to the south of this route, is the more strategic route for east-west movements by-passing the village centre: this provides access to local villages towards Stirlingshire in the east and connects with the A82 Trunk Road to the west. The A82 is located along the western peripheral extents of Balloch and is the strategic route for journeys to the north, including locations such as Crianlarich, Oban and Fort William. To the south, the A82 continues through Dumbarton, Milton and onwards towards the Erskine Bridge and Glasgow.
- 2.2.6 Local access to Balloch from the surrounding towns of Alexandria on the west of the River Leven is via Luss Road (B857). From the towns of Jamestown, residential areas of Bonhill and surrounding environs to the west of the River Leven, local access to Balloch is via Carrochan Road (A813) which also connects to the A82 to the south at the Lomondgate Roundabout and/ or Barloan Roundabout, Dumbarton.
- 2.2.7 Figure 2.1 below, illustrates the site location.

¹ Source: https://www.citypopulation.de/php/uk-scotland.php?cityid=S19000677 (2015)



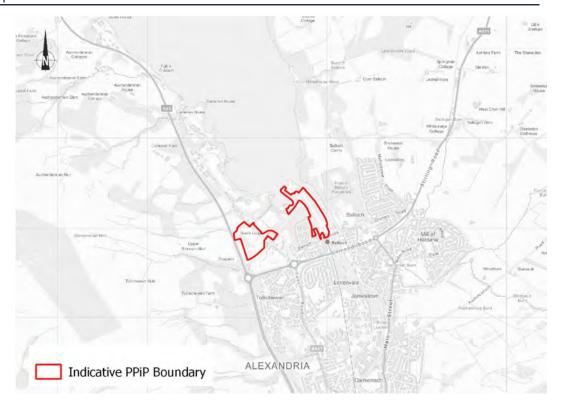


Figure 2.1 Site Location Plan

2.3 Background

- 2.3.1 The West Riverside site was promoted by Scottish Enterprise (SE) and Loch Lomond & Trossachs National Park (LLTNP) as a tourism and leisure-based development opportunity. The key aim for SE at the time, was to secure creation of a quality-led destination that improves connectivity between Loch Lomond Shores and Balloch Village.
- 2.3.2 SE objectives for the West Riverside site are grouped and listed under the following two headings:

Economic Development

- 2.3.3 To strengthen Lomond Shores/ Balloch as a tourism destination by:
 - Extending the range of quality activities open to visitors;
 - Broadening and improving the quality of food and beverage provision;
 - Encouraging additional overnight stays in the Park; and
 - Encouraging year-round activity (outside peak seasons).



Design

- 2.3.4 In keeping with the waterfront location in the National Park, the development requires to adopt a high standard for design and specification through:
 - The use of quality materials which are in keeping with the wider built and natural environment:
 - A high level of integration between different uses;
 - Public realm that invites and encourages footfall between Balloch and Loch Lomond Shores;
 - Retaining and enhancing access to the River Leven footpath; and
 - Retention of the former station buildings.
- 2.3.5 Flamingo Land Ltd secured the rights to develop the site in late 2016. Development of the West Riverside site is bound to SE's objectives for economic development and design, whilst the Woodbank Site is owned outright by Flamingo Land Ltd.



3 Development Proposals

3.1 Quantum of Development

- 3.1.1 The proposed development site measures c.18.9ha of land, situated to the north of the town of Balloch at the southern tip of Loch Lomond. The proposed site contains two distinct areas, known for the purposes of this EIAR and the PPiP application as West Riverside and Woodbank House respectively. West Riverside encompasses the south-western bank of the River Leven at its confluence with Loch Lomond and extends to the eastern boundary of Drumkinnon Wood. Woodbank House comprises the remains of the Grade A Listed Woodbank House Hotel and its associated structures and grounds.
- 3.1.2 The Woodbank House site will be accessed separately and treated as a standalone entity from the main West Riverside site with respect to parking provision.
- 3.1.3 The West Riverside and Woodbank House site is intended to be redeveloped for a variety of commercial, leisure and tourism-related uses as outlined in the Parameters Plan (**Appendix A**). The items listed below constitute the development uses which will be assessed in the TA:
 - 60-bedroom apart-hotel;
 - 32-bedspace budget hotel;
 - Up to 127 self-catering lodges of various sizes;
 - Reconstruction and refurbishment of Woodbank House to provide up to 15 Selfcatering apartments;
 - Reconstruction and refurbishment of the attendant structures at Woodbank to provide up to 6 self-catering units;
 - Leisure pool / water park / spa facility;
 - Restaurants / café / retail areas;
 - Craft brewery including pub;
 - Staff service and welfare accommodation; and
 - Monorail terminal/ staff areas.
- 3.1.4 The other development uses included within the development accommodated schedule and not listed above, will not be included in TA on the basis that as standalone entities, they would not constitute a change to the existing trip characteristics of the existing and/ or Loch Lomond Shores area. These include:
 - Visitor reception area and hub building including indoor attractions;
 - Refurbished tourist information building;
 - Water sports hub;
 - Water sports equipment storage building;
 - Monorail;



- External activity areas including event/performance areas, children's play areas, picnic and barbeque areas;
- Associated parking, landscaping and infrastructure development works; and
- Access from the surrounding road network including Ben Lomond Way and Pier Road.
- 3.1.5 The above development schedule will be accompanied by various supporting transport and development infrastructure as well as a range of ancillary uses which will complement other development proposals in the vicinity including those for Sweeney Cruises and Maid of the Loch.
- 3.1.6 The proposed development is divided into five distinct Development Zones (A to E). Table 3.1 sets out the proposed development in relation to the Development Zones.

Table 3.1 Proposals by Development Zones

Development Zone	Area	Land Use/Class	Floor Space/ Units
Zone A –	1	Brewery incl. pub -	1,200 sqm inc 300m ² pub
Station Square		Restaurant – Use Class 3	150 sqm
		Budget hotel – Use Class 7	32 bedrooms
		Amphitheatre area	Temporary tent structure
	2	Refurbished tourist office	
		Enhanced public square	
Zone B – Riverfront	3a	Woodland Lodges	42 lodges (max)
		Picnic, BBQ & Play Areas	
		Path Network	
	4a	Managed Woodland with SUDs	2 SUDs attenuation ponds
Zone C - Pierhead	5	Apart Hotel & Restaurant – Use Class 7 &	60 bedrooms
		3	150 sqm restaurant
		Water Park – Use Class 11	
		Visitor Hub	Indoor attractions, storage & office
	6	Visitor Attraction & Car Park	
	7	Multi-User Public Realm	
Zone D –	8 & 4b	Managed Woodland Area	
Drumkinnon Wood & 3c		Boathouse equipment storage	95 sqm
Bay	10	Staff & Service area	
	11	Buffer Zone	12m deep around dwellings at Drumkinnon Gate
Zone E - Woodbank	13	Woodbank House conversion to holiday apartments	15 units (Max)
		Woodland Stable and Bothy converted to self-catering holiday properties	6 units (max)
	3d	Lodges within existing field	37 lodges (max)
		Lodges within woodland	30 lodges (max)
		Bothies within woodland	17 bothies' (Max)



3.2 Access Proposals

- 3.2.1 The proposed development site will be accessed from existing access junctions on the local road network as indicated by the Parameters Plan, included as **Appendix A** of this report. This indicates that the following junctions will provide access to the site:
 - Pier Road/ Balloch Road priority junction will retain its existing function of providing access to the Pierhead, Maid of the Loch, Slipway to Loch Lomond, Lomond Shores and the proposed Pierhead (Aparthotel; Water Park; Restaurant Rides; & Visitor Hub);
 - Ben Lomond Way the existing priority junction with the current Loch Lomond Shores overspill parking will retain its existing operational function and provide access to overspill parking; and
 - Woodbank House/ Old Luss Road priority junction will retain its existing function of providing access to the Woodbank House site generally and will be upgraded and formalised to reflect current junction geometry design parameters.

3.3 Parking Provision

- 3.3.1 An Access and Parking Management Strategy will be produced to control arrivals and departures for those elements of the development with a check-in/ registration and/ or ticketing function, such as the: budget accommodation; woodland lodges; aparthotel; and the waterpark and the woodland visitor attractions, as far as reasonably practical. It is recognised that there will be multiple shared-uses between the existing Loch Lomond Shores activities and those currently proposed, and not all parking can be controlled and/ or managed, subject to trip purposes and destination/ attraction choices. Access and Parking Management is covered in further detail in Chapter 6.
- 3.3.2 Parking provision for the development will be provided in accordance with SCOTS National Roads Development Guidelines and WDC parking standards, as agreed with WDC, and in keeping with development standards within the Loch Lomond and Trossachs National Park and West Dunbartonshire authority area.



4 Policy Review

4.1 Introduction

4.1.1 This chapter summaries the relevant transport policies which have been considered in the preparation of this Transport Assessment in support of the development at West Riverside and Woodbank House, Loch Lomond.

4.2 National Policy

Scottish Planning Policy

- 4.2.1 The Scottish Planning Policy (SPP) was published in June 2014 and sets out the Scottish Government's policy on nationally important land use matters. Planning Advice Note 75 (PAN 75) Planning and Transport provides supporting information to the transport elements of the new SPP.
- 4.2.2 The policy principles of the SPP include that the planning system should support patterns of development which:
 - Optimise the use of existing infrastructure;
 - Reduce the need to travel;
 - Provide safe and convenient opportunities for walking and cycling for both active travel and recreation, and facilitate travel by public transport;
 - Enable the integration of transport modes; and
 - Facilitate freight movement by rail or water.
- 4.2.3 The document stipulates that development plans should take account of the relationship between land use and transport, particularly the capacity of the existing transport network, environmental and operational constraints, and proposed or committed transport projects.
- 4.2.4 Plans should identify active travel networks, promote opportunities for travel by more sustainable modes and facilitate integration between transport modes.
- 4.2.5 Furthermore, the document states that significant travel generating uses should be sited at locations which are well served by public transport, subject to parking restraint policies, and supported by measures to promote the availability of high quality public transport services.

4.3 Regional Policy

A Catalyst for Change – The Regional Transport Strategy for the West of Scotland 2008-2021, Strathclyde Partnership for Transport

- 4.3.1 Strathclyde Partnership for Transportation (SPT) is the Regional Transport Partnership for west central Scotland, encompassing 12 local authorities including West Dunbartonshire Council. SPT produced The Regional Transport Strategy (RTS), which influences all future plans and activities of the organisation and informs future national and local transport strategies.
- 4.3.2 The development of a new RTS by SPT is currently underway, with an initial consultation having been undertaken. At the time of writing, however, 'A Catalyst for Change The Regional Transport Strategy for the West of Scotland 2008-2021' is the current adopted RTS and a schedule for the adoption of the new RTS is not available.



- 4.3.3 The RTS sets out a strategic vision to provide "a world class sustainable transport system that acts as a catalyst for an improved quality of life for all".
- 4.3.4 The vision includes six strategic objectives to achieve this, including:
 - Safety and Security: To improve safety and personal security on the transport system;
 - Modal Shift: To increase the proportion of trips undertaken by walking, cycling and public transport;
 - Excellent Transport System: To enhance the attractiveness, reliability and integration
 of the transport network;
 - Access for All: To promote and facilitate access that recognises the transport requirements of all;
 - Environment and Health: To improve health and protect the environment by minimising emissions and consumption of resources and energy by the transport system; and
 - Economy, Transport and Land-use Planning: To support land-use planning strategies, regeneration and development by integrating transport provision.

4.4 Local Policy

Loch Lomond & the Trossachs National Park - Local Development Plan 2017-2021

- 4.4.1 Balloch and the countryside to the west and east of Loch Lomond are covered by Loch Lomond and the Trossachs National Park, and not the West Dunbartonshire Planning Authority.
- 4.4.2 The Local Development Plan replaces the former Local Plan and covers the period 2017 to 2026. The main policies considered relevant to the proposed development are listed below:
 - Overarching Policy 1: All development should contribute to the National Park being a low carbon place by connecting well to public transport and safe pedestrian/cycle access where possible;
 - Overarching Policy 2: Development proposals should not conflict with nearby land uses and where relevant, must address the following requirements;
 - Sustainable Travel: support active travel choices where possible (prioritise walking, cycling and public transport over car use) and transport infrastructure; and
 - Safe Access and Parking: provide safe road access and appropriate parking provision.
- 4.4.3 The Plan also contains several specific transport policies:
 - Safeguarding sites to improve the transport network;
 - Promoting sustainable travel and improve active travel options; and
 - Impact assessment and design standards of new development.



West Dunbartonshire Local Transport Strategy 2013 - 2018

- 4.4.4 The West Dunbartonshire Local Transport Strategy sets out of the objectives, strategy and action plan for transport in the West Dunbartonshire area from 2013 to 2018. The six objectives of the document have been identified as:
 - Economy: to support a vibrant and sustainable local economy that stimulates business development and economic growth;
 - Environment: to support West Dunbartonshire as an attractive and sustainable place to live, work and visit;
 - Integration: to enhance integration and efficiency of transport networks, infrastructure and services;
 - Accessibility & Social: to facilitate access to services and opportunities, promote physical and mental well-being, prevent ill health and reduce inequality;
 - Safety: to support communities in which people feel safe to live, work and enjoy their leisure time: and
 - Maintenance: to maintain the transport network to a high standard that ensures it is safe and fit for purpose.
- To deliver on these objectives, the Council has developed a framework for the LTS that seeks 4.4.5 to draw upon the benefits offered by being in a geographically unique position (close to the Glasgow conurbation and Loch Lomond & the Trossachs National Park, whilst also maintaining a number of distinct local towns) and delivering local improvements. This framework provides the context for the interventions defined in the action plan.
- The LTS has also established three 'policy pillars' to act as a guiding principle for its 4.4.6 implementation; including Sustainable Transport, Access for All, and Supporting Development & Economic Activity.



5 Existing Conditions

5.1 Introduction

5.1.1 This section provides details on the existing access and movement environment along key routes to and within the proposed development area. The information set out herein, is based upon Stantec's local knowledge and experience of the study area and numerous site visits undertaken throughout Spring/Summer 2017.

5.2 Pedestrian Facilities

- 5.2.1 The proposed development site is accessible by foot along the existing main vehicular access routes to the site, as well as the NCN 7 towpath along the western side of the River Leven and west bank of the site, dedicated pedestrian routes through Lomond Shores and the footways and links to the John Muir Way. This section considers the following routes:
 - Pier Road;
 - Ben Lomond Way;
 - Lomond Shores Internal Routes;
 - Old Luss Road; and
 - John Muir Way.

Pier Road

5.2.2 Pier Road is an un-adopted private road providing primarily vehicle access to the Pierhead area (northern extents) of the proposed development site, where there is an operational slipway into Loch Lomond. As such, this route provides for functional access to the slipway and associated activities and, whilst a relatively direct route from Balloch into the site, the lack of footways on the route combined with dense brush and tree cover, is such that it has limited function as a walking route due to perceived safety and security issues. There is no lighting provided on this route with the exception of the southerly extents adjacent to a handful of residential properties and the interface with Balloch Road.

Ben Lomond Way

5.2.3 Ben Lomond Way is the main vehicular access route into the Lomond Shores site from the western extents of the West Riverside component of the site. It provides an "Avenue-esque" connection from Balloch Road into Lomond Shores, as a function of strong landscaping defined by Beech hedges and a tree-lined, remote pedestrian route into Drumkinnon Woods and further north into the immediate Lomond Shores site. This is a well-lit, circa 2m wide pedestrian route and is favoured by many local people accessing the site and/ or the network of informal woodland trails through Drumkinnon Woods. This route links continuously with footways on Balloch Road and, whilst there are no controlled pedestrian crossing points, there is a dedicated, dropped-kerb with tactile paving to the east of Ben Lomond Roundabout. Further, there is a dedicated crossing location on Ben Lomond Way itself, just north of Ben Lomond Roundabout, providing continuous pedestrian access to Old Luss Road (north and south).

Loch Lomond Shores Internal Routes

Much of the Lomond Shores site is pedestrianised and facilitates movements on foot for all nature of users through large areas of the site. The main pedestrianised areas, remote from vehicular routes, include: around the "bay" and beached area to the west of the Pierhead area; to the rear and frontage of the commercial units; the route which skirts the north-western boundary of the car park and connects to Old Luss Road to the west; and a network of raised board-walk paths through woodland to the north of the Lomond Shores main area.



- 5.2.5 Notwithstanding the board-walk paths, the main pedestrianised areas are generally wide and well surfaced and capable of accommodating a reasonable volume of two-way pedestrian flow. These are also well lit. At a minimum, for example to the rear of the retail units, the footway is circa 2m wide.
- 5.2.6 The board-walk paths through the woodlands to the north of the site are raised walk way of circa 2m wide and textured to avoid slipping hazards. Some of the routing is tight and angular but provides reasonable opportunity for passing.
- 5.2.7 Ben Lomond Way internal to the Lomond Shores area provides a continuous 2m footway along the southern side of the road, connecting the Ben Lomond Way/ Lomond Shores access roundabout with the Pierhead area of the site, and Pier Road. The route is lit on the northern side, where there is no continuous footway, albeit sections of the route are paved on the north side to facilitate access into the main pedestrianised area from a coach drop off area and a layby for disabled-users drop-off. CCTV security cameras are located on the route and orientated on the link into the main pedestrianised area of Lomond Shores and the service access area.
- 5.2.8 A dedicated, pedestrian crossing with barriers on the approach to the carriageway, is located to the south west of the commercial units, to allow onward connection to Drumkinnon Woods and the main entrance footway in to the site, on Ben Lomond Way.

Old Luss Road

- 5.2.9 Old Luss Road is located to the east of the Woodbank House site and to the south of the Lomond Shores area. Access from Lomond Shores to Old Luss Road is provided by the internal remote pedestrian footway to the north of the Lomond Shores car park: wooden bollards prevent vehicle access from Old Luss Road. Old Luss Road provides for onward pedestrian connections to the west towards the more rural Upper Stoneymollan and John Muir Way and, to the east, the suggested cycling section for the John Muir Way.
- 5.2.10 The low volumes of traffic on the route, as a result of a "no-through-route" to vehicles to the north, gives rise to the route being used as a pedestrian link between Balloch and Cameron House and Duck Bay Marina to the north. A continuous footway is provided on the eastern side of the road, albeit foliage growth and lack of maintenance is such that this is largely overgrown and rough underfoot. This is not noted to be a deterrent to pedestrians who continue to make use of the relatively wide and reasonably surfaced carriageway, for walking (and cycling). There is no street lighting along the section of route between the Lomond Shores site and where the carriageway terminates to the north.
- 5.2.11 The southern extents of Old Luss Road provide reasonable quality, circa 2m wide and lit footways connecting to Ben Lomond Road Roundabout and Ben Lomond Way on the east. Lighting is more extensive on the east side of Old Luss Road, but with some lighting provision on the west side at the more southerly extents of the road.

John Muir Way

- 5.2.12 The John Muir Way is a coast to coast predominantly rural route for walkers (and cyclists) which stretches 134 miles between Helensburgh in the west, through to Dunbar on the east coast of Scotland. The route is divided into 10 sections, with the Helensburgh to Balloch and Balloch to Strathblane sections, being of relevance to the proposed development site.
- 5.2.13 The John Muir Way comes into the proposed development site's area of influence, via Upper Stoneymollan, over the A82 footbridge and linking to a single-track access road which skirts the southern boundary of the Woodbank House site. At the interface of this route with Old Luss Road, walkers are signed north towards the pedestrian link from Old Luss Road in to the Lomond Shores site. Thereafter, the route follows the internal pedestrian routes of Lomond Shores towards the west bank of the River Leven and follows this route south to Balloch Bridge. From here the route enters Balloch Castle Country Park on the east bank of the River Leven



and meanders north and eastwards through Boturich, intercepts the A811 Stirling Road, and on towards Auchencarroch Road (providing connections to Gartocharn, Croftamie and Drymen).

5.3 Cycling Facilities

NCN Route 7

- 5.3.1 National Cycle Network (NCN) Route 7 links Sunderland in England to Inverness in the north. The 601mile route in its entirety forms part of the wider Lochs & Glens (north) cycle route which passes through two national parks Loch Lomond & The Trossachs and Cairngorms. The route leaves Glasgow by following the River Clyde to Dumbarton and then heads to Inverness via Aberfoyle, Callander, Killin, Pitlochry, Kingussie, Aviemore and Carrbridge.
- 5.3.2 In relation to the proposed development side, NCN Route 7 follows the west bank of the River Leven and approaches the proposed development site from the south, via Sweeney's Cruises adjacent to Balloch Bridge. There is a main dedicated path shared with walkers but an alternative meandering unsurfaced route, which takes cyclists adjacent to the west river bank, through trees and scrub. This links directly to the Pierhead area and onwards to Loch Lomond Shores main.

West Loch Lomond Cycle Way

5.3.3 The West Loch Lomond Cycle Way starts at the Visit Scotland Visitor Centre in Balloch, adjacent to Balloch Bridge and Sweeney's Loch Cruises. It is an "easy" waymarked route suitable for most abilities of cyclist and follows part of the John Muir Way, along the west river bank of the proposed development site area. From the Pierhead area, cyclists are directed through the off-road shared pedestrian routes through Lomond Shores and west wards to Old Luss Road via the wide remote foot and cycleway to the north of the car park. From Old Luss Road, cyclists are directed along a route which skirts Loch Lomond side and, from Arden roundabout can continue adjacent to the A82 (off-road) or through an alternative route through the Carrick Golf Course. A short on-road section through the former Luss access road, takes cyclists through to Luss, thereafter, the route remains off-road as far north as Tarbet.

General Cycle Network

- 5.3.4 There are no other dedicated off-road cycle routes within the local urban area. Given the nature of the location and relatively low number of pedestrians, most routes highlighted above for the pedestrian environment will be used by both walkers and cyclists, with mutual acceptance of users on both parts. On-road cycle routes are limited, noting that the approach to the pedestrian crossing facility on Ben Lomond Way, appears to dedicate both lanes of the carriageway, to cycle priority. This is not noted elsewhere in the area and is therefore assumed to have been provided on the basis of this section of route being provided primarily for service vehicle access (and, potentially, relatively lower levels of vehicles). There is no continuum of this route noted elsewhere on the local network.
- 5.3.5 In the wider locality, including John Muir Way to the west and off-road routes through Whinny Hill Woods and Boturich to the east, routes are generally used by both walkers and cyclists particularly, local mountain bikers and leisure cyclists.
- 5.3.6 Cyclists are able to use the recommended walking route for the John Muir Way as described above, however, an alternative cycling section is suggested on the Section 1 route maps which follows the NCN Route 7 trail. This remains an off-road section and directs cyclists towards the Cross Keys roundabout on the B832, and then east to Arden Roundabout (A82). Here the route links with a shared foot and cycle way, which skirts the A82, the west bank of Loch Lomond and continues south to link with Old Luss Road. From here, cyclists and walkers, can tie back into the dedicated route at Lomond Shores and continue west and south.



5.4 Public Transport

Balloch Railway Station

- 5.4.1 Balloch railway station is located approximately 100 metres to the south of the proposed development on Tullichewan Road. The station can be accessed via the established footpaths in the surrounding area. Sheltered cycle storage is available with 22 bicycle parking spaces. On-street parking is available from Tullichewan Road.
- 5.4.2 Train services run half hourly on Monday to Saturday from Balloch to Airdrie via Glasgow Queen Street and Singer. Sunday services run via Yoker and Glasgow Central and then alternately to Motherwell via Whifflet and to Larkhall on an hourly basis.
- 5.4.3 Table 5.1 provides a summary of existing train services at Balloch Rail Station.

Table 5.1 Train Services Summary

Service	Destination	Journey Time (minutes)	Frequency (Services per hour)
Monday to Saturday	Glasgow Queen Street	47	2
Monday to Saturday	Airdrie via Glasgow Queen Street	79	2
Sunday	Glasgow Central	46	2
Sunday	Larkhall	85	1
Sunday	Motherwell via Glasgow Central	83	1

Bus Services

- 5.4.4 Bus stops are located on both sides of Balloch Road adjacent to the proposed southern site boundary. Bus stops are serviced by the number 1/1A//1E bus services (First Greater Glasgow), which travels between Balloch and Glasgow, with 1A via Vale of Leven Hospital and 1E via Clydebank. Service 206 (First Greater Bus) runs from Haldane to Westcliff, via Balloch.
- 5.4.5 The 207, 305, 306 and 309 bus services (Garelochhead Coaches) also run from Balloch. The number 207 provides a circular service between Balloch and Alexandria. The 305, 306 and 309 bus services to Balloch to Alexandria, via Luss, Helensburgh and Balmaha respectively.
- 5.4.6 Table 5.2 provides a summary of existing bus services in the vicinity of the development.



Table 5.2 Bus Services Summary

Service	Operator	Route	Nearest Bus Stop	Journey Time (minutes)	Frequency (Services per hour midweek)
1/1A/1E	First Greater Glasgow	Balloch – Glasgow City Centre	Balloch Bus Terminus	85 to 99	4
206	First Glasgow	Balloch - Westcliff	Balloch Bus Terminus	46	4
207*	Garelochhead Coaches	Alexandria Circular	Loch Lomond Shores	49	1
205*	0	Alexandria - Luss	Loch Lomond Shores	8	<1
305*	5* Garelochhead Coaches	Luss - Alexandria	Loch Lomond Shores	16	<1
		Alexandria - Helensburgh	Balloch Bus Terminus	9	<1
306*	Garelochhead Coaches	Helensburgh - Alexandria	Balloch Bus Terminus	17	<1
309*	Garelochhead Coaches	Alexandria - Balmaha	Balloch Bus Terminus	21	<1
309	Gareiochnead Coaches	Balmaha - Alexandria	Balloch Bus Terminus	13	<1

^{*} From Sunday 17 July 2022., McColl's Travel Ltd will operate these services on behalf of Strathclyde Passenger Transport.

5.5 Vehicular Access

5.5.1 This section outlines the strategic and local vehicular access routes to the site.

A82 Trunk Road

5.5.2 The A82 runs north – south and is one of two trunk roads through the National Park which is managed by Transport Scotland and therefore is one of the main access routes to the site. It provides access from the centre of Glasgow to Inverness via Fort William. For the most part, this route has a 60mph speed limit. In addition, there are proposals in place to upgrade the section between Tarbet and Inverarnan which aims to reduce congestion and improve traffic flows. The National Park states that travel from central Glasgow would take approximately 40 minutes using the A82.

A811 Stirling Road

5.5.3 In addition to the A82, this trunk road provides key access through the National Park. It links Stirling in the east to the A82 in the west at Balloch, via Drymen. As a result, it provides a connection north to Perth, Dundee and Aberdeen. Generally, the speed limit is 60mph. The National Park notes that car journeys from Stirling are approximately 50 minutes using this route.



B857 (Renton Road / Bank Street / North Main Street / Luss Road)

5.5.4 The B857 connects the A82 in the south to the A811 Stirling Road in the north, running through Renton, Alexandria and Balloch parallel to the A82 and A813. As a result of its built-up surroundings, the B857 has a speed limit of 30mph with 20mph speed limits in place adjacent to main school routes.

Carrochan Road (A813)

5.5.5 The A813 links the A82, north of Dumbarton at Bellsmyre, to Drymen Road in Balloch crossing the A811. It runs north – south on the east side of the River Leven, parallel to the A82 and B857. The speed limit on this route is predominantly 40mph speed limit, with sections of 30mph in built-up areas.

Balloch Road / Drymen Road

5.5.6 This road runs east – west, parallel to the A811 Stirling Road, through Balloch from A811 Stirling Road in the east to the roundabout with Old Luss Road / Ben Lomond Way in the west, crossing River Leven. It has a speed limit of 30mph.

Ben Lomond Way

5.5.7 This route provides access to the Loch Lomond Shores site from the northern arm of the roundabout with Old Luss Road / Ben Lomond Way and has a speed limit of 30mph. It runs north west from the roundabout to an internal roundabout at Loch Lomond Shores which provides access to the main car parks, before running north east towards Balloch Pier.

Pier Road

5.5.8 This is a private road which runs northwards from Balloch Road to Ben Lomond Way and provides direct access to Pierhead. Signage at the Balloch Road junction states that, "Vehicles using this road do so at their own risk", due to its private status. It is assumed to have a 30mph speed limit, albeit most of the road is not to adoptable standard.

5.6 Water-based Transport

- 5.6.1 The Waterbus service operates on Loch Lomond and Loch Katrine, offering ten services which are used by cyclists and walkers. The Park offers this as a sustainable alternative to the car which can enhance the visitor experience. There is potential to build upon the success of the Waterbus with the opportunity to enhance integration as part of a wider tourism and/ or access strategy.
- 5.6.2 Loch Lomond services offer alternative connections between Balloch, Luss, Balmaha and Tarbet amongst others. Generally, these run between April and October, although seasonality varies between services.

5.7 Access Opportunities & Constraints

- 5.7.1 The following access and movement opportunities and constraints are noted with respect to the development proposals and how these may be refined/ informed at subsequent design stages:
 - Balloch Station Square streetscape improvements are proposed for Balloch Road which will better connect Balloch Rail Station with the existing Tourist Information Office and the Station Square development proposals. This presents an opportunity for collaborative working to develop a scheme which will achieve both WDC's objectives and the design requirements of the Station Square area of the development proposals. (see https://www.sustrans.org.uk/balloch);
 - ScotRail Abellio discussions are ongoing with ScotRail Abellio to agree in principle the mutual benefits of promoting access to the development site by rail. Possible



interventions are in very early developmental stages, and are described in further detail in Chapter 6, below; and

■ Sweeney's Cruises – a planning application for the erection new buildings and associated development was submitted to Loch Lomond and the Trossachs National Park by Sweeney's Cruises in November 2017 and subsequently approved in August 2018 (Ref. No: 2017/0373/DET). The approved proposals comprise three new buildings (a two-storey office building, slipway enclosure/workshop building, and a boathouse with storage level above), two new pontoons and a new access road. The detailed Station Square proposals and access arrangements therefore have the opportunity to be optimised for both Sweeney's Cruises and the West Riverside development.



6 Access and Parking Management

6.1 Introduction

- 6.1.1 The proposed level of development is outlined in Chapter 3 of this report and illustrated in the appended Parameters Plan, included as **Appendix A**.
- 6.1.2 This chapter focuses on the measures required to support the development taking cognisance of the proposed nature of uses and anticipated future operation of the development within the context of the existing Loch Lomond Shores and other activities/ operations within the wider site.

6.2 Pedestrian & Cycle Access

- 6.2.1 It is intended that the proposed development will be fully accessible by sustainable modes of transport. The existing pedestrian and cycle network as it exists through the West Riverside site will be retained and enhanced as necessary to provide full connectivity to the wider network as well as all new internal elements of the site. The site will benefit from increased uptake of sustainable modes over the use of the private car, and it is anticipated that walking and cycling will be the go-to-mode of choice for those visitors using the woodland lodges and overnight accommodation: by leaving their cars remote from the lodges, it is hoped this will reduce any unnecessary internal car trips.
- 6.2.2 Bike hire is proposed as part of the Station Square and enhanced Tourist Information Office offering, which will further support internal movements by bike.
- 6.2.3 Whilst the internal layout requires to be developed further as part of subsequent detailed design stages, it is intended that the existing cycle and walking routes will be widened to SUSTRANS standards for shared walking and cycling routes, where this is practicable to do so.
- 6.2.4 Throughout the Station Square, Riverfront and Drumkinnon areas, the existing path network including the John Muir Way will be retained and enhanced as appropriate, albeit some relocating of certain sections may be required. It is expected that discussions will be held with SUSTRANS when the detail of these routes is considered. The existing north-south foot and cycle paths through the Riverfront area, will be enhanced with a series of east-west paths increasing access opportunities between Pier Road and the Riverfront area.
- 6.2.5 The existing foot and cycle way from Loch Lomond Shores to Old Luss Road will be extended to provide a shared foot and cycle way, compliant with technical standards, on the north (development) side of the road, providing a direct walking and cycling link between the two sites.
- 6.2.6 From the Woodbank House site, which is intended to be configured in accordance with Designing Streets Principles and will provide a continuous internal path network, a direct foot and cycle link will be provided to the Upper Stoneymollan Road/ John Muir Way.

6.3 Public Transport

Rail

6.3.1 The proposed WDC plans for the Station Square enhancements on Balloch Road between the proposed new Station Square development and Balloch Railway Station, will help deliver enhanced access between the station and the proposed development site as well as the wider village of Balloch. It is also understood that revised parking arrangements are being considered for Balloch Rail Station as part of the wider "Balloch Village Parking Proposals" which are hoped to alleviate parking issues in the locality as well as encourage an uptake in rail usage.



- 6.3.2 Discussions have been undertaken with ScotRail Abellio to seek to agree in principle the mutual benefits of promoting access to the development site by rail. Whilst any interventions are still in early developmental stages, these are presently anticipated to include:
 - Shared-ticketing: whereby rail and attraction-tickets can be purchased simultaneously, incorporating some form of discount for the passenger/ visitor;
 - The opportunity to promote the new West Riverside development as a destination, where branding/ wrapping the trains can be used as a marketing/ promotional incentive; and
 - The potential for further studies into the need for enhanced rail services either by frequency and/ or selective station stopping to improve journey times.
- 6.3.3 The development proposals also include incorporation of a mono-rail between Station Square and Pierhead. This will provide better connectivity between Balloch Village and Loch Lomond Shores, through provision of a safe, direct and convenient means of transport. During the winter months/ dark nights the existing Pier Road and walking routes adjacent to the River Leven (Riverfront area) are not conducive to walking as function of reduced personal security, and the overall distance. As such, the monorail will help support an evening economy at the existing and with-development scenarios.

Bus

6.3.4 The existing bus service that operates through Loch Lomond Shores via Ben Lomond Way is presently intended to remain in operation with the proposed development, albeit discussions will be held with the operator once internal layout designs are progressed further.

6.4 Parking Provision

Vehicular Parking

- 6.4.1 In the process of preparing the planning application an Environmental Impact Assessment Scoping Opinion has been sought from WDC. The EIA Scoping Opinion indicated that WDC had requested that "Parking for the development should conform to the appropriate standards set out in WDC Parking Standards". Later scoping discussions in October 2017 requested a revision to this to accord with SCOTS NRDG parking standards. WDC have since updated their Parking Standards in October 2019. The proposed development has therefore been assessed against WDC's updated parking standards, with NRDG standards used where no standard for a certain use (hotels) is not provided in the Council's standards.
- 6.4.2 Those standards which are proposed in the application of car parking provision calculations are included within Table 6.1, below.



Table 6.1 Parking Standards

Development Use	Proposed Standard
Brewery incl. pub	10 spaces/ 100sqm GFA
Restaurant	1 space / 5sqm GFA
Youth hostel	1 space/ 4 staff plus customer parking
Woodland Lodges (Riverfront)	1.5 spaces per lodge ²
Apart Hotel & Rest.	1 space/ 2.5 beds
Water Park	10 spaces/ 100sqm pool area
Woodland Lodges (Drumkinnon)	1.5 spaces per lodge
Staff & Service Area	1 space/ 20sqm
Residential units	3 spaces/ dwelling
Woodland Lodges (Woodbank)	1.5 spaces per lodge

6.4.3 The parking standards shown in Table 6.1 have been applied to the development quantum set out in Section 3 of this TA. The resultant proposed parking provision is shown in Table 6.2.

Table 6.2 Proposed Parking Provision

Development Zone	Land Use	Parking Provision
	Brewery incl. pub	
	Restaurant	
	Budget outdoor hotel	132 spaces
Ctation Courses Discussed	WDC park and Ride (44 spaces)	
Station Square, Pier road and Riverside	Woodland Lodges (Riverfront)	
	Apart Hotel & Restaurant	
	Water Park	99 spaces
Ben Lomond Way	Staff & Service area	35 spaces
	Woodland Lodges	127 spaces
Woodbank	Woodbank House	24 spaces
	Total	393 spaces

- 6.4.4 For the purposes of the PPiP application, it has been assumed that the development proposals demonstrate self-sufficiency with respect to vehicle parking. That is, presently, no reliance is placed on the existing spare capacity at the Loch Lomond Shores (main or overspill car parks). Whilst the future operating ambition would see the parking for all woodland lodges, the luxury boathouse accommodation, staff parking and, potentially, parking for the Apart Hotel at Pierhead, being sited at the existing Loch Lomond Shores overspill parking area, the quantum of shared parking is still to be agreed with the existing Loch Lomond Shores proprietors.
- 6.4.5 The Parameters Plan indicates total parking provision of 393 new parking spaces. As the detail of the proposals progress, it is anticipated that parking locations will be re-configured to allow

 $^{^2}$ Bespoke parking figure for all woodland accommodation based on provision of a mix of 1, 2 or 3 bedroom lodges.



effective, efficient and sustainable vehicle and access operations across the shared sites. This will be form part of any detailed design applications.

- 6.4.6 As a result of the Station Square proposals replacing the existing West Riverside Car Park, WDC has requested that as a result of displaced parking, 44 Park & Ride (for rail) spaces should be provided within the newly proposed car park on Pier Road. These should be sited at the southern extents of the new Pier Road car park to provide convenient proximity to the rail station and reduce the need for on-street parking around the station and on Tullichewan Road. This level of provision is considered both achievable and compatible, given the nature of the proposed Station Square development uses (pub/ restaurant), which are largely expected to have a development/ parking demand peak outwith the commuting/ P&R demand period.
- 6.4.7 Consultation has been undertaken with WDC with respect to the Balloch Village Parking Proposals and, more specifically, the streetscape improvements proposed as part of the Station Square Proposals for Balloch Road. WDC has indicated that any future refinement of the streetscape proposals will be informed through collaborative working with the proposed developer, to develop a scheme which will achieve both WDC's objectives and the design requirements of the Zone A Station Square area of the development proposals. It is expected that this scheme will progress collaboratively between WDC, SUSTRANS and the developer.

Cycle Parking

- 6.4.8 In addition to the above vehicular parking standards, the proposed development will include cycle parking which at least meets the minimum recommended provision as detailed within Cycling by Design. The provision of convenient secure cycle parking and related facilities will be key to attracting and encouraging an uplift in cycling to, through and between the existing and proposed development site area. It is acknowledged that cycle parking demand varies greatly between different land user classes, however, it is proposed that each of the key zones within the site will include appropriate cycle parking.
- 6.4.9 Consideration will also be given to the nature of cycle parking, whereby for shorter cycling trips, standard Sheffield Cycle Stands will be provided at key hubs throughout the site. For longer-stay cycle parking, such as employee facilities or bike hire locations, sheltered and secure cycle parking will be provided. In addition, staff changing and showering facilities will be incorporated into staff and service facilities, to encourage the opportunities for staff to cycle to work.

6.5 Access Points and Layout Considerations

- 6.5.1 An access strategy for the site has been derived around the following key objectives:
 - To optimise the use of sustainable modes to, through and from the site;
 - To optimise and enhance the use of existing walking, cycling and vehicular infrastructure;
 - To use the preferred road hierarchy for vehicular access to the site;
 - To reduce needless internal vehicular circulation within the site; and
 - To reduce unnecessary throughs-trips on Balloch Road and Drymen Road.
- 6.5.2 Pedestrian and cycle access improvements proposed for the site are described in Section 6.2, above.
- 6.5.3 The main access points to the site will be via Ben Lomond Way the existing main access point to Loch Lomond Shores and Pier Road, an existing, albeit secondary access point to Pierhead, Maid of the Loch and slipway activities. Woodbank House, as a standalone site, will be accessed via Old Luss Road and the reformation of an existing priority access junction.



- 6.5.4 Pier Road will be used for access to the newly proposed car park to the west of Pier Road, which is intended to cater for the land uses included within the Zone A Station Square proposals. Ben Lomond Way will be promoted as the main access point to the wider site to ensure strategic and site-bound traffic is removed from the local road network as soon as practicable.
- A signage and wayfinding strategy will be developed for the wider site once clarification on the preferred parking locations for site-based activities and land uses are confirmed. It is expected that a combination of enhanced signage and Variable Message Signing (VMS) will need to be installed at key approaches to the site from both the strategic and local road network, as well as internally within the site, to ensure effective vehicular movement for internal destinations and appropriate directions to the relevant car parking areas.
- 6.5.6 For accommodation land uses, except for the Woodbank House site, the arrivals and parking for this element can be managed from the point of booking, whereby visitors can be advised of the intended arrival and check-in arrangements. The intention is that accommodation-based-visitors and associated parking will be segregated from other land-uses and that parking will be provided remotely from the accommodation. Small buggies and/ or small coaches will be used to transport visitors and baggage to their holiday accommodation. This will reduce both unnecessary vehicular circulation at arrival and departure times but is also expected to reduce the use of cars for short-trips by guests throughout their stay: it will be more convenient to walk, cycle or use the mono-rail for shorter local and site-internal trips.

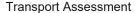
Deliveries and Servicing

- 6.5.7 The operational details for the proposed development land-uses will evolve during the latter detailed design stages, however, all buildings and access routes will be appropriately configured for operational service access for delivery and refuse collection vehicles, as necessary.
- 6.5.8 Certain land uses will be subject to their own servicing and delivery arrangements, however, many of these, such as accommodation, will be managed from the central staff and servicing area. It is intended that more strategic services and deliveries will access the staff and service area, from which smaller scale vehicles or buggies can dispatch goods throughout the site.
- 6.5.9 The residential development of the Woodbank House site will be designed in accordance with Designing Streets Principles and, once a preferred layout is identified, the internal route will be designed to ensure it can accommodate the manoeuvres of service vehicles.

Construction Traffic

- 6.5.10 During the construction period, it is anticipated that associated traffic flows will not compromise the efficiency of the existing road network. However, the following measures are recommended to further reduce the impact of the development traffic:
 - The preferred routes for heavy goods vehicles (HGVs) to and from the site should be identified in advance and agreed with the local Roads Authority;
 - Tracking of mud from site entrances should be addressed by on-site wheel cleaning, or periodic brushing of the carriageway;
 - Efforts should be made to minimise dust and mud emissions generated from HGV movements (HGVs to be sheeted);
 - The roads near the site access points should be kept free from dirt generated by the site clearance activities;
 - Any abnormal loads are to be scheduled in consultation with both the local road authorities and the local Police and to be advertised well in advance to minimise possible disruption;

West Riverside & Woodbank House, Balloch





- HGV movements should be confined to a designated operational period, the precise hours to be agreed with the local road authority;
- The operator should ensure that all drivers are informed of the requirement to drive slowly
 and safely on approaches to the site. Supplementary road signs enforcing such instructions
 could also be erected, if this is felt necessary;
- Warning signs should be erected indicating the presence of the site entrances and directing HGV traffic to be erected:
- Car parking should be provided on-site for contractor's vehicles; and
- HGV drivers should be instructed that they are not to arrive at the site outside of the site's permitted period of operation, and that they should not park\lay-over on the adjacent local road network.



7 Traffic Impact Assessment

7.1 Introduction

- 7.1.1 The assessment parameters of the Transport Assessment were agreed with WDC and TS.
- 7.1.2 This Chapter describes the key assessment parameters and provides a summary of the Traffic Impact Assessment results.

Traffic Surveys

- 7.1.3 To determine the existing traffic conditions on the study network, a series of Junction Turning Counts (JTCs) were undertaken over Thursday 6 September 2017 and Saturday 9 September 2017 at all junctions noted below and as per the Survey Specification agreed with WDC, included as **Appendix B**.
- 7.1.4 In addition, to help inform the traffic impact assessment and the requirement for a noise and air quality assessment to support the Environmental Assessment, a seven-day Automatic Traffic Count (ATC) survey was undertaken from Thursday 6 September 2017 to Wednesday 12 September 2017 inclusive, to record existing traffic link flows, vehicle composition and traffic speeds.
- 7.1.5 Whilst the survey data referenced above was taken for a neutral month assessment, survey data was also gathered in August 2017 (w/c Thursday 10th August 2017 to Wednesday 16th August 2017, inclusive) during the school summer holiday period. This was to provide traffic data for a sensitivity assessment, should it be required at key pinch points on the network, subject to the neutral month assessment. It was agreed with WDC and TS, however, that mitigation would not be provided for a summer season assessment given the industry standard premise that it is generally not appropriate to design and build for a non-neutral assessment scenario.
- 7.1.6 Following discussion with WDC Roads Officers, additional surveys were undertaken on two junctions in November 2021 to check the validity of the extensive 2017 surveys. A comparison of the two sets of traffic flows was presented in a Technical Note (TN) and issued to WDC, included as **Appendix C**. The TN confirmed that the 2017 survey flows were higher than the 2021 flows in both the morning and evening peak period. The 2017 traffic surveys have therefore been used as the basis for the traffic impact assessment.

Extent of Assessment

- 7.1.7 The following junctions have been agreed with WDC and TS for assessment:
 - Ben Lomond Way/ Loch Lomond Shores Roundabout (internal);
 - Ben Lomond Way, Old Luss Road, Balloch Road Roundabout;
 - A811, Ben Lomond Way Roundabout;
 - A82/ A811 Stoneymollan Roundabout;
 - A811/ Carrochan Cres Roundabout;
 - Pier Road/ Balloch Road Priority;
 - Balloch Road/ Drymen Road/ Carrochan Road Priority; and
 - Drymen Road/ A811 Stirling Road Priority.



7.1.8 Scoping correspondence had indicated that access junctions into the site would be assessed and this remains the case with respect to the Pier Road/ Balloch Road priority junction and Ben Lomond Way/ Loch Lomond Shores Roundabout (internal). As the phasing and/or detailed applications for the development come forward, the access and operational details will be considered further. The existing access junction to the Woodbank House site will be brought up to adoptable road standards and comply with the relevant priority access design parameters.

Year of Assessment

- 7.1.9 It was agreed that Stantec would use factor the 2017 survey traffic flows to undertake a 2030 opening year assessment, based on all development being operational.
- 7.1.10 Department for Transport National Road Transport Forecast (NRTF) factors were applied to the 2017 survey traffic flows to establish the 2030 baseline traffic flows and form the basis of the 2030 assessment traffic flows. The NRTF factors 2017 to 2030 are presented in Table 7.1.

Table 7.1 NRTF Growth Factors

Base Year – Future Year	Growth Factor
2017 – 2030	1.137

Committed Development

7.1.11 No committed development was identified during scoping discussions with WDC albeit the Station Square Proposals anticipated to come forward between WDC and SUSTRANS will have a bearing on the ultimate design and interface of Station Square but will not have material impact on the traffic network.

Assessment Period

- 7.1.12 The assessment periods for the proposed development were agreed as:
 - Weekday AM Network Peak (08:00-09:00);
 - Weekday PM Network Peak (16:30-17:30); and
 - Weekend/ Saturday Network Peak (15:15-16:15).

Trip Generation

- 7.1.13 Trip generation has been based on the use of the TRICS V7.9.1 database for all proposed development land uses. All TRICS output files are contained in Appendix D.
- 7.1.14 The Trip Rates and Generation for the individual development uses are presented in Table 7.2 below:

Transport Assessment



Table 7.2 Proposed Development Land Uses, Trip Rates and Trip Generation

	Land Use/Class		Weekday				Weekend							
Dev.		Floor Space/	AM (08:00 to 09:00)			PM (17:30 to 18:30)			Saturday (15:00 to 16:00		00)			
Zone		Units	Arrs. Rate	Arrs	Deps. Rate	Deps.	Arrs. Rate	Arrs	Deps. Rate	Deps.	Arrs. Rate	Arrs	Deps. Rate	Deps.
	Brewery incl. pub -	300sqm pub	0.00	0	0.00	0	3.01	9	1.88	6	3.48	10	4.52	14
	Restaurant – Use Class 3	85 covers (150sqm)	0.00	0	0.00	0	0.17	14	0.09	7	0.02	2	0.03	3
A	Budget hotel – Use Class 7	32 bedrooms	0.11	4	0.18	6	0.16	5	0.10	3	0.21	7	0.21	7
	Amphitheatre Area	600sqm	0.00	0	0.00	0	1.63	10	0.24	1	0.51	3	0.36	2
В	Woodland Lodges	42 lodges	0.03	1	0.04	2	0.13	6	0.09	4	0.12	5	0.12	5
	Restaurant – Use Class 7 & 3	60 bedrooms	0.11	7	0.18	11	0.16	9	0.10	6	0.21	12	0.21	12
		150sqm restaurant	0.00	0	0.00	0	0.17	14.28	0.09	7	0.02	2	0.03	3
С	Water Park – Use Class 11	0.24ha	9.00	2	7.93	2	24.54	6	24.88	6	34.64	8	34.64	8
	Visitor Hub	900sqm office/staff	2.79	25	0.34	3	0.15	1	1.21	11	0.00	0	0.00	0
D	Staff & Service area	700sqm	2.79	20	0.34	2	0.15	1	1.21	8	0.00	0	0.00	0
E	Woodbank House conversion to holiday apartments	15 units	0.03	0	0.04	1	0.13	2	0.09	1	0.12	2	0.12	2

Lomond Banks, Balloch

Transport Assessment



Dev. Zone	Land Use/Class	Floor Space/ Units	Weekday					Weekend						
			AM (08:00 to 09:00)			PM (17:30 to 18:30)			Saturday (15:00 to 16:00)			00)		
			Arrs. Rate	Arrs	Deps. Rate	Deps.	Arrs. Rate	Arrs	Deps. Rate	Deps.	Arrs. Rate	Arrs	Deps. Rate	Deps.
	Woodland Stable and Bothy converted to self- catering holiday properties	6 units	0.03	0	0.04	0	0.13	1	0.09	1	0.12	1	0.12	1
	Lodges within existing field	37 lodges	0.03	1	0.04	1	0.13	5	0.09	3	0.12	5	0.12	5
	Lodges within woodland	30 lodges	0.03	1	0.04	1	0.13	4	0.09	3	0.12	4	0.12	4
	Bothies within woodland	17 bothies'	0.03	1	0.04	1	0.13	2	0.09	2	0.12	2	0.12	2



Trip Distribution

7.1.15 Development trips have been assigned to the network on the basis of the existing turning proportions of vehicles on the network. This was considered to be the most robust approach given the nature of trips associated with the existing activities at: Old Luss Road; Loch Lomond Shores; Pierhead; and the West Riverside car park (to become Station Square) and adjacent to WDC/ SUSTRANS planned Station Square Proposals.

Junction Threshold Assessment

- 7.1.16 Transport Scotland generally require a detailed analysis of junctions on the trunk road network when a 5% threshold assessment is exceeded. To determine the relative impact of the development on the A82 Stoneymollan Roundabout, a junction threshold assessment has been undertaken for the development during the Weekday AM and PM and Weekend (Saturday) peak periods.
- 7.1.17 The assessment calculates the percentage impact of the development traffic compared to the 2030 Base. The results of the assessment are presented below in Table 7.3 which indicates what the percentage impact of development traffic will be.

Arm	Wkday AM Peak 2030	Wkday AM Peak 2030 +Dev	Wkday AM Peak % Diff.	Wkday PM Peak 2030	Wkday PM Peak 2030 +Dev	Wkday PM Peak % Diff.	Sat Peak 2030	Sat Peak 2030 + Dev	Sat Peak % Diff.
A82 North	692	710	3%	1427	1447	1%	1172	1192	2%
A811	946	966	2%	775	811	4%	1036	1078	4%
A82 South	1120	1141	2%	1055	1070	1%	1413	1437	2%
Local Access	1	1	0%	2	2	0%	8	8	0%

Table 7.3 A82 Stoneymollan Roundabout Threshold Assessment

7.1.18 As noted above, the 5% threshold impact is not exceeded on any arms of the Stoneymollan Roundabout, therefore, Transport Scotland would not generally require a detailed capacity assessment of the junction. However, a capacity assessment of the junction has been undertaken for completeness.

7.2 Junction Capacity Assessments

- 7.2.1 The junctions in the study network have been assessed for capacity using Junctions 10 computer modelling software.
- 7.2.2 Junctions 10 computer models can split the peak period under consideration into a series of 15-minute time segments in order to simulate the likely arrival pattern of traffic more effectively. Research indicates that the peak Ratio to Flow Capacity (RFC) values returned in any individual peak (i.e. the peak capacity and corresponding queue results) are likely to be observed over the central 15-30 minute period for the hour.
- 7.2.3 RFC values between 0.00 and 0.85 are generally accepted as representing stable operating conditions, values between 0.85 and unity represent variable operation (i.e. possible queues building up at the junction during the period under consideration and increases in vehicle delay moving through the junction). RFC values in excess of unity represent possible congested conditions.



- 7.2.4 Each junction has been assessed during the Weekday AM and PM peak and Weekend (Saturday) peak under the following conditions, unless otherwise stated:
 - 2030 Baseline Traffic Flows; and
 - 2030 Baseline + West Riverside & Woodbank House Development Traffic Flows.
- 7.2.5 Traffic flow diagrams for the above scenarios are included as **Appendix E** of this TA.
- 7.2.6 A summary of the junction analysis results is presented within the following sections with all associated modelling analysis is contained within **Appendix F**.

Ben Lomond Way/ Loch Lomond Shores Roundabout (Internal)

7.2.7 The operation of the Ben Lomond Way/ Loch Lomond Shores roundabout (internal) junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7.4 below, and in full in **Appendix F**.

Table 7.4 Ben Lomond Way/ Loch Lomond Shores Roundabout (Internal)

Arm	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Max RFC	
Ben Lomond Way (East)	3%	8%	11%	0.18	
Ben Lomond Way (South)	4%	7%	8%	0.25	
Lomond Shores (Access / Egress)	0%	0%	2%	0.23	
Lomond Shores (Access / Egress)	0%	0%	1%	0.17	

7.2.8 Table 7. shows that the greatest impact on this junction by the development is during the Saturday peak hour but there is plenty of spare capacity to accommodate the increase in flows with RFC not exceeding 25% on any approach. There is no requirement for remedial measures.

Ben Lomond Way, Old Luss Road, Balloch Road Roundabout

7.2.9 The operation of the Ben Lomond Way/ Old Luss Road/ Balloch Road roundabout junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7.5 below, and in full in **Appendix F**.



Table 7.5 Ben Lomond Way, Old Luss Road, Balloch Road Roundabout

	Per	rcentage Increase in F	ntage Increase in RFC			
Arm	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Max RFC		
Ben Lomond Way (North)	1%	4%	4%	0.42		
Balloch Road (East)	1%	2%	3%	0.31		
Old Luss Road (South)	4%	4%	4%	0.48		
Old Luss Road (West)	0%	1%	1%	0.11		

7.2.10 Table 7.5 shows that there is some impact on this junction by the development during the Weekday PM and Saturday peak hour but there is plenty of spare capacity to accommodate the increase in flows with RFC not exceeding 0.50 on any approach. There is no requirement for remedial measures.

A811, Ben Lomond Way Roundabout

7.2.11 The operation of the A811/ Ben Lomond Way roundabout junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7. below, and in full in Appendix F.

Table 7.6 A811, Ben Lomond Way Roundabout

	Per			
Arm	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Max RFC
Old Luss Road (North)	2%	4%	6%	0.52
A811 (East)	1%	1%	7%	0.52
Luss Road (South)	1%	1%	8%	0.41
A811 (West)	3%	2%	5%	0.70

7.2.12 Table 7.6 shows that there is some impact on this junction by the development during the Weekday PM and Saturday peak hour, primarily Old Luss Road (northern arm) but there is plenty of spare capacity to accommodate the increase in flows. The A811 (western arm) has the highest RFC of 0.70 in the weekday PM peak hour, well below the requirement for remedial measures.

A82/ A811 Stoneymollan Roundabout

7.2.13 The operation of the A82/ A811 Stoneymollan roundabout junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7.7 below, and in full in Appendix F.



Table 7.7 A82/ A811 Stoneymollan Roundabout

Arm	Percentage Increase in RFC			
	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Max RFC
A82 (North)	1%	2%	2%	0.77
A811 (East)	1%	2%	2%	0.67
A82 (South)	1%	1%	2%	0.60
Local Access (West)	0%	0%	1%	0.05

- 7.2.14 Table 7.7 shows that there is some impact on the A811 (eastern arm) junction during the Weekday PM peak hour as a result of the development, but there is ample remaining capacity to accommodate the increase in flows. The A82 (northern arm) has the highest RFC of around 0.77 in the weekday PM peak hour, well below the requirement for remedial measures.
- 7.2.15 Based on local knowledge and observation, it is considered that the Junctions 10 software may not accurately model the junction in terms of experiences of queuing and delay. Due to the limited geometric parameters entered into Junctions 10, there is little opportunity to reflect the particular characteristics of the junction in terms of give-way behaviour, lane discipline and the merge of traffic from the south and east on the circulation. However, the results of the above are aligned with the threshold assessment and are also compatible with the operation of the roundabout during a typical weekday.

A811/ Carrochan Road Roundabout

7.2.16 The operation of the A811/ Carrochan Crescent roundabout junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7.8 below, and in full in Appendix F.

Table 7.8 A811/ Carrochan Road Roundabout

Arm	Percentage Increase in RFC			
	Weekday AM Peak Hour	Peak Weekday PM Peak Hour Satu	Saturday Peak Hour	Max RFC
Carrochan Road	1%	1%	1%	0.31
A811 Lomond Road	0%	1%	0%	0.46
A813 Carrochan Road (South)	1%	1%	0%	0.25
A811 (West)	0%	1%	2%	0.59

7.2.17 Table 7.8 shows that there is negligible impact on this junction as a result of the development with all arms operating well below capacity and no requirement for remedial measures.

Pier Road / Balloch Road Priority

7.2.18 The operation of the Pier Road/ Balloch Road Priority junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7.9 below, and in full in **Appendix F**.

Table 7.9 Pier Road/ Balloch Road Priority

	Percentage Increase in RFC			
Arm	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Max RFC
Pier Road	1%	2%	6%	0.13
Balloch Road (right turn)	0%	1%	1%	0.07

7.2.19 Table 7.9 shows that there is a minor, 6%, impact on the Pier Road approach as a result of this development during the Weekday PM peak hour. The analysis shows that it operates well below capacity and there is no requirement for remedial measures.

Balloch Road/ Drymen Road/ Carrochan Road Priority

7.2.20 The operation of the Balloch Road/ Drymen Road/ Carrochan Road priority junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7.10 below, and in full in **Appendix F**.

Table 7.10 Balloch Road/ Drymen Road/ Carrochan Road Priority

	Percentage Increase in RFC			
Arm	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Max RFC
Carrochan Road (left turn)	0%	0%	0%	0.33
Carrochan Road (right turn)	0%	0%	0%	0.23
Balloch Road (right turn)	0%	0%	0%	0.44

7.2.21 Table 7.10 shows that there is no forecasted impact on this junction as a result of the development with all arms operating well below capacity and no requirement for remedial measures. Additional trips as a result of the development are primarily pass-through trips; i.e. not turning movements.

Drymen Road/ A811 Stirling Road Priority

7.2.22 The operation of the Drymen Road/ A811 Stirling Road priority junction has been assessed using Junctions 10 and the results of the assessment are summarised in Table 7.11 below, and in full in **Appendix F**.

Table 7.11 Drymen Road/ A811 Stirling Road Priority

	Percentage Increase in RFC			
Arm	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Max RFC
Drymen Road	1%	1%	1%	0.29
A811 Main Street (right turn)	1%	2%	2%	0.17

7.2.23 Table 7.11 shows that there is some impact on this junction as a result of the development with all arms operating well below capacity and no requirement for remedial measures. Additional trips as a result of the development are primarily pass-through trips; i.e. not turning movements.



Operational Summary

- 7.2.24 The results of the junction analysis presented above suggest that remedial junction measures are not required on the local or strategic road network as a result of the development proposals. This may be attributed to the following factors.
 - The nature and scale of development uses appeal to different user and age-categories and, in practice, will also be influenced by weather conditions. As such, the proposed development uses are likely to have operating peaks which will not necessarily coincide with each other, nor with the weekday AM, PM and Saturday peak hours;
 - The development proposals offer multiple access points. Notwithstanding that the Woodbank House site is segregated from the wider West Riverbank site, the proposals incorporate three access points, which serves to disperse the accessing and egressing traffic effectively from the site. Further, the local road network is optimally configured to cater for separate local and pass-by strategic traffic, through Drymen and Balloch Road, and the more strategic A811. This is also supported by the A813 Carrochan Road and B857 Luss Road, which efficiently spreads local traffic and provides viable alternative routes, during more congested periods;
 - Many of the constituent parts of the development proposals incorporate overnight accommodation and will be marketed for long-weekend, week/ fortnight-long stays. This results in arrival and departure trips for these uses being lower and, in practice, will result in less internal traffic movements for the accommodation uses; and
 - The baseline operating conditions on the network are derived from a neutral month when network delays and queues are generally relatively limited, with exception of road traffic incidents or traffic improvement works. The development will bring additional traffic to the area, but not so much as to warrant remedial or junction improvement works. Local events are known to exacerbate traffic operations and should these continue to be operated by Loch Lomond Shores going forward, it is suggested that a Traffic & Event Management Plan should be implemented to materially reduce delay and queuing impacts on the road network.



8 Outline Travel Plan

- 8.1.1 Sustainable transport measures are now at the fore of both Local and National Government policies. This section outlines a range of measures that could be incorporated within a Travel Plan to help promote the use of sustainable modes of transport when accessing the proposed development.
- 8.1.2 As outlined in Transport Scotland's *Transport Assessment Guidance* (2012), a travel plan is a "site specific package of practical measures which minimise the negative impacts of travel and transport and aims to co-ordinate transport with wider policy issues (such as environment, accessibility and social inclusion) into a co-ordinated strategy". They assist in encouraging sustainable travel as well as being able to provide benefits to companies through reduced costs and increased efficiency whilst also reducing local road congestion. The document also states that a monitoring framework, to ensure adherence to the Travel Plan, should be agreed and included as part of the Transport Assessment.
- 8.1.3 The main benefits of a Travel Plan are:
 - Reduced pollution;
 - Reduced local congestion;
 - Encouraging users to take more responsibility for reducing overall carbon footprint;
 - Healthier population (walking, cycling and access to public transport use all allow greater opportunities for exercise over the private car);
 - Reduced on-site car parking problems; and
 - Financial savings through reduced parking costs, mileage costs, car allowances, etc.
- 8.1.4 Given the nature and scale of the various land-uses within the West Riverside and Woodbank House site as well as the location adjacent to Loch Lomond, it is essential that unnecessary vehicular trips and internal vehicular circulation are reduced, as far as reasonably practicable.
- 8.1.5 Whilst the access and parking management strategy outlined in Chapter 6 will seek to address access to the site for visitors by sustainable modes, the sustainable travel measures and initiatives outlined in this Chapter are directed towards the on-site staff that will be employed within the development.

8.2 Potential Measures

- 8.2.1 This Outline Travel Plan therefore describes a package of measures and incentives which aim to encourage the use of sustainable modes of travel in preference to the private car. This section outlines several potential measures which could be implemented to support sustainable travel choices for future employees, including:
 - Pedestrian initiatives;
 - Cycle initiatives;
 - Public transport initiatives; and
 - Car-sharing initiatives.
- 8.2.2 The Travel Plan should be administered and coordinated by a staff member on-site who would have responsibility for ensuring the relevant information is conveyed to new staff and up to date



information is contained on all staff noticeboards. They will assume a coordinating and management role for staff car pool and car share initiatives.

8.3 Pedestrian Initiatives

- 8.3.1 The location of the site adjacent to Balloch Village which has a local bus stance facility and a rail station within close proximity, as well as a local residential population and a number of local amenities and services, are such that walking is a viable means of access for many local trips. The following measures, some proposed as part of the development, and incentives could encourage uptake of pedestrian trips:
 - Provision of an extensive network of pedestrian facilities throughout the site;
 - Provision of a number of accesses providing convenient connections to, through and from the site with an established pedestrian network;
 - Internal road network designed taking cognisance of Designing Streets to promote low vehicle speeds and provide an environment which is more attractive to pedestrians;
 - Provision of Travel Noticeboards within staff areas/ facilities including plans showing the following:
 - Internal pedestrian network;
 - Locations of development accesses;
 - Locations of adjacent pedestrian facilities including the network of leisure paths;
 - Locations of internal and external amenities;
 - The Travel Noticeboards could provide links to existing information on pedestrian facilities in the wider Balloch area including the Core Paths as well as distances and associated walking journey times;
 - Provision of adequate warning signs throughout the development site alerting drivers to the main pedestrian routes through the site; and
 - Discounted or free travel for employees on the proposed monorail, would assist with completing the last-leg of a trip into the site, which may otherwise be perceived as "too far" for some walkers.

8.4 Cycle Initiatives

- 8.4.1 It is generally accepted that employees are willing to cycle up to 6km (20 minutes) to access their place of employment. As such, the local surrounding villages and towns of Jamestown, Alexandria, Renton and, more northerly areas of Dumbarton, are within a reasonable cycling catchment of the site. Moreover, the existing off-road and entirely traffic-free route along the River Leven (NCN 7) provides a suitable safe, and coherent cycle route direct to the site.
- 8.4.2 The following measures, some proposed as part of the development, and incentives could encourage uptake of cycling trips:
 - Provision of cycle connections throughout the site;
 - The ability for staff to make use of a site-based cycle-hire scheme;
 - Provision of a number of accesses into the development to ensure that the site is legible for cyclists from the surrounding transport network;



- Provision of Travel Noticeboards within staff areas/ facilities to include plans showing the following:
- Locations of development accesses and cycle parking locations;
- Locations of adjacent facilities which are suitable for use by cyclists;
- Locations of internal and external amenities, including local cycle network;
- The Travel Noticeboards could provide links to existing information on cycling routes and facilities in the wider Balloch area as well as distances and associated cycle journey times;
- Internal road network designed to promote low vehicle speeds and therefore provide an attractive environment for cyclists;
- The inclusion of staff lockers, changing and showering facilities within staff areas, to facilitate ease of cycling for employees;
- Provision of cycle information to new-starters; and
- Website to include walking and cycling routes through the site.

8.5 Public Transport Initiatives

- 8.5.1 Bus services currently operate on Ben Lomond Way within the main Loch Lomond Shores site as well as a more frequent level of service on Balloch and Drymen Road. Further, a local bus stance and a railway station are located within Balloch village, the latter being within almost immediate proximity of Zone A the Station Square area of the new development.
- 8.5.2 A monorail is also proposed to enhance connectivity from Balloch Village main to the heart of the development (adjacent to Loch Lomond Shores retail crescent and Pierhead).
- **8.5.3** To maximise uptake of public transport by employees, residents and visitors the site. The development will be supported by the introduction of the following measures:
 - Provision of Travel Noticeboards within staff areas/ facilities to provide the following information:
 - A plan showing the locations of local bus stops (& stance) and rail/ monorail station locations, including indicative walking and cycling journey times;
 - Bus and rail and monorail timetable information;
 - Local public transport operator contact details;
 - Discounted or free travel for employees on the proposed monorail, would assist with encouraging access to the wider public transport services;
 - Shared-ticketing initiatives are being discussed with ScotRail Abellio for visitors by rail to the proposed development, and options for tickets for staff and employees should be explored;
 - Bus stop facilities within the development site should be upgraded to include Real Time Passenger Information, wherever practicable, as well as incorporating timetables and sheltered/ well-lit facilities; and
 - Website to include bus, rail and monorail timetable information.



8.6 Car Sharing Initiatives

8.6.1 It is suggested that car sharing and car pool initiatives could be publicised as part of the Travel Plan with details of the scheme included within Staff Travel Packs and Noticeboards. The management of any internal staff car sharing scheme would be undertaken by the on-site Travel Plan Coordinator.

8.7 Additional Measures for Lodges

- 8.7.1 For the lodges, an agreement could be entered into with a major foodstore operator to become the site's preferred internet shopping provider.
- 8.7.2 Lodge visitors would be able to order groceries from the preferred foodstore operator, which would be delivered to the main site reception and then distributed by staff to individual lodges.

8.8 Additional Measures for Staff

8.8.1 For employees on site salary sacrifice loans could be provided for purchasing public transport season tickets or for a new bike to encourage travel by bus, rail and cycle.

8.9 Implementation

- 8.9.1 It is intended that Travel Packs would be issued to new-starts upon commencement of employment at the site.
- 8.9.2 A Travel Information Pack will also be provided to residents at the Woodbank House and West Riverside sites at the point of occupation of their properties, with comparable information made available for guests of the hotels. The pack will provide residents and guests with information similar to that presented on the Travel Noticeboard for staff: including details about all modes of travel including routes, journey times, distances, onward connections and calories-burned, to enable them to make an informed decision about how they choose to travel to and from the site.



9 Summary & Conclusion

- 9.1.1 Stantec UK Limited was commissioned by Flamingo Land Ltd to undertake a Transport Assessment in support of a Planning Permission in Principle application for a tourism and leisure related mixed-use development uses at Lomond Banks, Balloch.
- 9.1.2 Scoping discussions and correspondence was undertaken with West Dunbartonshire Council Road Officers and Transport Scotland and their requirements with respect to analysis have been reflected in this Transport Assessment.
- 9.1.3 This Transport Assessment has been produced in accordance with good practice and developed with reference to the Scottish Government's 'Transport Assessment Guidance 2012'. Consideration has been given to both Scottish Planning Policy and Planning Advice Note 75 in demonstrating that the proposals constitute sustainable development, as far as reasonably practicable for this Planning Permission in Principle stage.
- 9.1.4 The trip generation used to inform this Transport Assessment was based on the use of the industry standard TRICS V7.4.4 database
- 9.1.5 The agreed approach to the trip generation considers each development land use as standalone and assumes that there is no cross-over between the proposed and/ or existing Loch Lomond Shores (and associated) land uses. As such, our assessment is based on a worst-case tripgeneration scenario and represents a robust assessment of any likely impact arising from the proposed development.
- 9.1.6 The development proposals place an emphasis on sustainable access and movement. The existing sustainable and active travel routes to and through the development are retained, enhanced and bolstered by new connections to internal development uses. A monorail is proposed to enhance connectivity from Balloch Village, and onward connections by bus and rail, to the heart of the development site. This provides a much-needed link to the existing and proposed development, facilitating an uptake of sustainable and active travel modes, and providing a convenient alternative over the private car.
- 9.1.7 Whilst the detailed content of the development proposals is yet to be finalised, we have demonstrated that the interim parking provision scenario is based on all West Riverside development parking being provided over the reconfigured Pierhead and new Pier Road car parks. Parking associated with the Woodbank House site will be contained within the site and is considered separately from the overall West Riverside parking provision requirements.
- 9.1.8 Operationally, the eventual aspiration is to entirely segregate the parking associated with the accommodation-based land uses and remove these from general operation over a visitor's duration of stay at the site. This would facilitate a reduction in unnecessary vehicular trips for short-internal-site trips but would also reduce any unnecessary internal circulation at the point of visitor arrivals.
- 9.1.9 Supporting access and parking management interventions will be adopted to support safe and convenient access and movement within the site, via the existing routes on Ben Lomond Way and Pier Road. Signage and wayfinding, likely incorporating Variable Message Signing and orientation boards, will support efficient and effective internal access and routing strategies. Interventions at attraction and accommodation-bookings, will help ensure informed access arrangements and management which will reduce internal vehicular/ movement conflicts overall and facilitate an uptake of sustainable modes throughout the site.
- 9.1.10 The proposed development is compliant with the wider policy and development aspirations of the site and has been developed with consideration to sustainable transport and design opportunities. The associated access, transport and movement proposals are compliant with West Dunbartonshire Council and wider sustainable and active travel policies.



9.1.11 Due to the number of additional vehicle trips that are anticipated as a result of the proposed development, it has been demonstrated that there would be minimal impact on the operation of the local road network. It is widely known that the summer season, good weather and local events can increase through traffic, particularly on the A82 and the A811, as well as Balloch and Loch Lomond Shores-bound traffic. This is an upshot of the proximity to Loch Lomond, the wider Loch Lomond & Trossachs National Park and the functionality of the A82 as the main strategic access road to the north west of Scotland. During a neutral assessment period, the development traffic is not anticipated to exacerbate the prevailing operational status quo, albeit a Traffic Management Plan should be implemented for additional and significant trip-generating events and activities in the locality, regardless of season. Further, the access and parking proposals for the new and existing Loch Lomond Shores development, should be closely monitored and managed to ensure optimal efficiency for the local and wider road network.

Appendices

Appendix A Parameters Plan



Appendix B 2017 Traffic Survey Specification

Balloch Data Collection Specification – August & September 2017

1 Overview

1.1 Introduction

- 1.1.1 Peter Brett Associates LLP is preparing a tender on behalf of a client who is looking to undertake a data collection exercise in the Balloch area.
- 1.1.2 This document details the survey specification to inform the preparation of tender quotations from interested bidders.
- 1.1.3 The data collection will include the following elements, which are detailed throughout the remainder of this document:
 - classified junction turning counts;
 - automatic traffic counts;
 - pedestrian and cycle counts;
 - rail passenger counts; and
 - surface street parking counts.

1.2 Tender Responses

- 1.2.1 Fee quotes should be provided for each individual survey element, so the client group can confirm the surveys they wish to commission within a yet to be confirmed budget. There is no guarantee that all specified fieldwork will be undertaken or be awarded to a single bidder. Where there are cost efficiencies associated with undertaking multiple survey elements this should be indicated.
- 1.2.2 Bidders should indicate where they can add value to surveys or the associated analysis and reporting.
- 1.2.3 The closing date for tender responses is **Thursday 27th July 2017 at noon**. Tender returns should be made to PBA.
- 1.2.4 Peter Brett Associates LLP will commission the surveys on behalf of our client.

1.3 Required Survey Dates

- 1.3.1 Surveys require to be undertaken in accordance with the appended "Data Collection September Neutral Month" and "Data Collection August Summer Season" location plans.
- 1.3.2 Surveys require to be undertaken in both months specified on a neutral weekday (preferably a Thursday) and a Saturday excluding times where issues such as school holidays, traffic management and roadworks, route diversions, temporary restrictions or industrial action will influence the collected data. We note the requirement for a "summer-season" survey period, when the schools are on holiday and it is preferable that this is undertaken as far removed from the last week and weekend, before the schools return, as far as reasonably practicable within the current timing.

- 1.3.3 Ideally all fieldwork survey elements will be undertaken on the same day to provide a consistent set of data, with the exception of ATCs that are required over a one-week period. We appreciate the need for a sufficient lead-in period prior to the surveys and intend to commission the work as soon as practicable following receipt of tender responses and evaluation time/ client agreement.
- 1.3.4 Bidders should identify a suitable survey programme and obtain all necessary approvals from West Dunbartonshire Council and any other organisations to undertake the surveys in an appropriate and safe manner.
- 1.3.5 Bidders should also define the timescales for data delivery.
- 1.3.6 An element of the tender assessment will be concerned with the programme and data return timescales. A cost penalty will apply to any data delivered late so tenderers are requested to specify timescales they are confident they can deliver within.

2 Junction Turning Counts

2.1 Overview

2.1.1 Classified junction counts are required at a series of junctions and should be carried out by video system. The client will require all video records to be provided.

2.2 Locations

- 2.2.1 August Surveys
 - JTC3
 Ben Lomond Way / Old Luss Road / Balloch Road Roundabout (4 arm)
 - JTC5 Pier Road / Balloch Road Junction
 - JTC6 Balloch Road / Drymen Road / Carrochan Road Junction
- 2.2.2 September Surveys
 - JTC1 A82 / A811 Stoneymollan Roundabout (3 arm)
 - JTC2 A811 Luss Road / Ben Lomond Way Roundabout (4 arm)
 - JTC3
 Ben Lomond Way / Old Luss Road / Balloch Road Roundabout (4 arm)
 - JTC4 Ben Lomond Way / Loch Lomond Shores Roundabout
 - JTC5 Pier Road / Balloch Road Junction
 - JTC6 Balloch Road / Drymen Road / Carrochan Road Junction
 - JTC7 Drymen Road / A811 Stirling Road priority junction
 - JTC8 A811 Lomond Road / A813 Carrochan Road Roundabout (4 arm)
- 2.2.3 Surveys should be undertaken for all movements, including U-turns.

2.3 Classifications

- 2.3.1 Turning movements should be recorded in the following classifications:
 - Cycles;
 - Motorcycles;
 - Cars;
 - Taxis;

- Service buses;
- Coaches:
- Light Goods Vehicles (LGV) up to 7.5t panel van; and
- Heavy Goods Vehicles (HGV) larger than 7.5t panel vans.
- 2.3.2 Bidders should indicate if there is an additional cost associated with identifying taxi movements separate to general cars.

2.4 Time Periods

- 2.4.1 Weekday
- 2.4.2 Weekday fee quotes should be provided for the following time periods on a single day:
 - 0700 to 1000 hours; and
 - 1600 to 1900 hours.
- 2.4.3 Saturday fee quotes should be provided for the following time periods on a single day
 - 0700 to 1900 hours
- 2.4.4 Data should be collected in 15-minute intervals.

2.5 Analysis and Reporting Requirements

2.5.1 The data should be provided in Excel format with summary analysis including the identification of the combined network peak hour for the morning (0700-1000), and evening periods (1600-1900) for weekday surveys and full day (0700-1900) for weekend surveys as applicable. A summary report should be prepared providing a note of the survey methodology and conditions. The video data will be required and this should be in a suitable "Microsoft Windows" compatible format.

3 Automatic Traffic Counts

3.1 Overview

3.1.1 Classified Automatic Traffic Counts (ATCs) are required for a two-week period on a series of road links.

3.2 Locations

- 3.2.1 August and September 2-way surveys are required at the following locations as shown in the location plans provided;
 - ATC1 A811
 - ATC2 Old Luss Road
 - ATC3 Ben Lomond Way (main vehicle access / exit to Lomond Shores)
 - ATC4 Balloch Road (west of main entrance to Clairinsh)
 - ATC5 Pier Road (secondary vehicle access / exit to Lomond Shores)
 - ATC6 Balloch Road / Drymen Road (Balloch Bridge)
 - ATC7 A811 Stirling Road
 - ATC8 A813 Carrochan Road
 - ATC9 A811 Lomond Road (Lomond Bridge)

ATC10 – B857 Luss Road

3.3 Classifications

- 3.3.1 Link flows should be collected with the following desired classifications:
 - Cycles;
 - Motorcycles;
 - Cars/Taxis:
 - Buses/Coaches;
 - Light Goods Vehicles (LGV); and
 - Heavy Goods Vehicles (HGV).
- 3.3.2 Bidders should advise on the available classifications using their equipment.

3.4 Time Periods

- 3.4.1 Data should be collected in 15-minute intervals for a full one-week period. Tenderers should specify the period they intend to cover and ensure it covers the period when the junction turn count surveys are taking place.
- 3.4.2 Tenderers will be responsible for monitoring equipment adequately to ensure that robust data is recorded throughout the survey period.

3.5 Analysis and Reporting Requirements

3.5.1 The data should be provided in Excel format with summary analysis including combined network time-series data identifying average peak hours and daily variation in traffic flows. A summary report should be prepared providing a note of the survey methodology and conditions.

4 Pedestrian and Cycle Counts

4.1 Overview

4.1.1 Pedestrian and Cycle Counts are required for a neutral weekday and Saturday over a 12-hour period at a series of locations.

4.2 Locations

- 4.2.1 2-way surveys are required at the following locations shown in the location plans provided.
 - Ped1 John Muir Way at Pier Road (eastern access to the site)
 - Ped2 John Muir Way Old Luss Road / Lomond Shores Main Car Park (western access to the site)
 - Ped3 Ben Lomond Way (north/south movement on footway adjacent to car park)
 - Ped4 Riverside Walk (Adjacent to bank of River Leven)

4.3 Classifications

- 4.3.1 Pedestrian and cycle counts should be collected with the desired classifications
 - Pedestrian
 - Cyclist

4.4 Time Periods

4.4.1 Data should be collected in one hour intervals on a neutral weekday and Saturday between 0700 to 1900 hours.

4.5 Analysis and Reporting Requirements

4.5.1 The data should be provided in Excel format with summary analysis. A summary report should be prepared providing a note of the survey methodology and conditions.

5 Rail Passenger Counts

5.1 Overview

5.1.1 Rail Passenger Counts are required for a neutral weekday and Saturday over a 12-hour period at the location specified below

5.2 Location

- 5.2.1 Boarding and Alighting rail passenger counts are required at the following location as shown in the location plans provided.
 - PAX1 Balloch Station

5.3 Classifications

- 5.3.1 Rail Passenger counts should be collected with the desired classifications
 - Boarding
 - Alighting

5.4 Time Periods

5.4.1 Data should be collected in 30-minute intervals or in conjunction with train timetables on a neutral weekday and Saturday between 0700 to 1900 hours.

5.5 Analysis and Reporting Requirements

5.5.1 The data should be provided in Excel format with summary analysis. A summary report should be prepared providing a note of the survey methodology and conditions.

6 Surface Street Parking Counts

6.1 Overview

6.1.1 Surface Street Parking Counts are required for a neutral weekday and Saturday over a 12-hour period at the locations specified below.

6.2 Locations

- 6.2.1 Surface Street Parking surveys are required at the locations specified below and shown in the location plans provided.
 - SS1 Streets North of Lomond Road (Clairnish, Inchruin, Inchtavannach)

SS2 -Streets South of Lomond Road (Craiglomond Gardens)

6.3 Time Periods

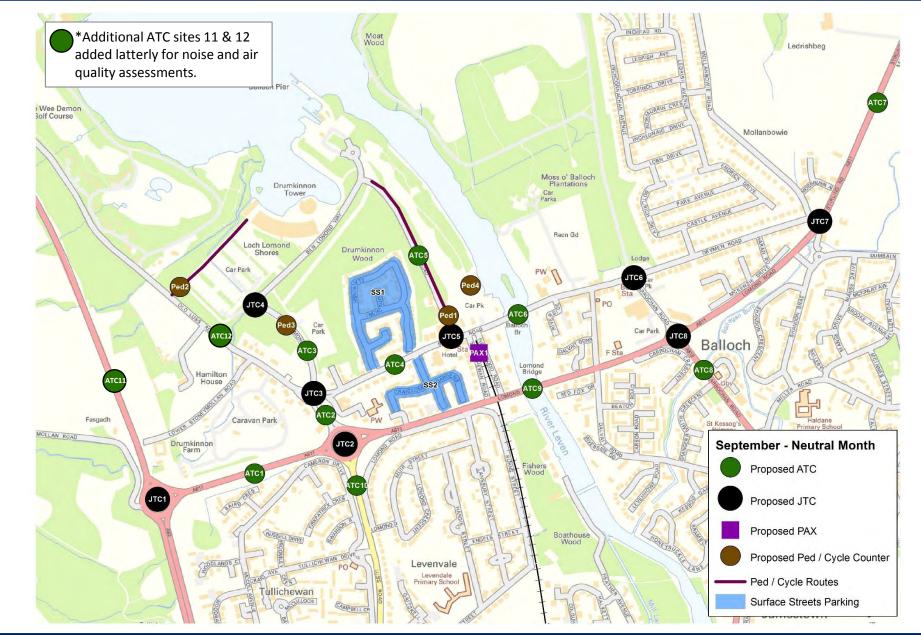
6.3.1 Data should be collected in one hour intervals on a neutral weekday and Saturday between 0700 to 1900 hours.

6.4 Analysis and Reporting Requirements

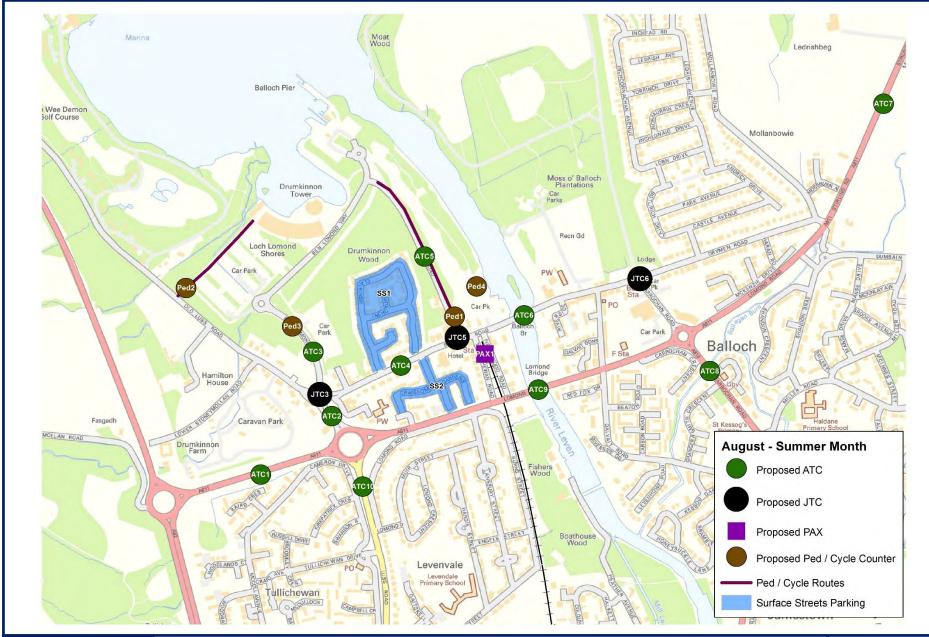
6.4.1 It is requested that this element is costed separately to all other elements in this specification. The data should be provided in Excel format with summary analysis. A summary report should be prepared providing a note of the survey methodology and conditions.

7 Other Information

- 7.1.1 In addition to the cost of the surveys, consideration will be given to the proposed data collection timetable proposed and to the timetable for data delivery.
- 7.1.2 On contract award, data delivery dates will be agreed with the successful tenderer(s).
- 7.1.3 For each day beyond the agreed delivery date that a given data element is delayed, 5% of the agreed fee for that data element will be deducted from the final invoice.









August – Summer Month Survey Locations

Appendix C Lomond Banks Traffic Survey Comparison Technical Note



TECHNICAL NOTE

Job Name: Lomond Banks – West Riverside

Job No: 332010549

Note No: 001

Date: December 2021Prepared By: Mark LoveridgeReviewed By: Brian Laird

Subject: Lomond Banks Traffic Survey Comparison

1. Introduction

- 1.1. Stantec UK Limited has been appointed by Flamingo Land Limited to provide highways advice to support a revised application for the proposed site at West Riverside and Woodbank House, Balloch.
- 1.2. A planning application was submitted in May 2018 (planning ref: 2018/0133/PPP) for the erection and operation of a tourism and leisure led mixed use development. Stantec UK Limited (formerly Peter Brett Associates) prepared the Transport Assessment (TA) that was submitted as part of the application. This application however was withdrawn in September 2019.
- 1.3. Following a Teams meeting with West Dunbartonshire Roads Officers on Wednesday 27th October 2021, it was agreed that the same study area that was assessed for the previous scheme would be assessed for the revised application.
- 1.4. It was proposed that the traffic surveys carried out on Thursday 7th and Saturday 9th September 2017 for the previous application would be used in the revised application. However, as agreed at the meeting, Stantec organised new surveys to be carried out which were undertaken on Thursday 18th and Saturday 20th November 2021 to check that the 2017 surveys can still be considered valid and representative.
- 1.5. It was agreed that the following junctions were to be surveyed:
 - Junction 1 A82 Stoneymollan Roundabout junction to cover the strategic road network; and
 - Junction 2 A811/Luss Road/Old Luss Road roundabout junction to cover the local road network.
- 1.6. The surveys were undertaken to cover a Thursday morning peak period (0700-1000) and evening peak period (1600-1900) and a Saturday peak period (1430-1730). The full survey dataset can be found in Appendix A.
- 1.7. This approach was agreed with West Dunbartonshire Roads Officers, confirming that there were no planned closures and that the survey dates would be representative of typical days.
- 1.8. This note demonstrates that the traffic surveys undertaken in 2017 will provide a robust assessment in the revised application coming forward. To do this, a comparison of the two data sets has been provided in the following section.

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TECHNICAL NOTE

2. Traffic Survey Comparison

Junction 1 - Weekday Peak Hours Comparison

2.1. Traffic flow diagrams for the morning and evening peak hours of Thursday 7th September 2017 and Thursday 18th November 2021 for Junction 1 have been prepared. Figure 1.1 and Figure 1.2 shows the peak hour flows for the 2017 surveys and Figure 1.3 and Figure 1.4 shows the peak hour flows for the 2021 surveys. The nett difference for the morning and evening peak hours are shown in Figure 1.5 and Figure 1.6. A summary of the total traffic flows for both years and a nett difference is shown in Table 1.

Table 1: Junction 1 - Peak Hour Traffic Flow Comparison

Date of Survey	Total Vehicle Traffic Flows – Junction 1		
Date of Garrey	AM Peak Period (0800-0900)	PM Peak Period (1630-1730)	
Thursday 18 th November 2021	2,111	2,477	
Thursday 7 th September 2017	2,313	2,795	
Nett Difference	-202	-318	

2.2. Table 1 shows that in the morning peak hour, 202 fewer vehicles were recorded at Junction 1 in the 2021 surveys compared with the 2017 surveys. The table also shows that in the evening peak hour, a total of 318 fewer vehicles were recorded in the 2021 surveys when comparing the traffic flows with the 2017 surveys.

Junction 2 - Weekday Peak Hours Comparison

2.3. Flow diagrams for the morning and evening peak hours for Junction 2 are shown in the appendices. Figure 1.1 and Figure 1.2 shows the peak hour flows for the 2017 surveys and Figure 1.3 and Figure 1.4 shows the peak hour flows for the 2021 surveys. The nett difference for the morning and evening peak hours are shown in Figure 1.5 and Figure 1.6. A summary of the total traffic flows through Junction 2 for both surveyed years is shown in Table 2.

Table 2: Junction 2 - Peak Traffic Hour Flow Comparison

Date of Survey	Total Vehicle Traffic Flows – Junction 2		
Date of Carrey	AM Peak Period (0800-0900)	PM Peak Period (1630-1730)	
Thursday 18 th November 2021	1,830	2,149	
Thursday 7 th September 2017	2,006	2,362	
Nett Difference	-176	-213	

2.4. Table 2 shows that the 2021 recorded traffic flows were lower in both the morning and evening peak hours when compared with the 2017 recorded traffic flows. The table shows that there were 176 fewer vehicles in the morning peak hour and 213 fewer vehicles through the junction in the evening peak hour in the 2021 surveys.

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TECHNICAL NOTE

Junction 1 - Saturday Peak Hour Comparison

2.5. Traffic flow diagrams for the Saturday peak hour has also been prepared. Figure 1.7 shows the traffic flows recorded in the 2017 surveys, Figure 1.8 shows the traffic flows recorded in the 2021 surveys and Figure 1.9 shows the nett difference between the two datasets. A summary of the traffic flows through Junction 1 for both Saturday peak hours are shown in Table 3.

Table 3: Junction 1 - Saturday Peak Hour Flows Comparison

Date of Survey	Total Vehicle Traffic Flows – Junction 1
Date of Survey	Saturday Peak Hour (1500-1600)
Saturday 20 th November 2021	2,293
Saturday 9 th September 2017	3,259
Nett Difference	-1,002

2.6. Table 3 shows that 1,002 fewer vehicles were recorded through Junction 1 in the 2021 surveys when compared with the 2017 recorded flows. As shown in Figure 1.9 there is a large reduction in the number straight on movements on the A82 both in both the northbound and southbound directions. These movements account for 562 fewer movements. There are also 253 fewer vehicles turning onto the A811 in the 2021 surveys.

Junction 2 - Saturday Peak Hour Comparison

2.7. Traffic flow diagrams for the Saturday peak hour at Junction 2 have been prepared. Figure 1.7 shows the traffic flows recorded in the 2017 surveys, Figure 1.8 shows the traffic flows recorded in the 2021 surveys and Figure 1.9 shows the nett difference between the two datasets. A summary of the traffic flows through Junction 2 for both the Saturday peak hour is shown in Table 4.

Table 4: Junction 2 - Saturday Peak Hour Flows Comparison

Date of Survey	Total Vehicle Traffic Flows – Junction 2
Date of Garvey	Saturday Peak Hour (1500-1600)
Saturday 20 th November 2021	1,993
Saturday 9th September 2017	2,622
Nett Difference	-629

2.8. Table 4 shows that at Junction 2, during the Saturday peak hour, 629 fewer vehicles were recorded in the 2021 surveys when compared against the 2017 surveys. As shown in Figure 1.9, 238 fewer trips were recorded travelling eastbound from the A82 junction. The figure also shows that there are 198 fewer trips travelling southbound on Old Luss Road South.

3. Conclusion

3.1. The survey data shows that at both junctions, the traffic flows recorded in the 2021 surveys were lower than the traffic flows recorded in the 2017 surveys at both junctions for all three peak periods. This demonstrates that the 2017 recorded traffic flows would provide a robust assessment in the revised application.



TECHNICAL NOTE

- 3.2. Furthermore, it should be noted that the previous assessment applied a factor to reflect an opening year of 2020. Although the opening year is yet to be confirmed, to ensure that the assessment is robust, a factor will also be applied to the 2017 traffic flows to reflect the proposed opening year in the revised application.
- 3.3. In conclusion, the 2017 surveys have been demonstrated to provide a robust assessment for the revised application.



TECHNICAL NOTE

Figures

Figure 1.1 - 2017 Survey Flows Weekday AM Peak (0800-0900)

Figure 1.2 - 2017 Survey Flows Weekday PM Peak (1630-1730)

Figure 1.3 - 2021 Survey Flows Weekday AM Peak (0800-0900)

Figure 1.4 - 2021 Survey Flows Weekday PM Peak (1630-1730)

Figure 1.5 - Nett Survey Flows Weekday AM Peak (0800-0900)

Figure 1.6 - Nett Survey Flows Weekday PM Peak (1630-1730)

Figure 1.7 - 2017 Survey Flows Saturday Peak (1500-1600)

Figure 1.8 - 2021 Survey Flows Saturday Peak (1500-1600)

Figure 1.9 - Nett Survey Flows Saturday Peak (1500-1600)

All movements in Vehs Old Luss Road South A82 (N) Jct 1 Jct 2 A811 A82 (S) **B857 Luss Road**



Figure 1.1 - 2017 Survey Flows Weekday AM Peak (0800-0900)

Lomond Banks - West Riverside

All movements in Vehs **Old Luss Road South** A82 (N) Jct 1 Jct 2 A811 A82 (S) **B857 Luss Road**



All movements in Vehs Old Luss Road South A82 (N) Jct 1 Jct 2 A811 A82 (S) **B857 Luss Road**



Figure 1.3 - 2021 Survey Flows Weekday AM Peak (0800-0900)

Lomond Banks - West Riverside

All movements in Vehs Old Luss Road South A82 (N) Jct 1 Jct 2 A811 A82 (S) **B857 Luss Road**



All movements in Vehs Old Luss Road South A82 (N) -21 Jct 1 -73 Jct 2 -1 17 -54 -18 -40 -16 -2 56 30 -107 -137 -76 2 A811 -37 1 -42 -92 -43 46 -16 -60 -101 15 -115 5 -152 72 A82 (S) **B857 Luss Road**



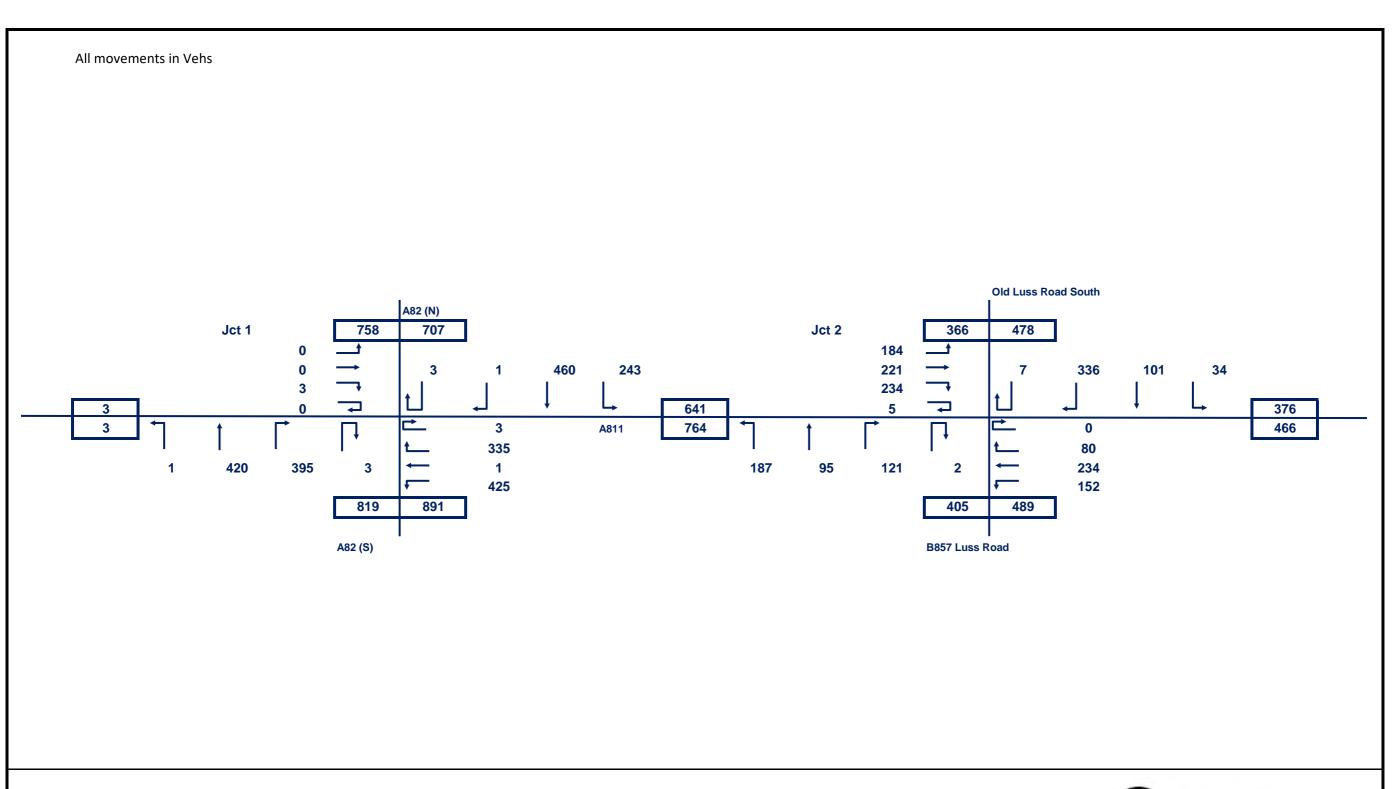
All movements in Vehs Old Luss Road South A82 (N) -13 Jct 1 -186 Jct 2 -29 -50 -5 -2 -140 -39 -25 **59** -112 -105 -94 -4 A811 -2 -95 30 -2 10 -76 -67 41 -36 -64 -46 -26 -85 -148 18 A82 (S) **B857 Luss Road**





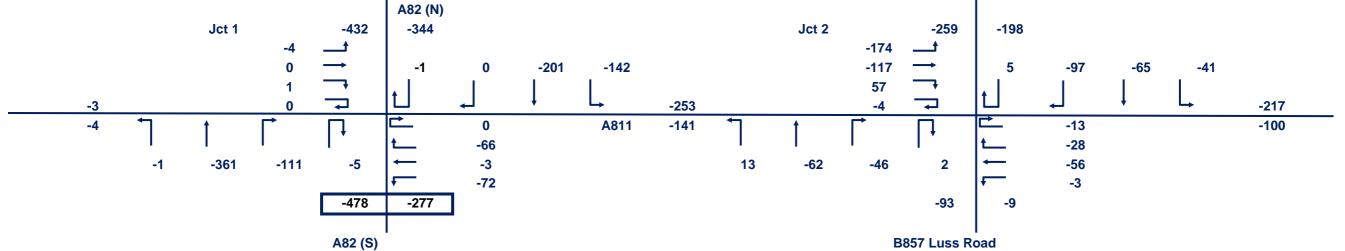
Figure 1.7 - 2017 Survey Flows Saturday Peak (1500-1600)

Lomond Banks - West Riverside











Lomond Banks - West Riverside



TECHNICAL NOTE



Appendix A – Traffic Survey Data

Balloch - Manual Traffic Survey: Thursday, 18 November 2021
Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

Approach: A - (North) A82

<u></u>	(10101)																							\neg							T					
			A to B				т т		A to C						A to D						A to A							From A						0 A		
TIME	CAR	LGV OGV1	OGV2 BUS	P/CYCLE M/0	CYCLE PCU TO	OTAL CAR	LGV	OGV1	OGV2 BUS	S P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV OGV1	DGV2 BUS	P/CYCLE	M/CYCLE PCU	TOTAL	CAR LGV	OGV1	OGV2 BUS	P/CYCLE	M/CYCLE PCU TOTA	AL TIN	ME CAR	LGV	OGV1	OGV2 BUS	P/CYCLE M	/CYCLE PCU TOTAL	CAR	LGV OGV1	OGV2	BUS	P/CYCLE M/	CYCLE PCU TOTAL
07:00 - 07:15	15	0 0	2 0	0	0 19.6	17 58	5	2	4 0	0	0	75.2 69	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	07:00 -	- 07:15 73	5	2	6 0	0	0 94.8 86	176	44 10	5	6	0	1 258.9 242
07:15 - 07:30	17	2 1	1 0	0	0 22.8	21 49	4	4	6 0	0	0	72.8 63	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	07:15 -	- 07:30 66	6	5	7 0	0	0 95.6 84	204	42 7	8	8	0	2 291.7 271
07:30 - 07:45	28	3 2	0 0	0	0 34.0	33 53	5	0	4 0	0	0	67.2 62	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	07:30 -	- 07:45 81	8	2	4 0	0	0 101.2 95	217	69 9	1	1	0	0 303.8 297
07:45 - 08:00	37	7 1	0 1	0	0 47.5	46 58	12	2	1 0	0	0	75.3 73	1	0 0	0 0	0	0 1.0	1	0 0	0	0 0	0	0 0.0 0	07:45 -	- 08:00 96	19	3	1 1	0	0 123.8 120	161	60 8	1	0	0	1 235.7 231
Hourly Total	97	12 4	3 1	0	0 124	117 218	26	8	15 0	0	0	291 267	1	0 0	0 0	0	0 1	1	0 0	0	0 0	0	0 0 0	Hourly	/ Total 316	38	12	18 1	0	0 415 385	758	215 34	15	15	0	4 1091 1041
08:00 - 08:15	37	6 0	1 3	0	0 51.3	47 69	8	2	7 3	0	0	102.1 89	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	08:00 -	- 08:15 106	14	2	8 6	0	0 153.4 136	130	69 10	7	0	0	0 230.1 216
08:15 - 08:30	45	3 2	1 2	0	0 57.3	53 81	7	2	2 0	0	0	95.6 92	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	08:15 -	- 08:30 126	10	4	3 2	0	0 152.9 145	133	34 8	4	1	0	0 190.2 180
08:30 - 08:45	35	7 1	0 0	0	0 43.5	43 70	5	5	2 3	0	0	93.1 85	0	0 0	0 0	0	0.0	0	0 0	0	0 0	0	0 0.0 0	08:30 -	- 08:45 105	12	6	2 3	0	0 136.6 128	139	53 24	2	1	0	0 234.6 219
08:45 - 09:00	27	7 0	0 0	0	0 34.0	34 42	8	6	4 2	0	0	72.2 62	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	08:45 -		15	6	4 2	0	0 106.2 96	95	47 9	6	1	0	0 171.3 158
Hourly Total	144	23 3	2 5	0	0 187	177 262	28	15	15 8	0	0	364 328	0	0 0	0 0	0	0 0	0	0 0	0	0 0	0	0 0 0	Hourly		51	18	17 13	0	0 549 505	497	203 51	19	3	0	0 827 773
09:00 - 09:15	42	6 2	0 1	0	0 53.0	51 43	7	5	3 2	0	1	68.8 61	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	09:00 -		13	7	3 3	0	1 121.8 112	96	41 5	6	0	0	0 158.3 148
09:15 - 09:30	43	8 0	4 0	0	0 60.2	55 54	16	2	3 0	0	0	79.9 75	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	09:15 -	- 09:30 97	24	2	7 0	0	0 140.1 130	105	41 5	9	1	0	0 176.2 161
09:30 - 09:45	30	6 1	0 2	0	0 41.5	39 54	7	4	1 0	0	0	69.3 66	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	09:30 -	- 09:45 84	13	5	1 2	0	0 110.8 105	101	38 7	11	2	0	0 178.8 159
09:45 - 10:00	52	9 1	0 0	0	0 62.5	62 51	21	3	7 1	0	0	94.6 83	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0	09:45 -	- 10:00 103	30	4	7 1	0	0 157.1 145	94	30 5	9	1	0	0 154.2 139
Hourly Total	167	29 4	4 3	0	0 217	207 202	51	14	14 3	0	1	312 285	0	0 0	0 0	0	0 0	0	0 0	0	0 0	0	0 0 0	Hourly	/ Total 369	80	18	18 6	0	1 529 492	396	150 22	35	4	0	0 668 607
Session Total	408	64 11	9 9	0	0 528	501 682	105	37	44 11	0	1	967 880	1	0 0	0 0	0	0 1	1	0 0	0	0 0	0	0 0 0	Session	n Total 1091	169	48	53 20	0	1 1493 1382	1651	568 107	69	22	0	4 2586 2421
16:00 - 16:15	79	17 0	1 1 0		0 983	97 107	51	5	3 0	0	0	172 4 166	0	0 0	0 0	0	0 00	0	0 0	0	0 0		0 00 0	16:00 -	- 16·15 186	68	5	4 0	0	0 270.7 263	132	6 2	0			0 141 0 140
16:15 - 16:30	81	22 1	0 1	0	0 106.5	105 130	40	1	1 0	0	0	182.8 181	0	0 0	0 0	0	0 0.0	0	1 0	0	0 0	0	1 14 2		- 16:30 221	62	2	1 1	0	1 290.7 288	131	18 0	2	1		1 156.0 153
16:30 - 16:45	69	0 2	1 0	0	1 92.7	91 05	22	1	0 0	0	0	102.0 181	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 00 0		- 16:45 163	31	2	1 0	0	1 201.2 199	-	33 3	2		0	0 140.0 144
	08	9 2	1 1	0	0 442.2	440	22	2	0 0	0	0	181.9 176	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0			31	4	1 0	0			12 3	3		0	0 143.0 141
16:45 - 17:00 Hourly Total	321	61 5	3 2	0	1 401	393 488	136	9	7 1	0	0	656 641	0	0 0	0 0	0		0	1 0	0	0 0	0	1 1 2	Hourly	- 17:00 240	197	14	10 3	0	0 295.2 286 2 1058 1036	123 497	13 3 59 8	8	1	0	0 142.8 140 1 588 574
17:00 - 17:15	116	16 0	1 2	0	0 138.3		26	1	4 2	0	0	160.7 153	0	0 0	0 0	0		0	2 0	0	0 0	0	0 2.0 2		- 17:15 238	42	1	5 4	0	0 301.0 290	142	10 3	2	0	0	2 161.9 159
17:15 - 17:30	90	8 1	2 2	0	0 108.1	103 117	21	2	3 5	0	0	157.9 148	0	0 0	0 0	0		0	0 0	0	0 0	0	0 0.0 0		- 17:30 207	29	3	5 7	0	0 266.0 251	133	10 2	3	3	0	0 158.9 151
17:30 - 17:45	52	10 1	0 0	0	0 63.5	63 79	12	1	0 0	0	0	92.5 92	0	0 0	0 0	0	0 0.0	0	0 0	0	0 0	0	0 0.0 0		- 17:45 131	22	2	0 0	0	0 156.0 155	135	14 0	3	1	0	0 157.9 153
17:45 - 18:00	67	15 0	0 0	0	0 82.0	82 110	17	4	3 0	0	0	139.9 134	0	0 0	0 0	0		0	0 0	0	0 0	0	0 0.0 0	17:45 -	- 18:00 177	32	4	3 0	0	0 221.9 216	123	13 1	1	3	0	0 145.8 141
Hourly Total	325	49 2	3 4	0	0 392	383 426	76	8	10 7	0	0	551 527	0	0 0	0 0	0		0	2 0	0	0 0	0	0 2 2	Hourly	/ Total 753	125	10	13 11	0	0 945 912	533	47 6	9	7	0	2 625 604
18:00 - 18:15	43	4 0	0 1	0	0 49.0		10	1	1 0	0	1	115.2 114	0	0 0	0 0	0		0	0 0	0	0 0	0	0 0.0 0	18:00 -	- 18:15 144	14	1	1 1	0	1 164.2 162	154	7 2	2	1	0	0 170.6 166
18:15 - 18:30	40	2 0	0 0	0	0 42.0	42 58	7	0	0 0	0	0	65.0 65	0	0 0	0 0	0		0	0 0	0	0 0	0	0 0.0 0		- 18:30 98	9	0	0 0	0	0 107.0 107	86	10 1	4	0	0	0 106.7 101
18:30 - 18:45	28	1 1	0 0	0	0 30.5		12	1	1 0	0	0	78.8 77	0	0 0	0 0	0		0	0 0	0	0 0	0	0 0.0 0	18:30 -	- 18:45 91	13	2	1 0	0	0 109.3 107	63	9 0	2	1	0	0 78.6 75
18:45 - 19:00	38	2 0	0 0	0	0 40.0	40 51	7	2	0 0	0	0	61.0 60	0	0 0	0 0	0		0	0 0	0	0 0	0	0 0.0 0	18:45 -	- 19:00 89	9	2	0 0	0	0 101.0 100	84	9 0	4	3	0	0 108.2 100
Hourly Total	149	9 1	0 1	0	0 162	160 273	36	4	2 0	0	1	320 316	0	0 0	0 0	0	0 0	0	0 0	0	0 0	0	0 0 0	Hourly	/ Total 422	45	5	2 1	0	1 482 476	387	35 3	12	5	0	0 465 442
Session Total	795	119 8	6 7	0	1 955	936 1187	248	21	19 2	0	11	1527 1484	0	0 0	0 0	0	0 0	0	3 0	0	0 0	0	1 3 4	Sassion	n Total 1985	367	29	25 15	0	3 2485 2424	1417	141 17	20	13	0	3 1678 1620
oession iolai	133	113		0	. 333	1101	270	£1	10 0	U		1321 1404	<u> </u>	U J	U	U	0 0	U	3	0	U	U	1 3 4	3633101	1905	307	23	ZU	U	2424	1417	171	23	10		1070 1020

Balloch - Manual Traffic Survey: Thursday, 18 November 2021
Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

Janearin 7. (Italian, 7.02, 2 7.01.1, C (Journ, 7.02, 2 Opper Journal, 1.04.

Approach:	B - A811
2 1p p : 0 01 0 1 1 1	

			B to C								B to D							B to A							B to B									From B			<u> </u>	1			То В			
CAR	LGV	OGV1	OGV2 BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1 OGV	72 BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS P/CY	CLE M	I/CYCLE PCU TOTA	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1 O	OGV2 BL	JS P/CYC	CYCLE M/C	M/CYCLE P
07:15 63	8	3	0 0	0	1	75.9 75	0	0	0	0	0	0	0	0.0 0	74	12	0 0	3	0	1	92.4 90	0	0	0	0	0 ()	0 0.0 0	07:00 - 07:1	137	20	3	0	3	0	2	168.3 165	48	10	1	3 (0 0	0	0
07:30 70	7	1	0 1	0	0	80.5 79	0	0	0	0	0	0	0	0.0 0	92	14	3 1	1	0	1	115.2 112	0	0	0	0	0 ()	0 0.0 0	07:15 - 07:3	162	21	4	1	2	0	1	195.7 191	59	12	1	3 2	2 0	0	0
07:45 74	13	0	0 0	0	0	87.0 87	0	0	0	0	0	0	0	0.0 0	96	16	0 0	1	0	0	114.0 113	0	0	0	0	0 ()	0 0.0 0	07:30 - 07:4	170	29	0	0	1	0	0	201.0 200	67	12	2	0 0	0 0	0	0
08:00 75	24	1	1 0	0	0	102.8 101	0	0	0	0	0	0	0	0.0 0	67	22	1 0	0	0	0	90.5 90	0	0	0	0	0 ()	0 0.0 0	07:45 - 08:0	142	46	2	1	0	0	0	193.3 191	112	27	2	4 2	2 0	0	1 1
otal 282	52	5	1 1	0	1	346 342	0	0	0	0	0	0	0	0 0	329	64	4 1	5	0	2	412 405	0	0	0	0	0	0	0 0 0	Hourly Total	611	116	9	2	6	0	3	759 747	286	61	6	10 4	4 0	0	1 /
8:15 88	13	4	2 1	0	0	113.6 108	0	0	0	0	0	0	0	0.0	62	21	5 0	0	0	0	90.5 88	0	0	0	0	0 (0	0 0.0 0	08:00 - 08:1	150	34	9	2	1	0	0	204.1 196	100	24	2	2 7	7 0	0	0 1
8:30 84	12	0	1 0	0	0	98.3 97	0	0	0	0	0	0	0	0.0	57	7	1 0	0	0	0	65.5 65	0	0	0	0	0 (0	0 0.0 0	08:15 - 08:3	141	19	1	1	0	0	0	163.8 162	159	28	4	1 2	2 0	0	0 1
3:45 74	5	3	5 0	0	0	95.0 87	0	0	0	0	0	0	0	0.0	59	16	7 1	1	0	0	89.8 84	0	0	0	0	0 ()	0 0.0 0	08:30 - 08:4	133	21	10	6	1	0	0	184.8 171	128	22	4	1 (0	0	0 1
00 63	6	2	1 0	0	0	74.3 72	1	0	0	0	0	0	0	1.0 1	42	23	4 1	0	0	0	73.3 70	0	0	0	0	0 ()	0 0.0 0	08:45 - 09:0	106	29	6	2	0	0	0	148.6 143	119	35	1	0 1	1 1	1	0
309	36	9	9 1	0	0	382 364	1	0	0	0	0	0	0	1 1	220	67	17 2	1	0	0	320 307	0	0	0	0	0	0	0 0 0	Hourly Total	530	103	26	11	2	0	0	701 672	506	109	11	4 1	0 1	1	0
5 67	10	0	0 0	0	0	77.0 77	0	0	0	0	0	0	0	0.0	41	13	2 2	0	0	0	61.6 58	0	0	0	0	0 (0	0 0.0 0	09:00 - 09:1	108	23	2	2	0	0	0	138.6 135	113	22	4	1 1	1 0	0	0
73	11	1	2 0	0	0	90.1 87	0	0	0	0	0	0	0	0.0	43	13	2 1	0	0	0	61.3 59	0	0	0	0	0 ()	0 0.0 0	09:15 - 09:3	116	24	3	3	0	0	0	151.4 146	115	23	6	8 (0	0	0
5 62	12	3	0 1	0	0	80.5 78	0	0	0	0	0	0	0	0.0	45	11	0 3	1	0	0	64.9 60	0	0	0	0	0	0	0 0.0 0	09:30 - 09:4	107	23	3	3	2	0	0	145.4 138	81	23	2	0 2	2 0	0	0
57	16	1	0 1	0	0	76.5 75	0	0	0	0	0	0	0	0.0	37	8	1 1	0	0	0	48.8 47	0	0	0	0	0 ()	0 0.0 0	09:45 - 10:0	94	24	2	1	1	0	0	125.3 122	119	28	3	2 (0	0	1
al 259	49	5	2 2	0	0	325 317	0	0	0	0	0	0	0	0 0	166	45	5 7	1	0	0	237 224	0	0	0	0	0	0	0 0 0	Hourly Total	425	94	10	9	3	0	0	561 541	428	96	15	11 3	3 0	0	1
tal 850	137	19	12 4	0	1	1053 1023	1	0	0	0	0	0	0	1 1	715	176	26 10	7	0	2	969 936	0	0	0	0	0	0	0 0 0	Session Tota	1566	313	45	22	11	0	3	2021 1960	1220	266	32	25 1	7 1	1	2
15 82	15	0	0 0	0	0	97.0 97	1	0	0	0	0	0	0	1.0	60	3	0 0	0	0	0	63.0 63	0	0	0	0	0 (0	0 0.0 0	16:00 - 16:1	143	18	0	0	0	0	0	161.0 161	180	30	5	1 (0 0	0	0
0 60	11	0	0 0	0	0	71.0 71	0	0	0	0	0	0	0	0.0 0	32	8	0 0	1	0	0	42.0 41	0	0	0	0	0 (0	0 0.0 0	16:15 - 16:3	92	19	0	0	1	0	0	113.0 112	190	30	3	2 1	1 0	0	0
5 74	10	1	1 0	0	1	88.2 87	0	0	0	0	0	0	0	0.0 0	44	9	0 0	0	0	0	53.0 53	0	0	0	0	0 ()	0 0.0 0	16:30 - 16:4	118	19	1	1	0	0	1	141.2 140	177	17	3	1 1	1 0	0	1
00 67	7	0	0 0	0	0	74.0 74	0	0	0	0	0	0	0	0.0 0	48	3	0 0	0	0	0	51.0 51	0	0	0	0	0 (0	0 0.0 0	16:45 - 17:0	115	10	0	0	0	0	0	125.0 125	211	29	2	2 2	2 0	0	0
283	43	1	1 0	0	1	330 329	1	0	0	0	0	0	0	1 1	184	23	0 0	1	0	0	209 208	0	0	0	0	0	0	0 0 0	Hourly Total		66	1	1	1	0	1	540 538	758	106	13	6 4	4 0	0	1
5 88	10	1	0 1	0	0	101.5 100	0	0	0	0	0	0	0	0.0	50	7	0 1	0	0	2	60.1 60	0	0	0	0	0 (0	0 0.0 0	17:00 - 17:1	138	17	1	1	1	0	2	161.6 160	223	33	0	2 2	2 0	0	0
0 76	6	0	0 0	0	0	82.0 82	0	0	0	0	0	0	0	0.0 0	48	6	0 0	1	0	0	56.0 55	0	0	0	0	0 (0	0 0.0 0	17:15 - 17:3	124	12	0	0	1	0	0	138.0 137	216	19	2	3 2	2 0	0	0
5 61	11	0	0 0	0	1	72.4 73	0	0	0	0	0	0	0	0.0 0	51	4	0 2	0	0	0	59.6 57	0	0	0	0	0 ()	0 0.0 0	17:30 - 17:4	112	15	0	2	0	0	1	132.0 130	157	18	1	1 (0 0	0	0
00 71	5	0	1 1	0	0	80.3 78		0	0	0	0	0	0	0.0 0	42	1	1 1	1	0	0	48.8 46	0	0	0	0	0 (0	0 0.0 0	17:45 - 18:0	113	6	1	2	2	0	0	129.1 124	162	25	0	0 (0 0	0	0
I 296	32	1	1 2	0	1	336 333	0	0	0	0	0	0	0	0 0	191	18	1 4	2	0	2	225 218	0	0	0	0	0 (0	0 0 0	Hourly Total	487	50	2	5	4	0	3	561 551	758	95	3	6 4	4 0	0	0
5 83	7	0	0 2	0	0	94.0 92	0	0	0	0	0	0	0	0.0	63	1	0 2	0	0	0	68.6	0	0	0	0	0	0	0 0.0 0	18:00 - 18:1	146	8	0	2	2	0	0	162.6 158	141	10	1	1 1	1 0	0	0
0 70	8	0	0 2	0	0	82.0 80	0	0	0	0	0	0	0	0.0 0	28	3	0 2	0	0	0	35.6 33	0	0	0	0	0 (0	0 0.0 0	18:15 - 18:3	98	11	0	2	2	0	0	117.6 113	134	7	0	1 (0 0	0	0
5 52	4	0	0 2	0	0	60.0 58	2	0	0	0	0	0	0	2.0 2	24	5	0 0	1	0	0	31.0 30	0	0	0	0	0 ()	0 0.0 0	18:30 - 18:4	78	9	0	0	3	0	0	93.0 90		8	1	0 0	0 0	0	1
00 55	2	0	0 2	0	0	61.0 59		0	0	0	0	0	0	0.0 0	38	4	0 1	0	0	0	44.3 43	0	0	0	0	0 ()	0 0.0 0	18:45 - 19:0	93	6	0	1	2	0	0	105.3 102	108	10	0	2 1	1 0	0	0
al 260	21	0	0 8	0	0	297 289	2	0	0	0	0	0	0	2 2	153	13	0 5	1	0	0	180 172	0	0	0	0	0	0	0 0 0	Hourly Total		34	0	5	9	0	0	479 463	478	35	2	4 2	2 0	0	1
	96															<u> </u>								· ·				0 0 0						14							16 1			

Balloch - Manual Traffic Survey: Thursday, 18 November 2021
Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

Approach: C - (South) A82

				C to D								C to A							C to B							C to C									From C							To C			
				C 10 D								CIOA				212																													
IME	CAR	LGV	OGV1	OGV2 BI	S P/CYCLE	M/CYCLE	PCU TOT	AL CAR	LGV	OGV1	OGV2	2 BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1 OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	DGV2 B	BUS P/CYC	CLE M/CY	YCLE PCU TOTA	TIM	E CA	AR LG\	V OGV	1 OGV2	2 BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV C	OGV1 C	OGV2 BU	S P/CYC	CLE M/CY	/CLE PCU 7
) - 07:15	0	0	0	0	0	0	0.0 0	102	32	10	5	3	0	0	166.5 152	33	10	1 1	0	0	0	46.8 45	0	0	0	0	0 0	0	0 0.0 0	07:00 -	07:15 13	35 42	11	6	3	0	0	213.3 197	121	13	5	4 0	0	1	1 151.1
5 - 07:30	0	0	0	0	0	0	0.0 0	112	28	4	7	7	0	1	176.5 159	41	10	0 2	2	0	0	59.6 55	0	0	0	0	0 0	0	0 0.0 0	07:15 -	07:30 15	53 38	4	9	9	0	1	236.1 214	120	11	5	6 1	0	0	0 154.3
) - 07:45	0	1	0	0	0	0	1.0 1	121	53	9	1	0	0	0	189.8 184	39	9	0 0	0	0	0	48.0 48	0	0	0	0	0 0	0	0 0.0 0	07:30 -	07:45 16	60 63	9	1	0	0	0	238.8 233	127	18	0	4 0	0	0	0 154.2
5 - 08:00	0	0	0	0	0	0	0.0	94	38	7	1	0	0	1	145.2 141	75	20	1 4	1	0	1	108.1 102	0	0	0	0	0 0	0	0 0.0 0	07:45 -	08:00 16	59 58	8	5	1	0	2	253.3 243	133	36	3	2 0	0	0	0 178.1
ly Total	0	1	0	0	0	0	1 1	429	151	30	14	10	0	2	678 636	188	49	2 7	3	0	1	262 250	0	0	0	0	0 0	0	0 0 0	Hourly	Total 61	7 201	1 32	21	13	0	3	941 887	501	78	13	16 1	0	1	1 638
) - 08:15	0	0	0	0	0	0	0.0 0	68	48	5	7	0	0	0	139.6 128	63	18	2 1	4	0	0	94.3 88	0	0	0	0	0 0) 0	0 0.0 0	08:00 -		31 66	7	8	4	0	0	233.9 216	158	21	6	9 4	. 0	0	J 216.7
5 - 08:30	0	0	0	0	0	0	0.0 0	76	27	7	4	1	0	0	124.7 115	114	25	2 0	0	0	0	142.0 141	0	0	0	0	0 0	0	0 0.0 0	08:15 -		90 52	9	4	1	0	0	266.7 256	165	19	2	3 0	0	0	J 193.9
0 - 08:45	0	0	0	0	0	0	0.0	80	37	17	1	0	0	0	144.8 135	92	15	3 1	0	0	0	113.8 111	0	0	0	0	0 0	0	0 0.0 0	08:30 -	08:45 17	72 52	20	2	0	0	0	258.6 246	145	10	8	7 3	0	0	J 189.1
5 - 09:00	1	0	0	0	0	0	1.0 1	53	24	5	5	1	0	0	98.0 88	92	27	1 0	1	1	0	122.7 122	0	0	1	0	0 0	0	0 1.5 1	08:45 -	1.	6 51	7	5	2	1	0	223.2 212	105	14	9	5 2	. 0	0	ე 148.0
ly Total	1	0	0	0	0	0	1 1	277	136	34	17	2	0	0	507 466	361	85	8 2	5	1	0	473 462	0	0	1	0	0 0	0	0 2 1	Hourly		39 221	1 43	19	7	1	0	983 930	573	64	25	24 9	0	0	J 748
0 - 09:15	0	0	0	0	0	0	0.0 0	55	28	3	4	0	0	0	96.7 90	71	16	2 1	0	0	0	92.3 90	0	1	1	0	0 0) 0	2.5 2	09:00 -		26 45	6	5	0	0	0	191.5 182	110	18	6	3 2	2 0	1	1 148.3
5 - 09:30	0	0	0	0	0	0	0.0 0	62	28	3	8	1	0	0	114.9 102	72	15	6 4	0	0	0	105.2 97	0	1	2	0	0 0	0	0 4.0 3	09:15 -		34 44	. 11	12	1	0	0	224.1 202	127	28	5	5 0	0	0	J 174.0
0 - 09:45	0	0	0	0	0	0	0.0 0	56	27	7	8	1	0	0	113.9 99	51	17	1 0	0	0	0	69.5 69	0	1	0	0	0 0	0	0 1.0 1	09:30 -	09:45 10	07 45	8	8	1	0	0	184.4 169	116	21	7	1 1	0	0	J 151.8
5 - 10:00	0	0	0	0	0	0	0.0	57	22	4	8	1	0	0	105.4 92	67	19	2 2	0	0	1	94.0 91	0	0	0	0	0 0) 0	0 0.0 0	09:45 -		24 41	6	10	1	0	1	199.4 183	108	37	4	7 2	2 0	0	J 171.1
ly Total	0	0	0	0	0	0	0 0	230	105	17	28	3	0	0	431 383	261	67	11 7	0	0	1	361 347	0	3	3	0	0 0) 0	0 8 6	Hourly	Total 49	01 175	5 31	35	3	0	1	800 736	461	104	22	16 5	0	1	1 645
on Total	1	1	0	0	0	0	2 2	936	392	81	59	15	0	2	1616 1485	810	201	21 16	8	1	2	1096 1059	0	3	4	0	0 0	0	0 10 7	Session	Total 174	47 597	7 106	75	23	1	4	2724 2553	1535	246	60	56 15	5 0	2	2 2031
) - 16:15	0	0	0	0	0	0	0.0 0	72	3	2	0	0	0	0	78.0 77	99	13	5 0	0	0	0	119.5	1	0	0	0	0 0) 0	0 1.0 1	16:00 -	16:15 17	<i>7</i> 2 16	7	0	0	0	0	198.5	191	66	5	3 0	0	0	0 271.4
5 - 16:30	1	0	0	0	0	0	1.0 1	98	10	0	2	0	0	0	112.6 110	109	8	2 2	0	0	0	124.6 121	0	0	0	0	0 0) 0	0 0.0 0	16:15 -	16:30 20	08 18	2	4	0	0	0	238.2 232	199	51	1	1 0	0	0	0 253.8
) - 16:45	0	0	0	0	0	0	0.0 0	67	13	3	5	0	0	0	96.0 88	109	8	1 0	1	0	0	120.5 119	0	0	0	0	0 0) 0	0 0.0 0		16:45 17	76 21	4	5	1	0	0	216.5 207	169	32	2	1 0	0	1	1 206.7
5 - 17:00	0	0	0	0	0	0	0.0 0	74	10	3	1	0	0	0	90.8 88	118	16	0 1	1	0	0	138.3 136	0	0	0	0	0 0) 0	0 0.0 0	16:45 -	17:00 19	92 26	3	2	1	0	0	229.1 224	214	30	2	3 1	0	0	0 255.9
ly Total	1	0	0	0	0	0	1 1	311	36	8	8	0	0	0	377 363	435	45	8 3	2	0	0	503 493	1	0	0	0	0 0	0	0 1 1	Hourly	Total 74	18 81	16	11	2	0	0	882 858	773	179	10	8 1	0	1	1 987
) - 17:15	0	0	0	0	0	0	0.0	90	3	3	1	0	0	0	99.8 97	107	17	0 1	0	0	0	126.3 125	0	0	0	0	0 0) 0	0 0.0 0	17:00 -	17:15	97 20	3	2	0	0	0	226.1 222	208	36	2	4 3	0	0	0 262.2
5 - 17:30	0	0	0	0	0	0	0.0	85	4	2	3	2	0	0	102.9 96		11	1 1	0	0	0	140.8 139	0	0	0	0	0 0) 0	0.0 0	17:15 -	17:30 21	1 15	3	4	2	0	0	243.7 235	193	27	2	3 5	0	0	0 239.9
) - 17:45	0	0	0	0	0	0	0.0	84	10	0	1	1	0	0	98.3 96		7	0 1	0	0	0	114.3 113	0	0	0	0	0 0) 0	0 0.0 0	17:30 -	17:45 18	39 17	0	2	1	0	0	212.6 209	140	23	1	0 0	0	1	1 164.9
5 - 18:00	0	0	0	0	0	0	0.0 0	81	12	0	0	2	0	0	97.0 95	95	10	0 0	0	0	0	105.0 105	0	0	0	0	0 0) 0	0 0.0 0	17:45 -	18:00 17	76 22	. 0	0	2	0	0	202.0 200	181	22	4	4 1	0	0	0 220.2
y Total	0	0	0	0	0	0	0 0	340	29	5	5	5	0	0	399 384	433	45	1 3	0	0	0	487 482	0	0	0	0	0 0	0	0 0 0	Hourly	Total 77	73 74	6	8	5	0	0	884 866	722	108	9	11 9	0	1	1 887
) - 18:15	0	0	0	0	0	0	0.0	91	6	2	0	1	0	0	102.0 100	• .	6	1 1	0	0		106.8	0	0	0	0	0 0) 0	0 0.0 0	18:00 -	18:15	38 12	3	1	1	0	0	208.8 205	184	17	1	1 2	. 0	1	1 209.2
5 - 18:30	0	0	0	0	0	0	0.0	58	7	1	2	0	0	0	71.1 68	94	5	0 1	0	0	0	101.3 100	0	0	0	0	0 0) 0	0.0 0		18:30 15	52 12	1	3	0	0	0	172.4 168	128	15	0	0 2	2 0	0	0 147.0
) - 18:45	0	0	0	0	0	0	0.0 0	39	4	0	2	0	0	0	47.6 45	66	7	0 0	0	0	1	73.4 74	0	0	0	0	0 0) 0	0 0.0 0	18:30 -	18:45 10	05 11	0	2	0	0	1	121.0 119	116	16	1	1 2	. 0	0	0 139.8
5 - 19:00	0	0	0	0	0	0	0.0 0	46	5	0	3	3	0	0	63.9 57	70	8	0 2	1	0	0	84.6 81	0	0	0	0	0 0) 0	0 0.0 0	18:45 -	19:00 11	6 13	0	5	4	0	0	148.5 138	107	9	2	0 2	2 0	0	0 123.0
ly Total	0	0	0	0	0	0	0 0	234	22	3	7	4	0	0	285 270	327	26	1 4	1	0	1	366 360	0	0	0	0	0 0) 0	0 0 0	Hourly		61 48	4	11	5	0			535	57	4	2 8	0	1	1 619
on Total					1																								0 1 1		•		3 26												3 2493

Balloch - Manual Traffic Survey: Thursday, 18 November 2021
Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

Approach: D - Upper Stoneymollan Road

Approach: D - Upp	er Stoneymolla	an Road																																															
				D to A									D t	to B							D to C								D to D				7				Fro	om D				 1			To D				
TIME CA	L	_GV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TO	OTAL C	CAR LG	GV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	L CAR	LGV	OGV1 OG	/2 BUS	6 P/CYCL	E M/CYCL	E PCU T	TOTAL CAR	R LG\	V OGV1	1 OG	SV2 B	BUS P/CYCLI	E M/CYCLE	E PCU TOTA	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL
07:00 - 07:15 0		0	0	0	0	0	0	0.0	0	0 (0	0	0	0	0	0	0.0 0	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0 0	07:00 - 07:	15 0	0	0	0	0	0	0	0.0 0	,	0	, 0	0	0	0	0	0.0 0
07:15 - 07:30 0		0	0	0	0	0	0	0.0	0	1 (0	0	0	0	0	0	1.0 1	1	0	0 0	0	0	0	1.0	1 0	0	0	0)	0 0	0	0.0 0	07:15 - 07:	30 2	0	0	0	0	0	0	2.0 2	,	0	, 0	0	0	0	0	0.0 0
07:30 - 07:45 0		0	0	0	0	0	0	0.0	0	0 0	0	0	0	0	0	0	0.0	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0	07:30 - 07:	15 0	0	0	0	0	0	0	0.0 0	,	1	, 0	0	0	0	0	1.0 1
07:45 - 08:00 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	0	0.0	0 0	0	0	0)	0 0	0	0.0	07:45 - 08:	00 0	0	0	0	0	0	0	0.0 0	, 1	0	0	0	0	0	0	1.0 1
Hourly Total 0		0	0	0	0	0	0	0	0	1 (0	0	0	0	0	0	1 1	1	0	0 0	0	0	0	1	1 0	0	0	0	0	0 0	0	0 0	Hourly Tota	ıl 2	0	0	0	0	0	0	2 2	1	1	0	0	0	0	0	2 2
08:00 - 08:15		0	0	0	0	0	0	0.0		0 (0	0	0	0	0	0	0.0	1	0	0 0	0	0	0	1.0	1 0	0	0	0)	0 0	0	0.0	08:00 - 08:	15 1	0	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0
08:15 - 08:30		0	0	0	0	0	0	0.0	0	0 0	0	0	0	0	0	0	0.0	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0	08:15 - 08:	30 0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0
08:30 - 08:45		0	0	0	0	0	0	0.0	0	1 (0	0	0	0	0	0	1.0 1	1	0	0 0	0	0	0	1.0	1 0	0	0	0	0	0 0	0	0.0	08:30 - 08:	15 2	0	0	0	0	0	0	2.0 2	0	0	0	0	0	0	0	0.0
08:45 - 09:00 0		0	0	0	0	0	0	0.0	0	0 1	1	0	0	0	0	0	1.0 1	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0 0	08:45 - 09:	0 0	1	0	0	0	0	0	1.0 1	2	0	0	0	0	0	0	2.0 2
Hourly Total 0		0	0	0	0	0	0	0	0	1 1	1	0	0	0	0	0	2 2	2	0	0 0	0	0	0	2	2 0	0	0	0	0	0 0	0	0 0	Hourly Tota	3	1	0	0	0	0	0	4 4	2	0	0	0	0	0	0	2 2
09:00 - 09:15 0		0	0	0	0	0	0	0.0	· ·	0 (0	0	0	0	0	0	0.0	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0	09:00 - 09:	15 0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	3.0 0
09:15 - 09:30 0		0	0	0	0	0	0	0.0	0	0 (0	0	0	0	0	0	0.0	0	0	0 0	0	0	0	0.0	0 0	0	0	0	0	0 0	0	0.0	09:15 - 09:	30 0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0
09:30 - 09:45		0	0	0	0	0	0	0.0	0	0 (0	0	0	0	0	0	0.0	0	1	0 0	0	0	0	1.0	1 0	0	0	0	0	0 0	0	0.0	09:30 - 09:	15 0	1	0	0	0	0	0	1.0 1	0	0	, 0	0	0	0	0	0.0
09:45 - 10:00		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	0	0.0	0 0	0	0	0)	0 0	0	0.0	09:45 - 10:	00 0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0
Hourly Total 0		0	0	0	0	0	0	0	0	0 (0	0	0	0	0	0	0 0	0	1	0 0	0	0	0	1	1 0	0	0	0	0	0 0	0	0 0	Hourly Total	ıl 0	1	0	0	0	0	0	1 1	0	0	0	0	0	0	0	0 0
Session Total 0		0	0	0	0	0	0	0	0	2 1	1	0	0	0	0	0	3 3	3	1	0 0	0	0	0	4	4 0	0	0	0	0	0 0	0	0 0	Session To	al 5	2	0	0	0	0	0	7 7	3	1	0	0	0	0	0	4 4
16:00 - 16:15 0	<u> </u>	0	0	0	0	0	0	0.0	0	2 0	0	0	0	0	0	0	2.0 2	1	0	0 0	0	0	0	1.0	1 0	0	0		<u> </u>	0 0	0	0.0 0	16:00 - 16:	15 3	0	0	0	0	0	0	3.0 3	,	0	0	0	0	0	0	1.0 1
16:15 - 16:30 0		0	0	0	0	0	0	0.0	0	0 (0	0	0	0	0	0	0.0 0	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0 0	16:15 - 16:	30 0	0	0	0	0	0	0	0.0 0	,	0	0	0	0	0	0	1.0 1
16:30 - 16:45 0		0	0	0	0	0	0	0.0		0 0	0	0	0	0	0	0	0.0 0		0	0 0	0	0	0			0	0	0)	0 0	0	0.0 0	16:30 - 16:		0	0	0	0	0	0	0.0 0		0	, 0	0	0	0	0 (0.0 0
16:45 - 17:00 1		0	0	0	0	0	0	1.0	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	16:45 - 17:		0	0	0	0	0	0	1.0 1	,	0	0	0	0	0	0 (
Hourly Total 1		0	0	0	0	0	0	1	1	2 (0	0	0	0	0	0	2 2	1	0	0 0	0	0	0	1		0	0	0	0	0 0	0	0 0	Hourly Tota		0	0	0	0	0	0	4 4	2	0	0	0	0	0		2 2
17:00 - 17:15		0	0	0	0	0	0	0.0	0	0 (0	0	0	0	0	0	0.0	0	0	0 0	0	0	0	0.0	0 0	0	0	0	0	0 0	0	0.0	17:00 - 17:	15 0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0
17:15 - 17:30 0		0	0	0	0	0	0	0.0	0	0 (0	0	0	0	0	0	0.0	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0	17:15 - 17:	30 0	0	0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0
17:30 - 17:45 0		0	0	0	0	0	0	0.0	0	0 1	1	0	0	0	0	0	1.0 1	0	0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0	17:30 - 17:	15 0	1	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0 0
17:45 - 18:00 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	0	0	0.0	0 0	0	0	0)	0 0	0	0.0	17:45 - 18:	- I	0	0	0	0	0	0	0.0	0	0	, 0	0	0	0	0	0.0 0
Hourly Total 0		0	0	0	0	0	0	0	0	0 1	1	0	0	0	0	0	1 1	0	0	0 0	0	0	0	0	0 0	0	0	0	0	0 0	0	0 0	Hourly Tota	0	1	0	0	0	0	0	1 1	0	0	0	0	0	0	0	0 0
18:00 - 18:15 0		0	0	0	0	0	0	0.0		1 (0	0	0	0	0	0	1.0 1		0	0 0	0	0	0	0.0	0 0	0	0	0)	0 0	0	0.0	18:00 - 18:	15 1	0	0	0	0	0	0	1.0 1	_	0	, 0	0	0	0	0 (0.0
18:15 - 18:30 0		0	0	0	0	0	0	0.0	0	0 0	0	0	0	0	0	0	0.0	0	0	0 0	0	0	0	0.0		0	0	0	0	0 0	0	0.0	18:15 - 18:	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0
18:30 - 18:45 0		0	0	0	0	0	0	0.0	0	1 (0	0	0	0	0	0	1.0 1	1	0	0 0	0	0	0	1.0		0	0	0	0	0 0	0	0.0	18:30 - 18:	15 2	0	0	0	0	0	0	2.0 2	2	0	0	0	0	0	0	2.0 2
18:45 - 19:00 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	1.0	1 0	0	0	0)	0 0		0.0 0	18:45 - 19:		0	0	0	0	0		1.0 1	0	0	0	0	0	0	-	0.0
Hourly Total 0		0	0	0	0	0	0	0	0	2 (0	0	0	0	0	0	2 2	2	0	0 0	0	0	0	2	2 0	0	0	0	0	0 0	0	0 0	Hourly Tota	ıl 4	0	0	0	0	0	0	4 4	2	0	0	0	0	0	0	2 2
Session Total 1		0	0	0	0	0	0	1	1	4 1	1	0	0	0	0	0	5 5	3	0	0 0	0	0	0	3	3 0	0	0	0	0	0 0	0	0 0	Session To	al 8	1	0	0	0	0	0	9 9	4	0	0	0	0	0	0	4 4

Balloch - Manual Traffic Survey: Saturday, 20 November 2021
Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

Approach: A - (North) A82

				A to) B								A to C						A	to D							A to	o A								Froi	n A							Tr	э A			
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	L CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	//CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAI
14:30 - 14:45	54	3	0	0	1	0	0	59.0 58	93	9	1	2	0	0	0	108.1 105	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	14:30 - 14:45	147	12	1	2	1	0	0	167.1 163	179	9	0	0	0	0	0	188.0 188
14:45 - 15:00	62	3	0	0	0	0	0	65.0 65	93	10	1	1	0	0	1	107.2 106	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0	14:45 - 15:00	155	13	1	1	0	0	1	172.2 171	192	9	3	2	, 1	0	1	212.5 208
Hourly Total	116	6	0	0	1	0	0	124 123	186	19	2	3	0	0	1	215 211	0	0 0	0	0	0	0	0 0	0	0	0	0	0	0	0	0 0	Hourly Total	302	25	2	3	1	0	1	339 334	371	18	3	2	1	0	1	401 396
15:00 - 15:15	46	5	0	0	0	0	0	51.0 51	102	4	2	2	2	0	0	117.6	0	0 0	1	0	0	0	2.3 1	0	0	0	0	0	0	0	0.0	15:00 - 15:15	148	9	2	3	2	0	0	170.9 164	177	5	1	1	1	0	0	187.8 185
15:15 - 15:30	64	3	2	0	0	0	0	70.0 69	97	11	0	0	0	0	1	108.4 109	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	15:15 - 15:30	161	14	2	0	0	0	1	178.4 178	188	10	1	0	, 0	0	3	200.7 202
15:30 - 15:45	50	3	0	0	0	0	0	53.0 53	115	16	1	1	0	0	1	135.2 134	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	15:30 - 15:45	165	19	1	1	0	0	1	188.2 187	184	8	0	1	2	0	0	198.3 195
5:45 - 16:00	63	6	0	0	1	0	0	71.0 70	94	10	0	0	1	0	0	106.0 105	0	0 0	0	0	0	0	0.0 0	3	0	0	0	0	0	0	3.0 3	15:45 - 16:00	160	16	0	0	2	0	0	180.0 178	169	6	0	0	, 1	0	0	177.0 176
ourly Total	223	17	2	0	1	0	0	245 243	408	41	3	3	3	0	2	468 460	0	0 0	1	0	0	0	2 1	3	0	0	0	0	0	0	3 3	Hourly Total	634	58	5	4	4	0	2	718 707	718	29	2	2	4	0	3	764 758
16:00 - 16:15	55	2	0	0	0	0	0	57.0 57	98	11	0	1	0	0	0	111.3	0	0 0	0	0	0	0	0.0 0	1	0	0	0	0	0	0	1.0 1	16:00 - 16:15	154	13	0	1	0	0	0	169.3 168	184	11	0	0	2	0	2	199.8
6:15 - 16:30	70	4	0	0	0	0	0	74.0 74	103	7	0	0	0	0	0	110.0 110	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	16:15 - 16:30	173	11	0	0	0	0	0	184.0 184	131	13	0	0	, 1	0	0	146.0 145
6:30 - 16:45	54	5	0	0	0	0	0	59.0 59	103	6	1	1	0	0	1	113.2 112	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	16:30 - 16:45	157	11	1	1	0	0	1	172.2 171	130	5	0	2	, 0	0	0	139.6 137
6:45 - 17:00	42	3	0	0	1	0	0	47.0 46	102	5	2	0	1	0	0	112.0 110	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	16:45 - 17:00	144	8	2	0	2	0	0	159.0 156	124	4	0	0	, 1	0	0	130.0 129
ourly Total	221	14	0	0	1	0	0	237 236	406	29	3	2	1	0	1	447 442	0	0 0	0	0	0	0	0 0	1	0	0	0	0	0	0	1 1	Hourly Total	628	43	3	2	2	0	1	685 679	569	33	0	2	4	0	2	616 610
17:00 - 17:15	44	3	0	0	0	0	0	47.0 47	86	6	0	0	0	0	0	92.0 92	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	17:00 - 17:15	130	9	0	0	0	0	0	139.0 139	128	6	1	0	0	0	0	135.5 135
17:15 - 17:30	59	1	0	0	0	0	0	60.0 60	87	9	0	1	0	0	0	98.3 97	0	0 0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	17:15 - 17:30	146	10	0	1	0	0	0	158.3 157	109	10	1	0	, 1	0	0	122.5 121
Hourly Total	103	4	0	0	0	0	0	107 107	173	15	0	1	0	0	0	190 189	0	0 0	0	0	0	0	0 0	0	0	0	0	0	0	0	0 0	Hourly Total	276	19	0	1	0	0	0	297 296	237	16	2	0	1	0	0	258 256
ooien Tatal	663	44	2		2	0	0	742 700	4470	404			1		4	4220 4200	0	0	4		0	0	2 4		0	0	0	0	0	0	4	Cassian Tatal	4040	445	40	40	7	0		2020 2040	4005	00	7		40			2020 0000
sion lotal	663	41	2	U	3	U	U	/13 / /09	11/3	104	8	9	4	U	4	1320 1302	U	0 0	1	U	U	U	2 1	4	U	0	U	U	U	U	4 4	Session Total	1840	145	10	10	1	U	4	2039 2016	1895	96		б	10	U	б	2039 2020

Balloch - Manual Traffic Survey: Saturday, 20 November 2021Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

ouncile it (iteration to 2, 2 more, 6 (country to 2, 2 opposition)

Approach:	B - A811

																											T								1																
					B to C									B to D								B to A								В	to B								F	rom B			J				То В				
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCI	E PCU	TOTAL	CAR	LGV	OGV1	OGV	V2 BU	JS P/0	CYCLE N	N/CYCLE P	CU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE M	//CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS F	P/CYCLE	M/CYCLE	PCU TOTAL
14:30 - 14:45	109	3	0	0	0	0	0	112.0	112	1	0	0	0	C	0	0	0 1	.0 1	70	5	0	0	0	0	0	75.0 75	4	0	0	0	0	0	0	4.0 4	14:30 - 14	184	8	0	0	0	0	0	192.0 192	183	7	0	0	1	0	0	192.0 191
14:45 - 15:00	108	7	0	0	0	0	1	115.4	116	0	0	0	0	C	0	0	0 0	0.0	70	1	0	0	0	0	0	71.0 71	3	0	0	0	0	0	0	3.0 3	14:45 - 15	5:00 181	8	0	0	0	0	1	189.4 190	168	8	0	0	0	0	1	176.4 177
Hourly Total	217	10	0	0	0	0	1	227	228	1	0	0	0	0	0	0	0	1 1	140	6	0	0	0	0	0	146 146	7	0	0	0	0	0	0	7 7	Hourly To	tal 365	16	0	0	0	0	1	381 382	351	15	0	0	1	0	1	368 368
15:00 - 15:15	111	5	1	0	1	0	1	119.9	119	0	0	0	0	0	0	0	0 0	0.0	83	2	1	0	1	0	0	88.5 87	1	0	0	0	0	0	0	1.0	15:00 - 15	5:15 195	7	2	0	2	0	1	209.4 207	137	12	1	0	0	0	0	150.5
15:15 - 15:30	101	7	0	0	0	0	0	108.0	108	1	0	0	0	C	0	0	0 1	.0 1	86	5	0	0	0	0	1	91.4 92	0	0	0	0	0	0	0	0.0 0	15:15 - 15	5:30 188	12	0	0	0	0	1	200.4 201	163	6	3	0	0	0	1	173.9 173
15:30 - 15:45	95	6	0	0	0	0	0	101.0	101	0	0	0	0	C	0	0	0 0	0.0	85	0	0	0	1	0	0	87.0 86	0	1	0	0	0	0	0	1.0 1	15:30 - 15	5:45 180	7	0	0	1	0	0	189.0 188	133	9	0	0	0	0	1	142.4 143
15:45 - 16:00	94	2	1	0	0	0	0	97.5	97	0	0	0	0	C	0	0	0 0	0.0	65	5	0	0	0	0	0	70.0 70	1	0	0	0	0	0	0	1.0 1	15:45 - 16	3:00 160	7	1	0	0	0	0	168.5 168	158	15	1	0	1	0	0	176.5 175
Hourly Total	401	20	2	0	1	0	1	426	425	1	0	0	0	0	0	0	0	1 1	319	12	1	0	2	0	1	337 335	2	1	0	0	0	0	0	3 3	Hourly To	tal 723	33	3	0	3	0	2	768 764	591	42	5	0	1	0	2	644 641
16:00 - 16:15	91	3	0	0	0	0	0	94.0	94	0	0	0	0) C	0	0	0 0	0.0	72	6	0	0	1	0	0	80.0 79	1	0	0	0	0	0	0	1.0 1	16:00 - 16	5:15 164	9	0	0	1	0	0	175.0 174	148	7	0	0	0	0	0	155.0 155
16:15 - 16:30	95	5	0	0	0	0	0	100.0	100	0	0	0	0	0	0	0	0 0	0.0	55	3	0	0	1	0	0	60.0 59	0	1	0	0	0	0	0	1.0 1	16:15 - 16	5:30 150	9	0	0	1	0	0	161.0 160	173	8	0	0	0	0	0	181.0 181
16:30 - 16:45	74	0	0	0	0	0	0	74.0	74	0	0	0	0) C	0	0	0 0	0.0	68	2	0	0	0	0	0	70.0 70	0	0	0	0	0	0	0	0.0	16:30 - 16	5:45 142	2	0	0	0	0	0	144.0 144	155	8	0	0	0	0	0	163.0 163
16:45 - 17:00	76	4	0	0	0	0	0	80.0	80	0	0	0	0	C	0	0	0 0	0.0	45	2	0	0	1	0	0	49.0 48	1	0	0	0	0	0	0	1.0 1	16:45 - 17	7:00 122	6	0	0	1	0	0	130.0 129	127	8	0	0	2	0	0	139.0 137
Hourly Total	336	12	0	0	0	0	0	348	348	0	0	0	0	0	0	0	0	0 0	240	13	0	0	3	0	0	259 256	2	1	0	0	0	0	0	3 3	Hourly To	tal 578	26	0	0	3	0	0	610 607	603	31	0	0	2	0	0	638 636
17:00 - 17:15	74	3	0	0	1	0	0	79.0	78	0	0	0	0	0	0	0	0 0	0.0	49	3	0	0	0	0	0	52.0 52	0	0	0	0	0	0	0	0.0	17:00 - 17	':15 123	6	0	0	1	0	0	131.0 130	108	8	0	0	0	0	0	116.0
17:15 - 17:30	53	4	0	0	0	0	0	57.0	57	0	0	0	0) C	0	0	0 0	0.0	43	5	0	0	1	0	0	50.0 49	0	0	0	0	0	0	0	0.0 0	17:15 - 17	7:30 96	9	0	0	1	0	0	107.0 106	143	5	0	0	0	0	0	148.0 148
Hourly Total	127	7	0	0	1	0	0	136	135	0	0	0	0	0	0	0	0	0 0	92	8	0	0	1	0	0	102 101	0	0	0	0	0	0	0	0 0	Hourly To	tal 219	15	0	0	2	0	0	238 236	251	13	0	0	0	0	0	264 264
Session Total	1081	49	2	0	2	0	2	1137	1136	2	0	n	0)	n	0	0	2 2	791	39	1	0	6	0	1	844 838	11	2	0	0	0	0	0	13 13	Session To	otal 1885	90	3	0	8	0	3	1997 1989	1796	101	5	0	4	0	3 1	1914 1909
C33IOII I Otai	1001	73	L	U		0		1101	1130	4	0	U	U				U		131	- 33		J	U	U		0.1 030		L	U	0	U	U	U	10 10	003301111	7101	30	3	0	U	U		1337 1309	1730	101	3	U	7			7314 1303

Balloch - Manual Traffic Survey: Saturday, 20 November 2021
Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

Approach: C - (South) A82

Γ				C	to D								C	C to A								C to B								C to C									From C				\top			To C			
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TO	OTAL CA	AR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	AL CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU T	OTAL CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TO	TAL	TIME CA	R LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	L CAR	LGV	OGV1	OGV2	BUS P/CY	;LE M/CYCL'	PCU TOT
14:30 - 14:45	0	0	0	0	0	0	0	0.0	0 10	107	4	0	0	0	0	0	111.0 111	125	4	0	0	0	0	0	129.0	129 0	0	0	0	0	0	0	0.0	0 14:	30 - 14:45 23	2 8	0	0	0	0	0	240.0 240	205	12	1	2	0 0	0	223.1 220
14:45 - 15:00	0	0	0	0	0	0	0	0.0	0 12	122	8	3	2	1	0	1	141.5 137	102	5	0	0	0	0	1	107.4	108 0	0	1	0	0	0	0	1.5	1 14:	45 - 15:00 22	13	4	2	1	0	2	250.4 246	201	17	2	1	0 0	2	224.1 22?
Hourly Total	0	0	0	0	0	0	0	0	0 22	229	12	3	2	1	0	1	253 248	227	9	0	0	0	0	1	236	237 0	0	1	0	0	0	0	2	1 Ho	urly Total 45	3 21	4	2	1	0	2	491 486	406	29	3	3	0 0	2	448 44?
15:00 - 15:15	0	0	0	0	0	0	0	0.0	0 94	94	3	0	1	0	0	0	99.3 98	90	7	1	0	0	0	0	98.5	98 1	0	0	0	0	0	0	1.0	1 15:	00 - 15:15 18	5 10	1	1	0	0	0	198.8 197	214	9	3	2	3 0	1	238.5 237
15:15 - 15:30	0	0	0	0	0	0	0	0.0	0 10	102	5	1	0	0	0	2	109.3	99	3	1	0	0	0	1	103.9	104 0	0	0	0	0	0	0	0.0	0 15:	15 - 15:30 20	8	2	0	0	0	3	213.2 214	198	18	0	0	0 0	1	216.4 217
15:30 - 15:45	0	0	0	0	0	0	0	0.0	0 99	99	8	0	1	1	0	0	111.3 109	83	5	0	0	0	0	1	88.4	89 2	0	0	0	0	0	0	2.0	2 15:	30 - 15:45 18	13	0	1	1	0	1	201.7 200	213	22	1	2	0 0	1	241.5 235
15:45 - 16:00	1	0	0	0	0	0	0	1.0	1 10	101	1	0	0	1	0	0	104.0 103	94	9	1	0	0	0	0	104.5	104 0	0	0	0	0	0	0	0.0	0 15:	45 - 16:00 19	3 10	1	0	1	0	0	209.5 208	189	12	1	0	1 C	0	204.5 207
Hourly Total	1	0	0	0	0	0	0	1	1 39	396	17	1	2	2	0	2	425 420	366	24	3	0	0	0	2	396	395 3	0	0	0	0	0	0	3	3 Но	urly Total 76	3 41	4	2	2	0	4	824 819	814	61	5	4	4 0	3	901 891
16:00 - 16:15	0	0	0	0	0	0	0	0.0	0 11	110	5	0	0	1	0	2	117.8	90	5	0	0	0	0	0	95.0	95 1	0	0	0	0	0	0	1.0	1 16:	00 - 16:15 20	10	0	0	1	0	2	213.8 214	191	14	0	1	0 0	0	207.3 20f
16:15 - 16:30	0	0	0	0	0	0	0	0.0	0 76	76	10	0	0	0	0	0	86.0 86	103	3	0	0	0	0	0	106.0	106 0	0	0	0	0	0	0	0.0	0 16:	15 - 16:30 17) 13	0	0	0	0	0	192.0 192	198	12	0	0	0 0	0	210.0 210
16:30 - 16:45	0	0	0	0	0	0	0	0.0	0 62	62	2	0	2	0	0	0	68.6 66	101	3	0	0	0	0	0	104.0	104 1	0	0	0	0	0	0	1.0	1 16:	30 - 16:45 16	5	0	2	0	0	0	173.6 171	179	6	1	1	0 0	1	189.2 185
16:45 - 17:00	0	0	0	0	0	0	0	0.0	0 78	78	2	0	0	0	0	0	80.0 80	84	5	0	0	1	0	0	91.0	90 0	0	0	0	0	0	0	0.0	0 16:	45 - 17:00 16	2 7	0	0	1	0	0	171.0 170	179	9	2	0	1 C	0	193.0 191
Hourly Total	0	0	0	0	0	0	0	0	0 32	326	19	0	2	1	0	2	353 350	378	16	0	0	1	0	0	396	395 2	0	0	0	0	0	0	2	2 Ho	urly Total 70	35	0	2	2	0	2	751 747	747	41	3	2	1 0	1	800 79 ^F
17:00 - 17:15	0	0	0	0	0	0	0	0.0	0 79	79	3	1	0	0	0	0	83.5 83	63	5	0	0	0	0	0	68.0	68 0	0	0	0	0	0	0	0.0	0 17:	00 - 17:15 14	2 8	1	0	0	0	0	151.5 151	160	9	0	0	1 0	0	171.0 170
17:15 - 17:30	0	0	0	0	0	0	0	0.0	0 65	65	5	1	0	0	0	0	71.5 71	84	4	0	0	0	0	0	88.0	88 0	0	0	0	0	0	0	0.0	0 17:	15 - 17:30 14	9	1	0	0	0	0	159.5 159	140	13	0	1	0 0	0	155.3 15/
Hourly Total	0	0	0	0	0	0	0	0	0 14	144	8	2	0	0	0	0	155 154	147	9	0	0	0	0	0	156	156 0	0	0	0	0	0	0	0	0 Но	urly Total 29	17	2	0	0	0	0	311 310	300	22	0	1	1 0	0	326 324
Session Total	4	0	0	0	0	0	0	1	1 100	005	E6	6	6	4	0	E	1106 117	1440	50	3	Λ	4	0	2	1104	183 5		4	0	0	0	0	7	6	sion Total	0 444	40	6	5	0	0	2277 2266	2267	153	11	10	6		2475 247
Session rotar		U	U	U	U	U	U		1 103	095	50	O	0	4	U	ວ	1100 1177	1110	30	3	U		U	<u> </u>	1104	103 5	U	l l	U	U	U	U	1	Ses	Sion rotal 22	9 114	10	0	5	l 0		2311 2302	2201	153	11	10	6 0	0	2475 245,

Balloch - Manual Traffic Survey: Saturday, 20 November 2021
Produced by Streetwise Services Ltd.

Junction: A - (North) A82 / B - A811 / C - (South) A82 / D - Upper Stoneymollan Road

Approach: D - Upper Stoneymollan Road

				D	to A							D	to B							D	to C							D	to D							
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	L CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1
14:30 - 14:45	2	0	0	0	0	0	0	2.0 2	0	0	0	0	0	0	0	0.0	3	0	0	0	0	0	0	3.0 3	0	0	0	0	0	0	0	0.0 0	14:30 - 14:45	5	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0.0 0	1	0	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	14:45 - 15:00	1	0	0
Hourly Total	2	0	0	0	0	0	0	2 2	1	0	0	0	0	0	0	1 1	3	0	0	0	0	0	0	3 3	0	0	0	0	0	0	0	0 0	Hourly Total	6	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	15:00 - 15:15	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0 0	15:15 - 15:30	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0	1	0	0	1	0	0	0	3.3 2	0	0	0	0	0	0	0	0.0 0	15:30 - 15:45	1	0	0
15:45 - 16:00	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	1.0 1	0	0	0	0	0	0	0	0.0 0	15:45 - 16:00	1	0	0
Hourly Total	0	0	0	0	0	0	0	0 0	0	0	0	0	0	0	0	0 0	2	0	0	1	0	0	0	4 3	0	0	0	0	0	0	0	0 0	Hourly Total	2	0	0
16:00 - 16:15	1	0	0	0	0	0	0	1.0	2	0	0	0	0	0	0	2.0 2	1	0	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0	16:00 - 16:15	4	0	0
16:15 - 16:30	0	0	0	0	0	0	0	0.0 0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0 0	16:15 - 16:30	0	0	0
16:30 - 16:45	0	1	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0	1	0	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0 0	16:30 - 16:45	1	1	0
16:45 - 17:00	1	0	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0	1	0	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0 0	16:45 - 17:00	2	0	0
Hourly Total	2	1	0	0	0	0	0	3 3	2	0	0	0	0	0	0	2 2	3	0	0	0	0	0	0	3 3	0	0	0	0	0	0	0	0 0	Hourly Total	7	1	0
17:00 - 17:15	0	0	0	0	0	0	0	0.0	1	0	0	0	0	0	0	1.0 1	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	17:00 - 17:15	1	0	0
17:15 - 17:30	1	0	0	0	0	0	0	1.0 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	17:15 - 17:30	1	0	0
Hourly Total	1	0	0	0	0	0	0	1 1	1	0	0	0	0	0	0	1 1	0	0	0	0	0	0	0	0 0	0	0	0	0	0	0	0	0 0	Hourly Total	2	0	0
Session Total	5	1	0	0	0	0		6 6	A		0	0	0	0	0		0	0	0	1	0	0	0	10 0	0	0	0	0	0	0	0		Session Total	17	1	0
Jession Iolai	J	•	U	U	U	U	0	0 0	4	U	U	0	U	U	U	7 4	U	U	U		U		U	10 9		U	U	U	U	U	U		Jession Iolai	17	4	

				Fro	om D								Т	o D				
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU	TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU	TOTAL
14:30 - 14:45	5	0	0	0	0	0	0	5.0	5	1	0	0	0	0	0	0	1.0	1
14:45 - 15:00	1	0	0	0	0	0	0	1.0	1	0	0	0	0	0	0	0	0.0	0
Hourly Total	6	0	0	0	0	0	0	6	6	1	0	0	0	0	0	0	1	1
15:00 - 15:15	0	0	0	0	0	0	0	0.0	0	0	0	0	1	0	0	0	2.3	1
15:15 - 15:30	0	0	0	0	0	0	0	0.0	0	1	0	0	0	0	0	0	1.0	1
15:30 - 15:45	1	0	0	1	0	0	0	3.3	2	0	0	0	0	0	0	0	0.0	0
15:45 - 16:00	1	0	0	0	0	0	0	1.0	1	1	0	0	0	0	0	0	1.0	1
Hourly Total	2	0	0	1	0	0	0	4	3	2	0	0	1	0	0	0	4	3
16:00 - 16:15	4	0	0	0	0	0	0	4.0	4	0	0	0	0	0	0	0	0.0	0
16:15 - 16:30	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0
16:30 - 16:45	1	1	0	0	0	0	0	2.0	2	0	0	0	0	0	0	0	0.0	0
16:45 - 17:00	2	0	0	0	0	0	0	2.0	2	0	0	0	0	0	0	0	0.0	0
Hourly Total	7	1	0	0	0	0	0	8	8	0	0	0	0	0	0	0	0	0
17:00 - 17:15	1	0	0	0	0	0	0	1.0	1	0	0	0	0	0	0	0	0.0	0
17:15 - 17:30	1	0	0	0	0	0	0	1.0	1	0	0	0	0	0	0	0	0.0	0
Hourly Total	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
Session Total	17	1	0	1	0	0	0	20	19	3	0	0	1	0	0	0	5	4

Balloch - Manual Traffic Survey: Thursday, 18 November 2021
Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: A - Old Luss Road

				A to B							A to C							A to D						A to	o A							From A						T	o A		
E	CAR	LGV	OGV1	OGV2 BU	US P/CYCLE	M/CYCLE	PCU TO	TAL CAR	LGV	OGV1	OGV2	BUS	P/CYCLE M/	CYCLE PCU TO	OTAL CAR	LGV	OGV1 OGV	2 BUS	P/CYCLE	M/CYCLE PCU	TOTAL CAR	LGV	OGV1	OGV2	BUS P/C	YCLE M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1 OGV	2 BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR LO	V OGV1	OGV2	BUS	P/CYCLE	M/CYCLE
:15	0	0	0	0 (0 0	0	0.0	3	1	0	0	0	0	0 4.0	4 29	2	1 0	0	0	1 32.9	33 0	0	0	0	0	0 0	0.0 0	07:00 - 07:15	32	3	1 0	0	0	1	36.9 37	16	0	0	0	0	0
0	0	1	1	0 (0 0	0	2.5	2	0	0	0	0	0	0 2.0	2 28	5	0 0	0	0	0 33.0	33 0	0	0	0	0	0 0	0.0 0	07:15 - 07:30	30	6	1 0	0	0	0	37.5 37	23	0	2	0	0	0
5	4	0	0	1 (0 0	0	6.3	i 3	0	0	0	0	0	0 3.0	3 34	5	0 0	1	0	0 41.0	40 0	0	0	0	0	0 0	0.0 0	07:30 - 07:45	41	5	0 1	1	0	0	50.3 48	34 1	0	0	0	0	,
	4	0	0	0 (0 0	0	4.0	8	1	0	1	0	0	0 11.3	10 30	9	0 0	0	0	0 39.0	39 0	0	0	0	0	0 0	0.0 0	07:45 - 08:00	42	10	0 1	0	0	0	54.3 53	40	1	0	1	0	, 0
	8	1	1	1 (0 0	0	13	1 16	2	0	1	0	0	0 20	19 121	21	1 0	1	0	1 146	145 0	0	0	0	0	0 0	0 0	Hourly Total	145	24	2 2	1	0	1	179 175	113 3	2 1	2	1	0	0
	2	4	0	0 (0 0	0	6.0	8	2	0	1	1	0	0 14.3	12 46	5	1 0	0	0	0 52.5	52 0	0	0	0	0	0 0	0.0	08:00 - 08:15	56	11	1 1	1	0	0	72.8 70	30	0	0	3	0	0
	2	2	0	0 (0 0	0	4.0	14	2	0	0	0	0	0 16.0	16 29	5	0 0	0	0	0 34.0	34 1	0	0	0	0	0 0	1.0 1	08:15 - 08:30	46	9	0 0	0	0	0	55.0 55	37	1	0	2	1	0
	2	1	0	0	0 0	0	3.0	25	1	0	0	0	0	0 26.0	26 43	4	1 2	1	0	0 55.1	51 0	0	0	0	0	0 0	0.0	08:30 - 08:45	70	6	1 2	1	0	0	84.1 80	44	1	0	0	0	0
	7	1	0	0	0 0	0	8.0	30	2	1	0	0	0	0 33.5	33 17	3	1 0	0	0	0 21.5	21 2	0	0	0	0	0 0	2.0 2	08:45 - 09:00	56	6	2 0	0	0	0	65.0 64	69	1	0	0	1	0
	13	8	0	0 (0 0	0	21 2	1 77	7	1	1	1	0	0 90	87 135	17	3 2	1	0	0 164	158 3	0	0	0	0	0 0	3 3	Hourly Total	228	32	4 3	2	0	0	277 269	180 3	3	0	5	2	0
	3	0	0	0 (0 0	0	3.0	27	1	0	0	0	0	0 28.0	28 22	5	0 0	0	0	0 27.0	27 2	0	0	0	0	0 0	2.0 2	09:00 - 09:15	54	6	0 0	0	0	0	60.0 60	68	0	0	1	0	0
	10	1	0	0 (0 0	0	11.0	1 16	0	0 '	0	1	0	0 18.0	17 23	5	0 1	0	0	0 30.3	29 1	0	0	0	0	0 0	1.0 1	09:15 - 09:30	50	6	0 1	1	0	0	60.3 58	55	1	2	0	0	0
	5	0	0	0 (0 0	0	5.0	14	3	1 1	0	0	0	0 18.5	18 29	3	0 0	1	0	0 34.0	33 0	0	0	0	0	0 0	0.0	09:30 - 09:45	48	6	1 0	1	0	0	57.5 56	44	0	0	2	0	0
	6	0	0	0	0 0	0	6.0	17	2	0	0	0	0	1 19.4	20 27	4	0 0	0	0	0 31.0	31 0	0	0	0	0	0 0	0.0	09:45 - 10:00	50	6	0 0	0	0	1	56.4 57	51	0	0	1	0	0
	24	1	0	0	0 0	0	25	5 74	6	1	0	1	0	1 84	83 101	17	0 1	1	0	0 122	120 3	0	0	0	0	0 0	3 3	Hourly Total	202	24	1 1	2	0	1	234 231	218	1	2	4	0	0
I	45	10	1	1 (0 0	0	59	7 167	15	2	2	2	0	1 194	189 357	55	4 3	3	0	1 432	423 6	0	0	0	0	0 0	6 6	Session Total	575	80	7 6	5	0	2	690 675	511 9	2 5	4	10	2	0
						1				T						1	Г		Т										1		1						1		T T		
	11	0	0	0 (0 0	0	11.0	1 17	2	1 0	0	0	0	1 19.4	20 39	5	0 0	0	0	0 44.0	44 2	0	0	0	0	0 0	2.0 2	16:00 - 16:15	69	7	0 0	0	0	1	76.4 77	67	0	0	1	0	0
	14	0	0	0 (0 0	0	14.0		0	0	0	0	0	0 25.0	25 25	4	0 0	1	0	1 31.4	31 4	0	0	0	0	0 0	4.0 4	16:15 - 16:30	68	4	0 0	1	0	1	74.4 74	76	1	0	0	0	0
	10	2	0	0 (0 0	0	12.0		1	0	0	0	0	0 21.0	21 25	4	0 0	0	0	0 29.0	29 0	0	0	0	0	0 0	0.0	16:30 - 16:45	55	7	0 0	0	0	0	62.0 62	73	0	0	0	0	1
	15	0	0	0 (0 0	0	15.0	5 26	0	0	0	0	0	0 26.0	26 18	3	0 0	0	0	0 21.0	21 2	0	0	0	0	0 0	2.0 2	16:45 - 17:00		3	0 0	0	0		64.0	93	1	1	1	0	0
	50	2	0	0	0 0	0	52 <u>10.0</u>	2 88	3	0	0	0	0	1 91	92 107	16	0 0	1	0		125 8	0	0	0	0	0 0	8 8	Hourly Total		21	0 0	1	0		277 277	309 2	3 2	1	2	0	1
	9	1	0	0 (0 0	0			0	0	0	1	0	0 26.0		5	0 1	0	0		39 3	1	0	0	0	0 0	4.0 4	17:00 - 17:15		7	0 1	1	0		80.3 78	83	0	0	0	0	0
5			0	0 (0 0	0	6.0 17.0	20	0	1 '	0	0	0	0 21.5 0 18.0		1	0 0	1	0		35 2	0	0	0	0	0 0	2.0 2	17:15 - 17:30		1	1 0	1	0	-		93	0	0	1	0	0
5	6	0			0 0	0	17.0		0	0	0	0	0	0 18.0		4	0 0	0	0		40 0	0	0	0	0	0 0	0.0 0	17:30 - 17:45	69	6	0 0	0	0	0	75.0 75	79	0	0	0	0	0
5 0 5	6 15	2	0	0 (1 0	0	0	0	0 27.0	27 34	2	0 1	0	0		37 2	0	0	0	0	0 0	2.0 2	17:45 - 18:00		5	0 1	0	0	0	79.3 78	82	0	0	0	0	0
	6 15 11	0 2 1	0	0 (0 0	0	12.0	2 25	2						01 126	12	0 2	1	0		151 7	1	0	0	0	0 0	8 8	Hourly Total	271	19	1 2	2	0		301 295	337 2	0	0	1	0	0
	6 15 11 41	0 2 1 4	0 0 0	0 0	0 0	0 0	12.0 °	5 87	2	1	0	1	0	0 93	31 130				1 0 1	0 47.3	46 1	0	0	0	0	0 0	1.0 1	18:00 - 18:15		7	0 1	0	0	0	84.3	66 I	1 0	1 1	1 1	0	0
	6 15 11 41 9	0 2 1 4 2	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0	12.0 45 4 11.0	5 87 1 21	2 2 4	1 0	0	0	0	0 93 0 25.0	25 44	1	0 1	U								J				<u> </u>							0	1			
5 0 5 0	6 15 11 41 9 6	0 2 1 4 2	0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	12.0 45 4 11.0 6.0	5 87 1 21 5 16	2 2 4 0	1 0 0	0 0	1 0 1	0 0	0 25.0 0 18.0	25 44	1 1	0 1	0	0	0 28.0	28 0	0	0	0	0	0 0	0.0 0	18:15 - 18:30		1	0 0	1	0	-	52.0 51	62	0	1	0	0	0
5 0 5 0 1 5 0 5 5	6 15 11 41 9 6	0 2 1 4 2 0	0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	12.0 45 11.0 6.0	5 87 1 21 5 16 1 27	2 2 4 0 0	0 0 0	0 0 0 0	1 0 1 0	0 0 0 0	0 25.0 0 18.0 0 27.0	25 44 17 27 27 20	1 1 2	0 1 0 0 0 0	0 1	0 0	0 28.0 0 24.0	28 0 23 2	0	0	0	0	0 0	0.0	18:30 - 18:45	60	2	0 0	1	0	-	52.0 51 64.0 63	62 56	0 0	1 0	0 0	0	0
5 30 45 00 1 5 30 45 30	6 15 11 41 9 6 11	0 2 1 4 2 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	12.0 45 4 11.0 6.0	5 87 1 21 5 16 1 27	2 4 0 0	0 0 0 0	0 0 0 0 0	1 0 1 0	0 0 0 0	0 25.0 0 18.0 0 27.0	25 44 17 27 27 20	1 1 2 0	0 1 0 0 0 0 0 1	<u> </u>	0 0 0	0 28.0 0 24.0	28 0 23 2	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 0 0 0	0.0 0 2.0 2	18:30 - 18:45 18:45 - 19:00	60	1 2 0	0 0 0 0 0 1	1 1 0	0 0 0	0	52.0 51 64.0 63 62.3 61	62 56 66	0 0 1	0 1	0 0 1	0 0 0	0 0 0
15 30 45 00 al 15 30 45 00 al	6 15 11 41 9 6 11 9	0 2 1 4 2 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	12.0 45 11.0 6.0	5 87 1 21 5 16 1 27	2 4 0 0 0 4	0 0 0 0	+	1 0 1 0 0	0 0 0 0 0	0 25.0 0 18.0 0 27.0	25 44 17 27 27 20	1 1 2 0 4	0 1 0 0 0 0 0 0 0 1 0 2	<u> </u>	0 0 0 0	0 28.0 0 24.0	28 0 23 2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0	0.0 0 2.0 2	18:30 - 18:45	60	1 2 0 10	0 0 0 0 0 1 0 2	1 1 0 2	0 0 0 0	0	52.0 51 64.0 63		0 0 0 1	1 0 1 3	0 0 0 1 2	0 0 0	0 0 0 0

Balloch - Manual Traffic Survey: Thursday, 18 November 2021 Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: B - A811 Lomond Road				
B to C	B to D B to	B to B	From B	To B
TIME CAR LGV OGV1 OGV2 BUS P/CYCLE M/CYCLE PCU TOTAL CAR LGV OGV1 OGV2	BUS P/CYCLE M/CYCLE PCU TOTAL CAR LGV OGV1 OGV2	BUS P/CYCLE M/CYCLE PCU TOTAL CAR LGV OGV1 OGV2 BUS P/CYCLE M/CYCLE PCU TOTAL	TIME CAR LGV OGV1 OGV2 BUS P/CYCLE M/CYCLE P	CU TOTAL CAR LGV OGV1 OGV2 BUS P/CYCLE M/CYCLE PCU TOTAL
07:00 - 07:15	1 0 1 73.4 73 4 0 0 0	0 0 0 4.0 4 0 0 0 0 0 0 0 0 0	07:00 - 07:15 85 6 1 0 3 0 1 9	3.9 96 20 5 1 4 1 0 0 37.7 31
07:15 - 07:30 10 0 0 1 0 0 12.0 11 76 9 3 2	0 0 1 94.5 91 5 2 0 0	0 0 0 7.0 7 0 0 0 0 0 0 0.0 0	07:15 - 07:30 91 11 3 2 1 0 1 1	3.5 109 33 9 1 0 4 0 0 51.5 47
07:30 - 07:45	0 0 0 99.0 99 10 4 0 0	0 0 0 14.0 14 0 0 0 0 0 0 0 0.0 0	07:30 - 07:45	2.0 131 30 16 1 1 2 0 0 53.8 50
07:45 - 08:00 24 2 0 0 1 0 0 28.0 27 59 27 2 1	0 0 0 91.3 89 13 2 0 0	0 0 0 15.0 15 1 0 0 0 0 0 1.0 1	07:45 - 08:00 97 31 2 1 1 0 0 13	5.3 132 57 12 2 4 1 0 0 83.2 76
Hourly Total 66 3 1 0 5 0 0 81 75 285 56 5 3	1 0 2 359 352 32 8 0 0	0 0 0 40 40 1 0 0 0 0 0 0 1 1	Hourly Total 384 67 6 3 6 0 2 4	80 468 140 42 5 9 8 0 0 227 204
08:00 - 08:15 34 2 2 0 2 0 43.0 40 73 19 3 0	1 0 0 98.5 96 5 1 0 0	0 0 0 6.0 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0	08:00 - 08:15	7.5 142 49 13 1 2 4 0 0 76.1 69
08:15 - 08:30 32 8 0 0 2 0 0 44.0 42 59 9 0 0	0 0 0 <mark>68.0 68</mark> 6 0 0 0	0 0 6.0 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	08:15 - 08:30 97 17 0 0 2 0 0 1	8.0 116 58 16 2 1 1 0 0 81.3 78
08:30 - 08:45 34 11 0 0 1 0 47.0 46 48 11 4 4	0 0 0 74.2 67 10 3 0 0	0 0 0 13.0 13 0 0 0 0 0 0 0 0 0 0	08:30 - 08:45 92 25 4 4 1 0 0 13	4.2 126 51 17 2 1 3 0 0 79.3 74
08:45 - 09:00	0 0 0 71.1 67 14 0 0 0	0 0 0 14.0 14 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		8.6 142 83 20 3 0 2 0 111.5 108
Hourly Total 154 25 3 0 7 0 0 198 189 226 55 10 6	1 0 0 312 298 35 4 0 0	0 0 39 39 0 0 0 0 0 0 0		49 526 241 66 8 4 10 0 0 348 329
09:00 - 09:15 38 6 0 0 2 0 1 48.4 47 57 13 1 2	0 0 0 76.1 73 18 0 0 0	0 0 0 18.0 18 1 0 0 0 0 0 1.0 1		3.5 139 61 17 3 0 1 0 0 84.5 82
09:15 - 09:30 26 5 1 0 3 0 0 38.5 35 54 10 1 1	0 0 0 67.8 66 6 2 0 0	0 0 0 8.0 8 0 0 0 0 0 0 0 0	09:15 - 09:30 86 17 2 1 3 0 0 1	4.3 109 73 17 4 3 0 0 102.9 97
09:30 - 09:45 24 4 0 0 0 0 28.0 28 52 11 0 2	0 0 0 67.6 65 8 1 0 0	0 0 0 9.0 9 0 0 0 0 0 0.0 0	09:30 - 09:45 84 16 0 2 0 0 0 10	4.6 102 52 19 2 0 3 0 0 80.0 76
09:45 - 10:00 24 3 0 0 2 0 0 31.0 29 38 14 0 1	1 0 0 56.3 54 5 0 0 0	0 0 0 5.0 5 0 0 0 0 0 0 0 0 0 0	09:45 - 10:00 67 17 0 1 3 0 0 9	2.3 88 75 12 3 1 2 0 1 98.2 94
Hourly Total	1 0 0 268 258 37 3 0 0		Hourly Total 351 69 3 6 8 0 1 4	55 438 261 65 12 4 6 0 1 365 349
Session Total 332 46 5 0 19 0 1 425 403 712 159 17 15	3 0 2 939 908 104 15 0 0	0 0 119 119 2 0 0 0 0 0 0 2 2	Session Total 1150 220 22 15 22 0 3 1	84 1432 642 173 25 17 24 0 1 940 882
16:00 - 16:15 23 3 0 0 2 0 0 30.0 28 48 8 0 0	0 0 0 56.0 56 6 1 0 0	0 0 0 7.0 7 0 0 0 0 0 0 0.0 0	16:00 - 16:15 77 12 0 0 2 0 0 9	3.0 91 127 22 1 0 0 154.5 152
16:15 - 16:30	0 0 0 35.0 35 20 0 0 0	0 0 0 20.0 20 0 0 0 0 0 0 0.0 0	16:15 - 16:30	1.0 83 144 29 2 2 3 0 0 186.6 180
16:30 - 16:45 28 3 0 0 1 0 0 33.0 32 32 3 1 1	0 0 0 <mark>38.8 37</mark> 20 1 0 0	0 0 0 21.0 21 0 0 0 0 0 0 0.0 0	16:30 - 16:45 80 7 1 1 1 0 0 9	2.8 90 120 14 4 1 2 0 0 146.3 141
16:45 - 17:00	0 0 0 49.0 49 28 0 0 0	0 0 0 28.0 28 0 0 0 0 0 0 0.0 0		4.0 101 153 17 4 1 3 0 0 184.3 178
Hourly Total 98 7 0 0 7 0 0 119 112 153 22 1 1 1	0 0 0 179 177 74 2 0 0	0 0 0 76 76 0 0 0 0 0 0 0 0	Hourly Total 325 31 1 1 7 0 0 3	74 365 544 82 11 4 10 0 0 672 651
17:00 - 17:15 23 1 0 0 2 0 0 <mark>28.0 26</mark> 40 4 0 0	0 0 0 44.0 44 21 1 0 0	0 0 0 22.0 22 1 0 0 0 0 0 1.0 1	17:00 - 17:15 85 6 0 0 2 0 0 9	5.0 93 160 29 0 2 1 0 0 195.6 192
17:15 - 17:30 32 2 0 0 2 0 0 38.0 36 56 8 0 1	0 0 0 66.3 65 12 0 0 0	0 0 0 12.0 12 0 0 0 0 0 0 0.0 0	17:15 - 17:30 100 10 0 1 2 0 0 1	6.3 113 118 13 2 2 4 0 0 146.6 139
17:30 - 17:45 34 0 0 0 1 0 0 36.0 35 41 3 0 1	0 0 0 46.3 45 21 1 0 0	0 0 0 22.0 22 0 0 0 0 0 0 0.0 0	17:30 - 17:45 96 4 0 1 1 0 0 10	4.3 102 123 15 1 2 2 0 0 148.1 143
17:45 - 18:00	0 0 0 37.5 37 26 1 0 0	0 0 0 27.0 27 2 0 0 0 0 0 2.0 2		6.5 95 105 15 0 0 1 0 0 122.0 121
Hourly Total 117 3 0 0 6 0 132 126 170 18 1 2	0 0 195 191 80 3 0 0	0 0 0 83 83 3 0 0 0 0 0 0 3 3		13 403 506 72 3 6 8 0 0 613 595
18:00 - 18:15 23 0 0 0 2 0 0 27.0 25 44 5 0 1	2 0 0 55.3 52 18 0 0 0	0 0 0 18.0 18 1 0 0 0 0 0 1.0 1	18:00 - 18:15 86 5 0 1 4 0 0 10	1.3 96 98 7 0 0 1 0 0 107.0 106
18:15 - 18:30 19 0 0 0 0 19.0 19 41 4 0 2	2 0 0 53.6 49 15 0 0 1	0 0 17.3 16 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	18:15 - 18:30 75 4 0 3 2 0 0 8	9.9 84 72 3 1 1 2 0 0 82.8 79
18:30 - 18:45 14 1 0 0 1 0 17.0 16 27 2 0 0	2 0 0 33.0 31 15 0 0 0	0 0 0 15.0 15 0 0 0 0 0 0 0 0 0 0		5.0 62 78 3 1 0 1 0 84.5 83
18:45 - 19:00 28 2 0 0 1 0 0 32.0 31 31 3 0 0	2 0 0 38.0 36 20 1 0 0	0 0 0 21.0 21 0 0 0 0 0 0 0.0 0		1.0 88 71 6 0 1 1 0 0 81.3 79
Hourly Total 84 3 0 0 4 0 0 95 91 143 14 0 3	8 0 0 180 168 68 1 0 1	0 0 71 70 1 0 0 0 0 0 1 1	Hourly Total 296 18 0 4 12 0 0 3	47 330 319 19 2 2 5 0 0 356 347
Session Total 299 13 0 0 17 0 0 346 329 466 54 2 6	8 0 0 554 536 222 6 0 1	0 0 0 230 229 4 0 0 0 0 0 0 4 4	Session Total 991 73 2 7 25 0 0 1	34 1098 1369 173 16 12 23 0 0 1641 1593

Balloch - Manual Traffic Survey: Thursday, 18 November 2021
Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: C - B857 Luss Road

		C to D							C to	A						C to B						C to C							From C	,						То С		
CAR	LGV OGV1	OGV2 BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS P/O	CYCLE M/C	CYCLE PCU	TOTAL CAR	R Lo	GV OGV1	OGV2	BUS P/CYCLI	E M/CYCLE	PCU TOTAL	CAR LGV	OGV1	OGV2	BUS P/CYCLE	M/CYCLE PCU	TOTAL	TIME (CAR LGV	OGV1	OGV2	BUS	P/CYCLE M/CYCL	LE PCU TO	TAL CAR	LGV OGV	1 OGV2	BUS	P/CYCLE I	M/CYCLE
5 51	4 2	0 2	0	0	62.0 59	7	1	0	0	0	0	0 8.0	8 7		0 1	1	1 0	0	12.8 10	2 0	0	0	0 0	0 2.0	2 07·	07:00 - 07:15	67 5	3	1	3	0 0	84.8 7	'9 49	1 2	0	2	0	0
60	6 1	0 2	0	0	71.5 69	4	1	0	0	0	0	0 5.0	5 12		0 0	0	2 0	0	16.0 14	0 0	0	0	0 0	0 0.0	0 07:	07:15 - 07:30	76 7	1	0	4	0 0	92.5 88	8 37	0 1	1	1	0	0
5 51	9 0	0 0	0	0	60.0 60	6	3	0	0	0	0	0 9.0	9 7		8 0	0	2 0	0	19.0 17	1 0	0	0	0 0	0 1.0		07:30 - 07:45	65 20	0	0	2	0 0	89.0 87	7 43	2 1	0	1	0	0
51	16 0	0 0	0	0	67.0 67	10	1	1	0	0	0	0 12.5	12 11		0 0	0	1 0	0	13.0 12	1 0	1	0	0 0	0 2.5		07:45 - 08:00	73 17	2	0	1	0 0	95.0 93	3 83	12 1	1	1	0	1
213	35 3	0 4	0	0	261 255	27	6	1	0	0	0	0 35	34 37		8 1	1	6 0	0	61 53	4 0	1	0	0 0	0 6	5 Ho	Hourly Total	281 49	6	1	10	0 0	361 34	47 212	15 5	2	5	0	1
36	8 5	2 0	0	0	56.1 51	11	3	0	0	1	0	0 16.0	15 15		2 1	0	1 0	0	20.5 19	0 0	0	0	0 0	0 0.0	0 08:	08:00 - 08:15	62 13	6	2	2	0 0	92.6 85	92	17 4	1	5	0	0
51	6 0	0 0	0	0	57.0 57	7	3	0	0	1	1	0 12.2	12 18		2 0	0	0 0	0	20.0 20	1 0	0	0	1 0	0 3.0	2 08:	08:15 - 08:30	77 11	0	0	2	1 0	92.2	150	23 2	0	4	0	0
40	6 4	0 0	0	0	52.0 50	16	3	0	0	0	0	0 19.0	19 15		3 1	1	3 0	0	27.8 23	0 0	0	0	0 0	0 0.0	0 08:	08:30 - 08:45	71 12	5	1	3	0 0	98.8 92		19 2	1	1	0	0
36	9 2	1 0	0	0	50.3 48	29	0	1	0	0	0	0 30.5	30 38		4 2	0	1 0	0	47.0 45	1 0	0	0	0 0	0 1.0	1 08:	08:45 - 09:00	104 13	5	1	1	0 0	128.8 124	24 141	19 2	0	2	0	0
163	29 11	3 0	0	0	216 206	63	9	1	0	2	1	0 78	76 86	1	11 4	1	5 0	0	115 107	2 0	0	0	1 0	0 4	3 Ho	Hourly Total	314 49	16	4	8	1 0	412 39	92 514	78 10	2	12	0	0
31	5 1	0 0	0	0	37.5 37	20	2	0	0	0	0	0 22.0	22 23		8 1	0	1 0	0	34.5 33	1 0	0	0	0 0	0 1.0	1 09:	09:00 - 09:15	75 15	2	0	1	0 0	95.0 93	115	16 2	1	2	0	1
37	9 2	1 0	0	0	51.3 49	23	2	1	0	0	0	0 26.5	26 27		8 0	0	0 0	0	35.0 35	4 0	0	0	0 0	0 4.0	4 09:	09:15 - 09:30	91 19	3	1	0	0 0	116.8 11	14 101	16 3	2	4	0	0
24	7 3	1 1	0	0	39.8 36	8	3	0	0	0	0	0 11.0	11 29		8 1	0	3 0	0	44.5 41	0 0	0	0	0 0	0 0.0	0 09:	09:30 - 09:45	61 18	4	1	4	0 0	95.3 88		20 2	1	0	0	0
28	6 2	0 0	0	0	37.0 36	17	2	0	0	1	0	0 21.0	20 21		4 0	0	2 0	0	29.0 27	0 2	0	0	0 0	0 2.0	2 09:	09:45 - 10:00	66 14	2	0	3	0 0	89.0 85	85 85	19 0	1	2	0	1
120	27 8	2 1	0	0	166 158	68	9	1	0	1	0	0 81	79 100	2	28 2	0	6 0	0	143 136	5 2	0	0	0 0	0 7	7 Ho	Hourly Total	293 66	11	2	8	0 0	397 38	80 375	71 7	5	8	0	2
496	91 22	5 5	0	0	643 619	158	24	3	0	3	1	0 194	189 223	4	47 7	2	17 0	0	319 296	11 2	1	0	1 0	0 17	15 Ses	ession Total	888 164	33	7	26	1 0	1170 1119	19 1101	164 22	9	25	0	3
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58	5 0	0 0	0	0	63.0 63	26	2	0	0	1	0	0 30.0	29 32		7 0	0	2 0	0	43.0 41	2 0	0	0	0 0	0 2.0		16:00 - 16:15	118 14	0	0	3	0 0	138.0 135	35 104	17 2	1	2	0	1
42	8 0	0 0	0	0	50.0 50		1	0	0	0	0	0 22.0	22 30		6 1	0	2 0	0	41.5 39	0 0	0	0	0 0	0 0.0	0 16:	16:15 - 16:30	93 15	1	0	2	0 0	113.5 111		1 2	0	1	0	0
60	7 0	0 0	0	0	67.0 67	19	2	0	0	0	0	0 21.0	21 42		1 1	0	1 0	0	46.5 45	2 0	0	0	0 0	0 2.0	2 16:	16:30 - 16:45	123 10	1	0	1	0 0	136.5 135		8 0	0	1	0	0
57	3 0	0 1	0	0	62.0 61	17	0	0	0	0	0	0 17.0	17 56		3 2	0	2 0		66.0 63	0 0	0	0	0 0	0 0.0		16:45 - 17:00	130 6	2	0	3	0 0	145.0 141	41 129	8 0	0	3	0	0
217	23 0	0 1	0	0	73.3 74	83	5	0	0	1	0	0 90	89 160 23 55	1	17 4	0	7 0	0	197 188	4 0	0	0	0 0	0 4		Hourly Total	464 45	4	0	9	0 0	533 522 161.3 162	22 467	34 4	1	7	0	1
64	7 1	0 0	0	2	70.0		0	0	0	0	0	2010	20 00		9 0	0	0 0	0	64.0 64	1 0	0	0	0 0	0 1.0		17:00 - 17:15		1	0	0	0 2			12 0	0	4	0	0
43	2 0	0 1	0	0	47.0 46		0	0	0	1	0		29 36		4 0	0	3 0	0	46.0 43	2 0	0	0	0 0	0 2.0		17:15 - 17:30	109 6	0	0	5	0 0	125.0 120		4 1	0	3	0	0
39	5 0	0 0	0	1	44.4 45		3	0	0	0	0	-	24 29		4 0	0	2 0	0	37.0 35	1 0	0	0	0 0	0 1.0		17:30 - 17:45	90 12	0	0	2	0 1	106.4 105		9 0	0	1	0	0
44	1 0	1 1	0	0	49.3 47		2	0	0	0	0	0 21.0	21 29		2 0	0	1 0	0	33.0 32	0 0	0	0	0 0	0 0.0		17:45 - 18:00	92 5	0	1	2	0 0	103.3 100		9 0	0	1	0	0
190	15 1	1 2	0	3	214 212	91	5	0	0	1	0		97 149		19 0	0	6 0	0	180 174	4 0	0	0	0 0	0 4	4 Ho	Hourly Total	434 39	1	1	9	0 3	496 487	87 493	34 1	0	9	0	0
59	3 0	0 0	0	0	62.0 62		0	0	0	0	0	0 16.0	16 30		2 0	0	1 0	0	34.0 33	1 0	0	0	0 0	0 1.0		18:00 - 18:15	106 5	0	0	1	0 0	113.0 112	-	11 0	0	2	0	0
	5 0	0 0	0	0	40.0 40		0	0	0	0	0		14 30		2 0	0	2 0	0	36.0 34		0	0	0 0	0 0.0		18:15 - 18:30	79 7	0	0	2	0 0	90.0 88		6 0	0	1	0	0
		0 0	0	0	31.0 31	16	2	0	0	0	0		18 32		0 0	0	1 0	0	34.0 33	1 0	0	0	0 0	0 1.0		18:30 - 18:45	78 4	0	0	1	0 0	84.0 83		4 0	0	1	0	1
	2 0			_	34.0 34	17	0	1	0	0	0	0 18.5	18 28		0 0	0	1 0	0	30.0 29	0 0	0	0	0 0	0 0.0		18:45 - 19:00	78 1	1	0	1	0 0	82.5 81		5 0	0	1	0	0
29 33	2 0 1 0	0 0	0	U	34.0 34																			The state of the s														
35 29 33 156	2 0 1 0 11 0	0 0 0 0	0	0	167 167	63	2	1	0	0	0	0 67	66 120		4 0	0	5 0	0	134 129	2 0	0	0	0 0	0 2	2 Ho	Hourly Total	341 17	1	0	5	0 0	370 364	64 372	26 0	0	5	0	1

Balloch - Manual Traffic Survey: Thursday, 18 November 2021 Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: D - A811																																													
			D to A							0	O to B							D to C							D to D									From D								To D			
TIME CAR	LGV	OGV1	OGV2 BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1 OGV2	BUS	P/CYCLE	M/CYCLE PO	CU TOTAL	CAR	LGV	OGV1	OGV2	BUS F	P/CYCLE	M/CYCLE PCU	TOTAL	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE M/CY	YCLE PCU	TOTAL CAR	R LGV	OGV1	OGV2	BUS	P/CYCLE I	M/CYCLE PC	U TOTAL
07:00 - 07:15 5	5	0	0 0	0	0	10.0 10	13	5	0	3	0	0	0	24.9 21	28	0	1 0	0	0	0 29	9.5 29	0	0	0	0	0	0	0 0.0	0	07:00 - 07:15	46	10	1	3	0	0 0	0 64.4	60 145	5 12	3	0	3	0	2 168	.3 165
07:15 - 07:30 14	4	0	2 0	0	0	22.6 20	21	8	0	0	2	0	0	33.0 31	25	0	1 1	0	0	0 28	8.8 27	0	0	0	0	0	0	0 0.0	0	07:15 - 07:30	60	12	1	3	2	0 0	0 84.4	78 164	1 20	4	2	2	0	1 19 9	.0 193
07:30 - 07:45 18	3	0	0 0	0	0	21.0 21	19	8	1	0	0	0	0	28.5 28	23	1	1 0	0	0	0 25	5.5 25	1	0	0	0	0	0	0 1.0	1	07:30 - 07:45	61	12	2	0	0	0 (0 76.0	75 171	1 28	0	0	1	0	0 201	.0 200
07:45 - 08:00 17	6	0	0 1	0	0	25.0 24	41	12	2	4	0	0	0	65.2 59	50	9	0 0	0	0	1 59	9.4 60	0	0	0	0	0	0	0 0.0	0	07:45 - 08:00	108	27	2	4	1	0 1	1 149.6	143 140	52	2	1	0	0	0 197	.3 195
Hourly Total 54	18	0	2 1	0	0	79 75	94	33	3	7	2	0	0	152 139	126	10	3 1	0	0	1 14	43 141	1	0	0	0	0	0	0 1	1	Hourly Total	275	61	6	10	3	0 1	1 374	356 620	112	9	3	6	0	3 76	753 د
08:00 - 08:15 14	5	0	0 2	0	0	23.0 21	32	7	0	2	3	0	0	49.6 44	50	13	2 0	2	0	0 70	0.0 67	1	0	0	0	0	0	0 1.0	1	08:00 - 08:15	97	25	2	2	7	0 0	0 143.6	133 156	32	9	2	1	0	0 208	1 200
08:15 - 08:30 23	3	1	0 1	0	0	29.5 28	38	12	2	1	1	0	0	57.3 54	103	13	2 0	1	0	0 12	119	2	0	0	0	0	0	0 2.0	2	08:15 - 08:30	166	28	5	1	3	0 0	0 209.8	203 141	1 20	0	0	0	0	0 161	.0 161
08:30 - 08:45 18	2	1	0 0	0	0	21.5 21	34	13	1	0	0	0	0	48.5 48	72	7	2 1	0	0	0 84	4.3 82	0	0	0	0	0	0	0 0.0	0	08:30 - 08:45	124	22	4	1	0	0 0	0 154.3	151 131	1 21	9	6	1	0	0 181	3 168
08:45 - 09:00 24	7	0	0 0	1	0	31.2 32	38	15	1	0	1	0	0	56.5 55	56	13	0 0	0	0	0 69	9.0 69	0	0	0	0	0	0	0 0.0	0	08:45 - 09:00	118	35	1	0	1	1 (0 156.7		28	6	3	0	0	0 142	9 136
Hourly Total 79	17	2	0 3	1	0	105 102	142	47	4	3	5	0	0	212 201	281	46	6 1	3	0	0 34	44 337	3	0	0	0	0	0	0 3	3	Hourly Total	505	110	12	4	11	1 0	0 664		7 101	24	11	2	0	0 69	665
09:00 - 09:15 28	5	0	0 1	0	0	35.0 34	34	9	2	0	0	0	0	46.0 45	49	9	2 1	0	0	0 63	3.3 61	1	0	0	0	0	0	0 1.0	1	09:00 - 09:15		23	4	7	1	0 0	0 145.3	141 111	1 23	2	2	0	0	0 141	3 138
09:15 - 09:30 25	3	0	2 0	0	0	32.6 30	36	8	4	3	0	0	0	56.9 51	55	11	2 2	0	0	0 73	3.6 70	0	0	0	0	0	0	0 0.0	0	09:15 - 09:30		22	6	1	0	0 0	0 163.1	151 114	24	3	3	0	0	0 149	144
09:30 - 09:45 28	3	0	0 2	0	0	35.0 33	18	11	1	0	0	0	0	30.5	36	13	1 1	0	0	0 52	2.8 51	0	0	0	0	0	0	0 0.0	0	09:30 - 09:45	82	27	2	1	2	0 (0 118.3		21	3	3	2	0	0 141	134
09:45 - 10:00 29	18	0	2 3	0	0	36.0 36	48	8	10	1	0	0	1	196 187	184	12	0 1	0	0	0 58	8.3 5/	1	1	0	0	0	0	0 1.0	1	09:45 - 10:00	121	28	3 15	11	3	0 1	1 158.5	155 93	25	10	1	1	0	0 125	3 122
Tiouriy Total 110	10	Ū	2 3	U U		133 133	130	30	10	7		0 1	ı	130 107	104	70	3 3	, v	0	0 2-	+3 <u>2</u> 33		,	Ů I	0	0	o	0 2		Tiouriy Total	701	100	10	11	3		1 303	301 423	, , , , , ,	10		3	0	0 30	330
Session Total 243	53	2	4 7	1	0	323 310	372	116	17	14	7	0	1	560 527	591	101	14 7	3	0	1 73	36 717	5	1	0	0	0	0	0 6	6	Session Total	1211	271	33	25	17	1 2	2 1623	1560 1570	0 306	43	23	11	0	3 20	17 1956
16:00 - 16:15 33	3	0	0 0	0	0	36.0 36	84	15	1	0	0	0	0	100.5	62	12	2 1	0	0	0 79	9.3	1	0	0	0	0	0	0 1.0	1	16:00 - 16:15	180	30	3	1	0	0 0	0 216.8	214 146	3 18	0	0	0	0	0 164	.0 164
16:15 - 16:30 31	6	1	0 0	0	0	38.5 38	100	23	1	2	1	0	0	131.1 127	60	0	2 0	0	0	0 63	3.0 62	0	0	0	0	0	0	0 0.0	0	16:15 - 16:30	191	29	4	2	1	0 0	0 232.6	227 95	19	0	0	1	0	1 116	.4 116
16:30 - 16:45 34	2	0	0 0	0	1	36.4 37	68	11	3	1	1	0	0	87.8 84	73	4	0 0	0	0	0 77	7.0 77	0	0	0	0	0	0	0 0.0	0	16:30 - 16:45	175	17	3	1	1	0 1	1 201.2	198 117	7 14	1	1	0	0	0 134	.8 133
16:45 - 17:00 46	5	1	1 1	0	0	56.8 54	82	14	2	1	1	0	0	103.3 100	82	8	0 0	0	0	0 90	0.0 90	0	0	0	0	0	0	0 0.0	0	16:45 - 17:00	210	27	3	2	2	0 0	0 250.1	244 120) 10	0	0	1	0	0 132	.0 131
Hourly Total 144	16	2	1 1	0	1	167 165	334	63	7	4	3	0	0	423 411	277	24	4 1	0	0	0 30	09 306	1	0	0	0	0	0	0 1	1	Hourly Total	756	103	13	6	4	0 1	1 901	883 478	61	1	1	2	0	1 54	/ 544
17:00 - 17:15 36	4	0	0 0	0	0	40.0 40	95	19	0	2	1	0	0	120.6	91	11	0 0	1	0	0 104	103	0	0	0	0	0	0	0 0.0	0	17:00 - 17:15	222	34	0	2	2	0 (0 264.6	260 137	7 16	1	1	0	0	2 157	6 157
17:15 - 17:30 51	5	0	0 0	0	0	56.0 56	76	9	2	2	1	0	0	94.6 90	75	2	0 0	1	0	0 79	9.0 78	0	0	0	0	0	0	0 0.0	0	17:15 - 17:30	202	16	2	2	2	0 (0 229.6	224 132	2 11	0	1	2	0	0 149	.3 146
17:30 - 17:45 37	4	0	0 0	0	0	41.0 41	79	9	1	2	0	0	0	94.1 91	46	9	0 0	0	0	0 55	<mark>5.0</mark> 55	0	0	0	0	0	0	0 0.0	0	17:30 - 17:45	162	22	1	2	0	0 (0 190.1	187 116	5 12	0	1	0	0	1 130	.7 130
17:45 - 18:00 35	4	0	0 0	0	0	39.0 39	63	12	0	0	0	0	0	75.0 75	73	7	0 0	0	0	0 80	<mark>0.0</mark> 80	0	0	0	0	0	0	0 0.0	0	17:45 - 18:00	171	23	0	0	0	0 (0 194.0		1 6	1	2	1	0	0 125	.1 121
Hourly Total 159	17	0	0 0	0	0	176 176	313	49	3	6	2	0	0	385 373	285	29	0 0	2	0	0 3	18 316	0	0	0	0	0	0	0 0	0	Hourly Total	757	95	3	6	4	0 0	0 879		5 45	2	5	3	0	3 56	554
18:00 - 18:15 31	0	0	1 1	0	0	35.3 33	58	3	0	0	0	0	0	61.0 61	59	7	0 0	0	0	0 66	6.0 66	0	0	0	0	0	0	0 0.0	0	18:00 - 18:15		10	0	1	1	0 0		160 147	7 9	0	2	2	0	0 164	6 160
18:15 - 18:30 33	0	0	0 0	0	0	33.0 33	36	1	1	1	0	0	0	40.8 39	58	6	0 0	0	0	0 64	64	0	0	0	0	0	0	0 0.0	0	18:15 - 18:30		7	1	1	0	0 0		136 103	3 10	0	2	2	0	0 121	ô 117
18:30 - 18:45 23	1	0	0 0	0	0	24.0 24		3	1	0	0	0	0	39.5 39		3	0 0	0	0	1 42	2.4 43	0	0	0	0	0	0	0 0.0	0	18:30 - 18:45		7	1	0	0	0 1		106 76	6	0	0	3	0	0 88	.0 85
18:45 - 19:00 25	3	0	1 1	0	0	32.3 30	34	6	0	1	0	0	0	42.3 41	47	3	0 0	0	0	0 50	0.0 50	0	0	0	0	0	0	0 0.0	0	18:45 - 19:00		12	0	2	1	0 0	0 124.6	121 92	4	0	1	2	0	0 102	3 99
Hourly Total 112	4	0	2 2	0	0	125 120	163	13	2	2	0	0	0	184 180	203	19	0 0	0	0	1 22	22 223	0	0	0	0	0	0	0 0	0	Hourly Total	478	36	2	4	2	0 1	1 530	523 418	3 29	0	5	9	0	0 47	77 461
Session Total 415	37	2	3 3	0	1	468 461	810	125	12	12	5	0	0	992 964	765	72	4 1	2	0	1 84	49 845	1	0	0	0	0	0	0 1	1	Session Total	1991	234	18	16	10	0 2	2 2310	2271 1392	2 135	3	11	14	0	4 15	7 1559

Balloch - Manual Traffic Survey: Saturday, 20 November 2021Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: A - Old Luss Road

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			1	Α	to B	_					<u> </u>	ı	A to C								A to D	1	1				,		A to A								Fro	om A							To A				
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	AL CAR	LGV	OGV	ogv2	2 BU	P/CYCLE	M/CYCLI	PCU TO	OTAL CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TO	OTAL CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV C	JGV1	OGV2	BUS P	P/CYCLE M	A/CYCLE P	U TOTAL
14:30 - 14:45	5	0	0	0	0	0	0	5.0 5	18	0	0	0	0) 2	0	18.4	20 77	2	0	0	0	0	0	79.0	79 5	0	0	0	0	0	0	5.0 5	14:30 - 14	45 105	2	0	0	0	2	0	107.4 109	104	5	0	0	1	0	0 11	1.0 110
14:45 - 15:00	4	0	0	0	0	0	0	4.0 4	23	0	0	0	0	0	0	23.0	23 65	4	0	0	0	0	0	69.0	69 5	1	0	0	0	0	0	6.0	14:45 - 15	00 97	5	0	0	0	0	0	102.0 102	121	8	0	0	0	0	1 17	9.4 130
Hourly Total	9	0	0	0	0	0	0	9 9	41	0	0	0	0	2	0	41	43 142	6	0	0	0	0	0	148 1	148 10	1	0	0	0	0	0	11 11	Hourly Tot	al 202	7	0	0	0	2	0	209 211	225	13	0	0	1	0	1 2	40 240
15:00 - 15:15	13	1	0	0	0	0	0	14.0 14	30	1	0	0	0	0	0	31.0	31 92	3	0	0	1	0	1	97.4	97 2	0	0	0	0	0	0	2.0 2	15:00 - 15:	15 137	5	0	0	1	0	1	144.4 144	82	7	0	0	0	0	0 8	<mark>.0</mark> 89
15:15 - 15:30	6	0	0	0	0	0	0	6.0	19	2	0	0	0	0	0	21.0	21 84	0	0	0	0	0	0	84.0	84 1	0	0	0	0	0	0	1.0 1	15:15 - 15:	30 110	2	0	0	0	0	0	112.0 112	85	3	0	0	0	0	0 8	88
15:30 - 15:45	8	0	0	0	0	0	0	8.0	18	3	0	0	1	0	0	23.0	22 76	1	0	0	0	0	0	77.0	77 2	0	0	0	0	0	0	2.0 2	15:30 - 15:	45 104	4	0	0	1	0	0	110.0 109	83	4	0	0	0	0	0 8	.0 87
15:45 - 16:00	6	0	0	0	0	0	0	6.0 6	26	1	0	0	0	0	0	27.0	27 78	0	0	0	0	0	0	78.0	78 2	0	0	0	0	0	0	2.0 2	15:45 - 16	00 112	1	0	0	0	0	0	113.0 113	94	6	0	0	2	0	0 11	4.0 102
Hourly Total	33	1	0	0	0	0	0	34 34	93	7	0	0	1	0	0	102	101 330	4	0	0	1	0	1	336	336 7	0	0	0	0	0	0	7 7	Hourly Tot	al 463	12	0	0	2	0	1	479 478	344	20	0	0	2	0	0 ?	<i>i</i> 8 366
16:00 - 16:15	8	0	0	0	0	0	0	8.0	32	2	0	0	0	0	0	34.0	34 72	1	0	0	0	0	0	73.0	73 2	0	0	0	0	0	0	2.0 2	16:00 - 16:	15 114	3	0	0	0	0	0	117.0 117	92	8	0	0	0	0	0 10).0 100
16:15 - 16:30	7	1	0	0	0	0	0	8.0	28	1	0	0	0	1	0	29.2	30 65	5	0	0	1	0	0	72.0	71 1	0	0	0	0	0	0	1.0 1	16:15 - 16:	30 101	7	0	0	1	1	0	110.2 110	88	2	0	0	0	0	1 9	91
16:30 - 16:45	1	0	0	0	1	0	0	3.0 2	42	0	0	0	0	0	0	42.0		0	0	0	0	0	0	61.0	61 1	0	0	0	0	0	0	1.0 1	16:30 - 16	45 105	0	0	0	1	0	0	107.0 106	87	5	0	0	0	0	0 9	4.0 92
16:45 - 17:00	2	0	0	0	0	0	0	2.0 2	35	2	0	0	0	0	1	37.4	38 39	2	0	0	1	0	0	43.0	42 2	0	0	0	0	0	0	2.0 2	16:45 - 17:	00 78	4	0	0	1	0	1	84.4 84	80	3	0	0	2	0	0 8	/ <mark>.0</mark> 85
Hourly Total	18	1	0	0	1	0	0	21 20	137	5	0	0	0	1	1	142	144 237	8	0	0	2	0	0	249 2	247 6	0	0	0	0	0	0	6 6	Hourly Tot	al 398	14	0	0	3	1	1	418 417	347	18	0	0	2	0	1 ?	ó9 368
17:00 - 17:15	8	0	0	0	0	0	0	8.0 8	40	0	0	0	0	0	0	40.0		5	0	0	0	0	0	57.0	57 5	0	0	0	0	0	0	5.0 5	17:00 - 17:	15 105	5	0	0	0	0	0	110.0 110	83	1	0	0	0	0	0 8	6.0 84
17:15 - 17:30	5	0	0	0	0	0	0	5.0 5	28	0	0	0	0	0	0	28.0	28 37	0	0	0	1	0	0	39.0	38 3	0	0	0	0	0	0	3.0 3	17:15 - 17:	30 73	0	0	0	1	0	0	75.0 74	87	5	0	0	1	0	0 9	4.0 93
Hourly Total	13	0	0	0	0	0	0	13 13	68	0	0	0	0	0	0	68	68 89	5	0	0	1	0	0	96	95 8	0	0	0	0	0	0	8 8	Hourly Tot	al 178	5	0	0	1	0	0	185 184	170	6	0	0	1	0	0 1	/8 177
Session Total	73	2	0	0	1	0	0	77 76	339	12	0	0	1	3	1	353	356 798	23	0	0	4	0	1	829	31	1	0	0	0	0	0	32 32	Session To	al 1241	38	0	0	6	3	2	1291 1290	1086	57	0	0	6	0	2 11	.ó5 1151

Balloch - Manual Traffic Survey: Saturday, 20 November 2021
Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: B - A811 Lomond Road

				В	to C								B to D							В	to A							В	B to B								F	rom B			
тіме с	AR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS P/0	CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCL
14:30 - 14:45	22	0	1	0	1	0	0	25.5 24	69	4	0	0	0	0	0	73.0 73	17	0	0	0	0	0	0	17.0 17	0	0	0	0	0	0	0	0.0	14:30 - 14:45	108	4	1	0	1	0	0	115.
14:45 - 15:00	30	2	0	0	2	0	0	36.0 34	58	3	1	0	0	0	1	62.9 63	29	0	0	0	0	0	0	29.0 29	0	0	0	0	0	0	0	0.0 0	14:45 - 15:00	117	5	1	0	2	0	1	127.
Hourly Total	52	2	1	0	3	0	0	62 58	127	7	1	0	0	0	1	136 136	46	0	0	0	0	0	0	46 46	0	0	0	0	0	0	0	0 0	Hourly Total	225	9	2	0	3	0	1	243
15:00 - 15:15	30	0	0	0	1	0	0	32.0 31	60	4	0	0	0	0	0	64.0 64	15	4	0	0	0	0	0	19.0 19	0	0	0	0	0	0	0	0.0	15:00 - 15:15	105	8	0	0	1	0	0	115.
15:15 - 15:30	35	2	0	0	1	0	0	39.0 38	55	3	0	0	0	0	1	58.4 59	20	0	0	0	0	0	0	20.0 20	0	0	0	0	0	0	0	0.0 0	15:15 - 15:30	110	5	0	0	1	0	1	117.
15:30 - 15:45	35	4	1	0	1	0	0	42.5 41	60	3	0	0	1	0	0	65.0 64	18	0	0	0	0	0	0	18.0 18	0	0	0	0	0	0	0	0.0	15:30 - 15:45	113	7	1	0	2	0	0	125
15:45 - 16:00	35	5	0	0	2	0	0	44.0 42	44	3	0	0	0	0	0	47.0 47	21	2	0	0	0	0	0	23.0 23	0	0	0	0	0	0	0	0.0 0	15:45 - 16:00	100	10	0	0	2	0	0	114
Hourly Total 1	35	11	1	0	5	0	0	158 152	219	13	0	0	1	0	1	234 234	74	6	0	0	0	0	0	80 80	0	0	0	0	0	0	0	0 0	Hourly Total	428	30	1	0	6	0	1	472
16:00 - 16:15	18	2	0	0	2	0	0	24.0 22	55	6	0	0	1	0	0	63.0 62	23	1	0	0	0	0	0	24.0 24	1	0	0	0	0	0	0	1.0 1	16:00 - 16:15	97	9	0	0	3	0	0	112.
16:15 - 16:30	26	0	0	0	0	0	0	26.0 26	38	3	0	0	0	0	0	41.0 41	14	0	0	0	0	0	0	14.0 14	0	0	0	0	0	0	0	0.0 0	16:15 - 16:30	78	3	0	0	0	0	0	81.
16:30 - 16:45	23	2	0	0	1	0	0	27.0 26	40	0	0	0	0	0	0	40.0 40	14	2	0	0	0	0	0	16.0 16	0	0	0	0	0	0	0	0.0 0	16:30 - 16:45	77	4	0	0	1	0	0	83.
16:45 - 17:00	20	0	0	0	2	0	0	24.0 22	53	2	0	0	1	0	0	57.0 56	21	1	0	0	0	0	0	22.0 22	0	0	0	0	0	0	0	0.0 0	16:45 - 17:00	94	3	0	0	3	0	0	103
Hourly Total	37	4	0	0	5	0	0	101 96	186	11	0	0	2	0	0	201 199	72	4	0	0	0	0	0	76 76	1	0	0	0	0	0	0	1 1	Hourly Total	346	19	0	0	7	0	0	37
17:00 - 17:15	19	0	0	0	2	0	0	23.0 21	40	2	0	0	0	0	0	42.0 42	17	0	0	0	0	0	0	17.0 17	1	0	0	0	0	0	0	1.0	17:00 - 17:15	77	2	0	0	2	0	0	83.
17:15 - 17:30	18	1	0	0	0	0	0	19.0 19	35	4	0	0	0	0	0	39.0 39	9	1	0	0	0	0	0	10.0 10	0	0	0	0	0	0	0	0.0	17:15 - 17:30	62	6	0	0	0	0	0	68.
Hourly Total	37	1	0	0	2	0	0	42 40	75	6	0	0	0	0	0	81 81	26	1	0	0	0	0	0	27 27	1	0	0	0	0	0	0	1 1	Hourly Total	139	8	0	0	2	0	0	15
Session Total 3	11	18	2	0	15	0	0	363 346	607	37	1	0	3	0	2	652 650	218	11	0	0	0	0	0	229 229	2	0	0	0	0	0	0	2 2	Session Total	1138	66	3	0	18	0	2	124

				Fr	om B								Т	о В				
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU	TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU	TOTAL
14:30 - 14:45	108	4	1	0	1	0	0	115.5	114	97	4	0	0	1	0	0	103.0	102
14:45 - 15:00	117	5	1	0	2	0	1	127.9	126	95	1	0	0	1	0	0	98.0	97
Hourly Total	225	9	2	0	3	0	1	243	240	192	5	0	0	2	0	0	201	199
15:00 - 15:15	105	8	0	0	1	0	0	115.0	114	85	7	0	0	2	0	0	96.0	94
15:15 - 15:30	110	5	0	0	1	0	1	117.4	117	87	5	1	0	0	0	0	93.5	93
15:30 - 15:45	113	7	1	0	2	0	0	125.5	123	84	4	0	0	2	0	1	92.4	91
15:45 - 16:00	100	10	0	0	2	0	0	114.0	112	89	8	0	0	1	0	0	99.0	98
Hourly Total	428	30	1	0	6	0	1	472	466	345	24	1	0	5	0	1	381	376
16:00 - 16:15	97	9	0	0	3	0	0	112.0	109	93	5	0	0	0	0	0	98.0	98
16:15 - 16:30	78	3	0	0	0	0	0	81.0	81	98	2	0	0	0	0	0	100.0	100
16:30 - 16:45	77	4	0	0	1	0	0	83.0	82	93	4	0	0	1	0	0	99.0	98
16:45 - 17:00	94	3	0	0	3	0	0	103.0	100	62	5	0	1	0	0	0	69.3	68
Hourly Total	346	19	0	0	7	0	0	379	372	346	16	0	1	1	0	0	366	364
17:00 - 17:15	77	2	0	0	2	0	0	83.0	81	75	7	0	0	0	0	0	82.0	82
17:15 - 17:30	62	6	0	0	0	0	0	68.0	68	84	2	0	0	1	0	0	88.0	87
Hourly Total	139	8	0	0	2	0	0	151	149	159	9	0	0	1	0	0	170	169
Cassian Tatal	1120	66	3	0	40	0	2	124F	1227	4042	E4	4	4	0	0	4	1110	1100
Session Total	1138	66	3	U	18	0		1245	1227	1042	54	1	1	9	U		1118	1108

Balloch - Manual Traffic Survey: Saturday, 20 November 2021
Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: C - B857 Luss Road

					C to D								C to A							C	to B							C to	o C								Fron	n C							-	То С			
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE P	CU TOTAL
14:30 - 14:45	36	1	0	0	0	0	0	37.0 37	16	3	0	0	0	0	0	19.0 19	35	2	0	0	1	0	0	39.0 38	0	0	0	0	0	0	0	0.0 0	14:30 - 14:45	87	6	0	0	1	0	0	95.0 94	98	3	1	0	1	2	0 10	<mark>/4.9 105</mark>
14:45 - 15:00	60	2	0	0	0	0	0	62.0 62	20	3	0	0	0	0	0	23.0 23	37	0	0	0	1	0	0	39.0 38	0	0	0	0	0	0	0	0.0	14:45 - 15:00	117	5	0	0	1	0	0	124.0 123	98	5	0	0	2	0	0 10	<mark>7.0 105 ا</mark>
Hourly Total	96	3	0	0	0	0	0	99 99	36	6	0	0	0	0	0	42 42	72	2	0	0	2	0	0	78 76	0	0	0	0	0	0	0	0 0	Hourly Total	204	11	0	0	2	0	0	219 217	196	8	1	0	3	2	0 2	_12 210
15:00 - 15:15	40	1	1	0	1	0	0	44.5 43	16	2	0	0	0	0	0	18.0 18	28	1	0	0	2	0	0	33.0 31	1	0	0	0	0	0	0	1.0	15:00 - 15:15	85	4	1	0	3	0	0	96.5 93	103	6	1	0	1	0	0 11	<mark>(2.5</mark> 111
15:15 - 15:30	47	9	0	0	0	0	0	56.0 56	21	1	0	0	0	0	0	22.0 22	21	1	0	0	0	0	0	22.0 22	0	0	0	0	0	0	0	0.0	15:15 - 15:30	89	11	0	0	0	0	0	100.0 100	115	5	2	0	1	0	1 12	2 5.4 124
15:30 - 15:45	42	2	0	0	0	0	0	44.0 44	26	3	0	0	0	0	0	29.0 29	31	0	0	0	2	0	0	35.0 33	1	0	0	0	0	0	0	1.0 1	15:30 - 15:45	100	5	0	0	2	0	0	109.0 107	104	10	1	0	2	0	0 11	19.5
15:45 - 16:00	40	3	1	0	0	0	0	44.5 44	24	1	0	0	1	0	0	27.0 26	33	1	0	0	1	0	0	36.0 35	0	0	0	0	0	0	0	0.0 0	15:45 - 16:00	97	5	1	0	2	0	0	107.5 105	122	12	1	0	2	0	0 13	<mark>9.5 137</mark>
Hourly Total	169	15	2	0	1	0	0	189 187	87	7	0	0	1	0	0	96 95	113	3	0	0	5	0	0	126 121	2	0	0	0	0	0	0	2 2	Hourly Total	371	25	2	0	7	0	0	413 405	444	33	5	0	6	0	1 4'	₄ 97 489
16:00 - 16:15	36	3	0	0	0	0	0	39.0 39	27	5	0	0	0	0	0	32.0 32	34	1	0	0	0	0	0	35.0 35	3	0	0	0	0	0	0	3.0	16:00 - 16:15	100	9	0	0	0	0	0	109.0 109	110	5	0	0	2	0	0 11	<mark>19.0 117</mark>
16:15 - 16:30	48	2	0	0	0	0	0	50.0 50	24	0	0	0	0	0	1	24.4 25	31	0	0	0	0	0	0	31.0 31	0	0	0	0	0	0	0	0.0	16:15 - 16:30	103	2	0	0	0	0	1	105.4 106	119	6	0	0	0	1	0 12	45.2 126
16:30 - 16:45	39	2	0	0	0	0	0	41.0 41	19	2	0	0	0	0	0	21.0 21	37	1	0	0	0	0	0	38.0 38	1	0	0	0	0	0	0	1.0 1	16:30 - 16:45	96	5	0	0	0	0	0	101.0 101	110	6	0	0	1	0	0 11	117
16:45 - 17:00	30	1	0	0	0	0	0	31.0 31	15	0	0	0	0	0	0	15.0 15	17	0	0	1	0	0	0	19.3 18	0	0	0	0	0	0	0	0.0	16:45 - 17:00	62	1	0	1	0	0	0	65.3 64	97	3	0	0	2	0	1 10	J <mark>4.4</mark> 103
Hourly Total	153	8	0	0	0	0	0	161 161	85	7	0	0	0	0	1	92 93	119	2	0	1	0	0	0	123 122	4	0	0	0	0	0	0	4 4	Hourly Total	361	17	0	1	0	0	1	380 380	436	20	0	0	5	1	1 4	₄ 66 463
17:00 - 17:15	26	11	0	0	0	0	0	27.0 27	26	1	0	0	0	0	0	27.0 27	22	2	0	0	0	0	0	24.0 24	0	0	0	0	0	0	0	0.0	17:00 - 17:15	74	4	0	0	0	0	0	78.0 78	86	3	0	0	2	0	0 97	3.0 91
17:15 - 17:30	24	1	0	0	0	0	0	25.0 25	20	0	0	0	1	0	0	22.0 21	17	1	0	0	1	0	0	20.0 19	0	0	0	0	0	0	0	0.0	17:15 - 17:30	61	2	0	0	2	0	0	67.0 65	72	1	0	0	0	0	0 7′	3.0 73
Hourly Total	50	2	0	0	0	0	0	52 52	46	1	0	0	1	0	0	49 48	39	3	0	0	1	0	0	44 43	0	0	0	0	0	0	0	0 0	Hourly Total	135	6	0	0	2	0	0	145 143	158	4	0	0	2	0	0 1	66 164
Session Total	468	28	2	0	1	0	0	501 499	254	21	0	0	2	0	1	279 278	343	10	0	1	8	0	0	371 362	6	0	0	0	0	0	0	6 6	Session Total	1071	59	2	1	11	0	1	1157 1145	1234	65	6	0	16	3	2 134	341 1326

Balloch - Manual Traffic Survey: Saturday, 20 November 2021
Produced by Streetwise Services Ltd.

Junction: A - Old Luss Road / B - A811 Lomond Road / C - B857 Luss Road / D - A811

Approach: D - A811

				D t									D	to B								D to C								D to I)				٦				Fr	From D							Т.				
TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTA	AL CA	AR I	_GV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOT	AL CAR	LGV	OGV1	OGV2	BUS	P/CYCI	E M/CYC	E PCU	TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	TIME	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	PCU TOTAL	CAR	LGV	OGV1	OGV2	BUS	P/CYCLE	M/CYCLE	CU TOTAL
14:30 - 14:45	66	2	0	0	1	0	0	70.0 69	57	57	2	0	0	0	0	0	59.0 5	58	3	0	0	0	0	0	61.0	61	2	0	0	0	0	0	0	2.0 2	14:30 - 14	45 183	7	0	0	1	0	0	192.0 191	184	7	0	0	0	0	0 1	191 191
14:45 - 15:00	67	4	0	0	0	0	1	71.4 72	. 54	54	1	0	0	0	0	0	55.0 5	45	3	0	0	0	0	0	48.0	48	1	0	0	0	0	0	0	1.0 1	14:45 - 1	00 167	8	0	0	0	0	1	175.4 176	184	9	1	0	0	0	1 1	4.9 195
Hourly Total	133	6	0	0	1	0	1	141 141	1 11	11	3	0	0	0	0	0	114 11	4 103	6	0	0	0	0	0	109	109	3	0	0	0	0	0	0	3 3	Hourly To	al 350	15	0	0	1	0	1	367 367	368	16	1	0	0	0	1 /	86 386
15:00 - 15:15	49	1	0	0	0	0	0	50.0 50	44	14	5	0	0	0	0	0	49.0	42	5	1	0	0	0	0	48.5	48	2	0	0	0	0	0	0	2.0 2	15:00 - 1	15 137	11	1	0	0	0	0	149.5	194	8	1	0	2	0	1 2	7 .9 206
15:15 - 15:30	43	2	0	0	0	0	0	45.0 45	60	60	4	1	0	0	0	0	65.5	61	1	2	0	0	0	1	65.4	65	0	0	0	0	0	0	0	0.0	15:15 - 1	30 164	7	3	0	0	0	1	175.9 175	186	12	0	0	0	0	1 1	<mark>8.4</mark> 199
15:30 - 15:45	37	1	0	0	0	0	0	38.0 38	45	15	4	0	0	0	0	1	49.4 5	50	3	0	0	0	0	0	53.0	53	2	1	0	0	0	0	0	3.0 3	15:30 - 1	45 134	9	0	0	0	0	1	143.4 144	180	7	0	0	1	0	0 1	3 <mark>9.0</mark> 188
15:45 - 16:00	47	3	0	0	1	0	0	52.0 51	50	50	7	0	0	0	0	0	57.0 5	7 61	6	1	0	0	0	0	68.5	68	0	0	0	0	0	0	0	0.0 0	15:45 - 10	00 158	16	1	0	1	0	0	177.5 176	162	6	1	0	0	0	0 1	<mark>3</mark> 9.5 169
Hourly Total	176	7	0	0	1	0	0	185 184	4 19	99	20	1	0	0	0	1	221 22	1 214	15	4	0	0	0	1	235	234	4	1	0	0	0	0	0	5 5	Hourly To	al 593	43	5	0	1	0	2	647 644	722	33	2	0	3	0	2	/65 762
16:00 - 16:15	40	2	0	0	0	0	0	42.0 42	: 50	50	4	0	0	0	0	0	54.0 5	57	1	0	0	0	0	0	58.0	58	1	0	0	0	0	0	0	1.0 1	16:00 - 10		7	0	0	0	0	0	155.0 155	164	10	0	0	1	0	0 1	/ <mark>6.0</mark> 175
16:15 - 16:30	49	2	0	0	0	0	0	51.0 51	60	60	1	0	0	0	0	0	61.0	65	5	0	0	0	0	0	70.0	70	0	0	0	0	0	0	0	0.0	16:15 - 10	30 174	8	0	0	0	0	0	182.0 182	151	10	0	0	1	0	0 1	<mark>3.0 162 د</mark> و
16:30 - 16:45	53	1	0	0	0	0	0	54.0 54	55	55	3	0	0	0	0	0	58.0 5	3 44	4	0	0	0	0	0	48.0	48	3	0	0	0	0	0	0	3.0 3	16:30 - 1	45 155	8	0	0	0	0	0	163.0 163	143	2	0	0	0	0	0 1	<mark>45.0</mark> 145
16:45 - 17:00	42	2	0	0	2	0	0	48.0 46	43	13	5	0	0	0	0	0	48.0 4	42	1	0	0	0	0	0	43.0	43	0	0	0	0	0	0	0	0.0 0	16:45 - 1	00 127	8	0	0	2	0	0	139.0 137	122	5	0	0	2	0	0 1	3 <mark>1.0</mark> 129
Hourly Total	184	7	0	0	2	0	0	195 193	3 20	08	13	0	0	0	0	0	221 22	1 208	11	0	0	0	0	0	219	219	4	0	0	0	0	0	0	4 4	Hourly To	al 604	31	0	0	2	0	0	639 637	580	27	0	0	4	0	0	15 611
17:00 - 17:15	35	0	0	0	0	0	0	35.0 35	44	14	5	0	0	0	0	0	49.0	27	3	0	0	0	0	0	30.0	30	2	0	0	0	0	0	0	2.0 2	17:00 - 1	15 108	8	0	0	0	0	0	116.0 116	120	8	0	0	0	0	0 1	48.0 128
17:15 - 17:30	55	4	0	0	0	0	0	59.0 59	62	52	1	0	0	0	0	0	63.0	26	0	0	0	0	0	0	26.0	26	0	0	0	0	0	0	0	0.0 0	17:15 - 1		5	0	0	0	0	0	148.0 148	96	5	0	0	1	0	0 1	J <mark>3.0</mark> 102
Hourly Total	90	4	0	0	0	0	0	94 94	10	06	6	0	0	0	0	0	112 11	2 53	3	0	0	0	0	0	56	56	2	0	0	0	0	0	0	2 2	Hourly To	al 251	13	0	0	0	0	0	264 264	216	13	0	0	1	0	0	. 31 230
Session Total	502	24	0	0 1	4	0	1	615 613	n	24	42	1	0	0		1 1	669 66	6 F70	25	1				4	640	610	12	4	0	0	0	0	0	14 14	Session T	1700	102	5	0	4		2	1017 1012	1996	90	2	0			2	(007 1080

Appendix D TRICS Reports

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Tuesday 05/04/22 Page 1 Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Calculation Reference: AUDIT-706706-220405-0406

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 06 - HOTEL, FOOD & DRINK Land Use : C - PUB/RESTAURANT Category

WEST MIDLANDS

CHESHIRE

TOTAL VEHICLES

Selected regions and areas:

WEST MIDLANDS

1 days

NORTH WEST 80

1 days

CH GM **GREATER MANCHESTER**

WW

1 days

09 **NORTH** DH

DURHAM 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Gross floor area Parameter:

200 to 525 (units: sqm) Actual Range: Range Selected by User: 175 to 600 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 10/11/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

_____ Tuesday 2 days Friday 2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 4 days **Directional ATC Count** 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre 1 Edge of Town 3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

1 Residential Zone Retail Zone 1 Out of Town 1 No Sub Category

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

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Tuesday 05/04/22 Page 2 Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection:

Use Class:

Sui Generis 4 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

 1,001 to 5,000
 1 days

 5,001 to 10,000
 1 days

 10,001 to 15,000
 1 days

 25,001 to 50,000
 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000 1 days 100,001 to 125,000 1 days 250,001 to 500,000 2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 3 days 1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 4 days

This data displays the number of selected surveys with PTAL Ratings.

Tuesday 05/04/22 Page 3

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

CHESHIRE 1 CH-06-C-02 PUB/RESTAURANT

OXFORD ROAD MACCLESFIELD

Edge of Town Centre No Sub Category

Total Gross floor area: 471 sqm

Survey date: FRIDAY 10/11/17 Survey Type: MANUAL

DH-06-C-02 PUB/RESTAURANT **DURHAM**

STADIUM WAY **BISHOP AUCKLAND** TINDALE

Edge of Town Retail Zone

Total Gross floor area: 450 sqm

Survey date: FRIDAY 31/03/17 Survey Type: MANUAL GREATER MANCHESTER GM-06-C-04 **HUNGRY HORSE**

HELSMAN LANE ROCHDALE

> Edge of Town Residential Zone

Total Gross floor area: 525 sqm

Survey date: TUESDAY 20/10/15 Survey Type: MANUAL WEST MI DLANDS

WM-06-C-02 PUB/RESTAURANT

PENNWOOD LANE WOLVERHAMPTON PENN COMMON Edge of Town Out of Town

Total Gross floor area: 200 sqm

Survey date: TUESDAY Survey Type: MANUAL 22/11/16

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

		ARRIVALS		[DEPARTURES			TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	4	412	0.425	4	412	0.243	4	412	0.668
11:00 - 12:00	4	412	1.580	4	412	0.851	4	412	2.431
12:00 - 13:00	4	412	2.855	4	412	1.337	4	412	4.192
13:00 - 14:00	4	412	1.580	4	412	2.673	4	412	4.253
14:00 - 15:00	4	412	1.215	4	412	1.640	4	412	2.855
15:00 - 16:00	4	412	1.215	4	412	0.851	4	412	2.066
16:00 - 17:00	4	412	1.883	4	412	0.668	4	412	2.551
17:00 - 18:00	4	412	2.734	4	412	1.883	4	412	4.617
18:00 - 19:00	4	412	3.281	4	412	1.883	4	412	5.164
19:00 - 20:00	4	412	2.066	4	412	2.673	4	412	4.739
20:00 - 21:00	4	412	1.883	4	412	2.248	4	412	4.131
21:00 - 22:00	4	412	1.215	4	412	2.309	4	412	3.524
22:00 - 23:00	4	412	0.851	4	412	2.916	4	412	3.767
23:00 - 24:00	4	412	0.122	4	412	0.729	4	412	0.851
Total Rates:			22.905			22.904			45.809

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected: 200 - 525 (units: sqm) Survey date date range: 01/01/14 - 10/11/17

Number of weekdays (Monday-Friday):4Number of Saturdays:0Number of Sundays:0Surveys automatically removed from selection:0Surveys manually removed from selection:0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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Page 1 VICTORIA SQUARE BIRMINGHAM Licence No: 706706

Calculation Reference: AUDIT-706706-220405-0423

Tuesday 05/04/22

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 06 - HOTEL, FOOD & DRINK Land Use Category : C - PUB/RESTAURANT

TOTAL VEHICLES

PETER BRETT ASSSOCIATES LLP

Selected regions and areas:

EAST ANGLIA SF SUFFOLK

1 days

YORKSHIRE & NORTH LINCOLNSHIRE 07

WEST YORKSHIRE WY 2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area 340 to 430 (units: sqm) Actual Range: Range Selected by User: 175 to 600 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

01/01/10 to 10/11/17 Date Range:

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

3 days Manual count 0 days Directional ATC Count

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 2 Neighbourhood Centre (PPS6 Local Centre)

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Village 1 No Sub Category 2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

Sui Generis 3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

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Tuesday 05/04/22 Page 2

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection (Cont.):

Population within 1 mile:

 1,001 to 5,000
 1 days

 15,001 to 20,000
 1 days

 25,001 to 50,000
 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

 125,001 to 250,000
 1 days

 250,001 to 500,000
 1 days

 500,001 or More
 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 1 days 1.1 to 1.5 2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 3 days

This data displays the number of selected surveys with PTAL Ratings.

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

1 SF-06-C-01 PUB/RESTAURANT SUFFOLK

BROMFORD ROAD NEAR IPSWICH SPOUGHTON

Neighbourhood Centre (PPS6 Local Centre)

Village

Total Gross floor area: 380 sqm

Survey date: SATURDAY 13/07/13 Survey Type: MANUAL

WY-06-C-02 TOBY CARVERY WEST YORKSHIRE

ROOLEY LANE BRADFORD

Suburban Area (PPS6 Out of Centre)

No Sub Category

Total Gross floor area: 430 sqm

Survey date: SATURDAY 08/12/12 Survey Type: MANUAL

WY-06-C-03 HARVESTER WEST YÖRKSHIRE

CARDIGAN FIELDS

LEEDS

Suburban Area (PPS6 Out of Centre)

No Sub Category

Total Gross floor area: 340 sqm

Survey date: SATURDAY 21/09/13 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

		ARRIVALS		[DEPARTURES			TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	1	340	0.882	1	340	0.000	1	340	0.882
09:00 - 10:00	2	360	1.111	2	360	0.278	2	360	1.389
10:00 - 11:00	3	383	1.652	3	383	1.565	3	383	3.217
11:00 - 12:00	3	383	2.000	3	383	1.130	3	383	3.130
12:00 - 13:00	3	383	4.609	3	383	2.087	3	383	6.696
13:00 - 14:00	3	383	4.435	3	383	4.261	3	383	8.696
14:00 - 15:00	3	383	3.478	3	383	5.391	3	383	8.869
15:00 - 16:00	3	383	3.478	3	383	4.522	3	383	8.000
16:00 - 17:00	3	383	3.913	3	383	2.957	3	383	6.870
17:00 - 18:00	3	383	4.261	3	383	4.435	3	383	8.696
18:00 - 19:00	3	383	3.652	3	383	3.565	3	383	7.217
19:00 - 20:00	3	383	3.826	3	383	3.217	3	383	7.043
20:00 - 21:00	3	383	1.304	3	383	2.609	3	383	3.913
21:00 - 22:00	3	383	0.435	3	383	1.478	3	383	1.913
22:00 - 23:00	3	383	0.261	3	383	1.130	3	383	1.391
23:00 - 24:00	3	383	0.000	3	383	0.609	3	383	0.609
Total Rates:			39.297			39.234			78.531

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 340 - 430 (units: sqm) Survey date date range: 01/01/10 - 10/11/17

Number of weekdays (Monday-Friday): 0
Number of Saturdays: 3
Number of Sundays: 0
Surveys automatically removed from selection: 0
Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.9.1 300322 B20.41 Database right of TRICS Consortium Limited, 2022. All rights reserved Tuesday 05/04/22 Restaurant Weekday

PETER BRETT ASSSOCIATES LLP

VICTORIA SQUARE

BIRMINGHAM

Calculation Reference: AUDIT-706706-220405-0402

Page 1

Licence No: 706706

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 06 - HOTEL, FOOD & DRINK Land Use

Category : B - RESTAURANTS

TOTAL VEHICLES

Selected regions and areas:

EAST MIDLANDS

LINCOLNSHIRE LN 1 days

06 WEST MIDLANDS

3 days

WM WEST MIDLANDS 80 **NORTH WEST**

CH CHESHIRE 1 days

SCOTLAND 11

RENFREWSHIRE

1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of seats Actual Range: 45 to 140 (units:) Range Selected by User: 42 to 170 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 25/09/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

<u>Selected survey days:</u>

Tuesday 3 days Thursday 2 days Friday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 6 days Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre 3 Neighbourhood Centre (PPS6 Local Centre) 3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone 1 Built-Up Zone 2 2 High Street No Sub Category

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Tuesday 05/04/22 TRICS 7.9.1 300322 B20.41 Database right of TRICS Consortium Limited, 2022. All rights reserved Restaurant Weekday Page 2 Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection:

Use Class:

E(b) 6 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

10,001 to 15,000 1 days 20,001 to 25,000 1 days 25,001 to 50,000 4 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

100,001 to 125,000 1 days 125,001 to 250,000 2 days 250,001 to 500,000 3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less 1 days 0.6 to 1.0 3 days 1.1 to 1.5 2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 6 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 6 days

This data displays the number of selected surveys with PTAL Ratings.

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

1 CH-06-B-01 BBQ RESTAURANT CHESHIRE

SOUTERS LANE CHESTER

Edge of Town Centre Built-Up Zone

Total Number of seats: 95

Survey date: TUESDAY 11/11/14 Survey Type: MANUAL

2 LN-06-B-01 PREZZO LI NCOLŇSHÍ RE

BRAYFORD WHARF NORTH

LINCOLN

BRAYFORD WHARF Edge of Town Centre Development Zone

Total Number of seats: 100

Survey date: TUESDAY 10/10/17 Survey Type: MANUAL

3 RF-06-B-01 INDIAN RESTAURANT RENFREWSHIRE

LINWOOD ROAD

PAISLEY

PHOENIX LEISURE PARK

Neighbourhood Centre (PPS6 Local Centre)

No Sub Category

Total Number of seats: 45

Survey date: FRIDAY 20/06/14 Survey Type: MANUAL

4 WM-06-B-05 AKBARS WEST MÍ DLÁNDS

THE BUTTS COVENTRY

Edge of Town Centre

Built-Up Zone

Total Number of seats: 140

Survey date: THURSDAY 17/11/16 Survey Type: MANUAL

WM-06-B-06 ITALIAN RESTAURANT WEST MÍ DLÁNDS

EARLSDON STREET

COVENTRY

Neighbourhood Centre (PPS6 Local Centre)

High Street

Total Number of seats: 50

Survey date: THURSDAY 24/11/16 Survey Type: MANUAL

6 WM-06-B-07 INDIAN RESTAURANT WEST MIDLANDS

AUDNAM STOURBRIDGE AUDNAM

Neighbourhood Centre (PPS6 Local Centre)

High Street

Total Number of seats: 50

Survey date: TUESDAY 28/11/17 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/B - RESTAURANTS

TOTAL VEHICLES

Calculation factor: 1 SEATS

BOLD print indicates peak (busiest) period

		ARRIVALS		[DEPARTURES	5		TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	SEATS	Rate	Days	SEATS	Rate	Days	SEATS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	50	0.020	1	50	0.020	1	50	0.040
10:00 - 11:00	3	63	0.111	3	63	0.053	3	63	0.164
11:00 - 12:00	4	73	0.097	4	73	0.055	4	73	0.152
12:00 - 13:00	4	73	0.152	4	73	0.052	4	73	0.204
13:00 - 14:00	4	73	0.155	4	73	0.159	4	73	0.314
14:00 - 15:00	4	73	0.086	4	73	0.131	4	73	0.217
15:00 - 16:00	5	68	0.026	5	68	0.062	5	68	0.088
16:00 - 17:00	6	80	0.044	6	80	0.027	6	80	0.071
17:00 - 18:00	6	80	0.094	6	80	0.033	6	80	0.127
18:00 - 19:00	6	80	0.148	6	80	0.110	6	80	0.258
19:00 - 20:00	6	80	0.146	6	80	0.127	6	80	0.273
20:00 - 21:00	6	80	0.085	6	80	0.148	6	80	0.233
21:00 - 22:00	6	80	0.029	6	80	0.094	6	80	0.123
22:00 - 23:00	6	80	0.015	6	80	0.065	6	80	0.080
23:00 - 24:00	6	80	0.006	6	80	0.048	6	80	0.054
Total Rates:			1.214			1.184			2.398

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 45 - 140 (units:) Survey date date range: 01/01/14 - 25/09/19

Number of weekdays (Monday-Friday):6Number of Saturdays:0Number of Sundays:0Surveys automatically removed from selection:0Surveys manually removed from selection:0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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VICTORIA SQUARE BIRMINGHAM PETER BRETT ASSSOCIATES LLP Licence No: 706706

Calculation Reference: AUDIT-706706-220405-0427

Page 1

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 06 - HOTEL, FOOD & DRINK Land Use

Category : B - RESTAURANTS

TOTAL VEHICLES

Selected regions and areas:

NORTH WEST CHESHIRE CH

2 days

09 NORTH

CUMBRIA CB

1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of seats 34 to 127 (units:) Actual Range: Range Selected by User: 34 to 300 (units:)

Parking Spaces Range: All Surveys Included

<u>Public Transport Provision:</u>

Selection by: Include all surveys

01/01/14 to 25/09/19 Date Range:

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 3 days Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

3

Selected Locations:

Town Centre

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

3 Built-Up Zone

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retall Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

3 days E(b)

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

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Secondary Filtering selection (Cont.):

<u>Population within 1 mile:</u> 20,001 to 25,000 2 days 25,001 to 50,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000 3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 2 days 1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 3 days

This data displays the number of selected surveys with PTAL Ratings.

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LIST OF SITES relevant to selection parameters

1 CB-06-B-01 ITALIAN RESTAURANT CUMBRIA

MARKET STREET CARLISLE

Town Centre Built-Up Zone

Total Number of seats: 78

Survey date: SATURDAY 25/06/16 Survey Type: MANUAL

2 CH-06-B-02 ITALIAN RESTAURANT CHESHIRE

MILL STREET MACCLESFIELD

Town Centre Built-Up Zone

Total Number of seats: 34

Survey date: SATURDAY 17/09/16 Survey Type: MANUAL

3 CH-06-B-03 PIZZA EXPRESS CHESHIRE

MARKET PLACE MACCLESFIELD

Town Centre Built-Up Zone

Total Number of seats: 127

Survey date: SATURDAY 11/11/17 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/B - RESTAURANTS

TOTAL VEHICLES

Calculation factor: 1 SEATS

BOLD print indicates peak (busiest) period

		ARRIVALS]	DEPARTURES	6		TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	SEATS	Rate	Days	SEATS	Rate	Days	SEATS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	3	80	0.071	3	80	0.008	3	80	0.079
11:00 - 12:00	3	80	0.046	3	80	0.050	3	80	0.096
12:00 - 13:00	3	80	0.105	3	80	0.050	3	80	0.155
13:00 - 14:00	3	80	0.054	3	80	0.054	3	80	0.108
14:00 - 15:00	3	80	0.004	3	80	0.029	3	80	0.033
15:00 - 16:00	3	80	0.021	3	80	0.033	3	80	0.054
16:00 - 17:00	3	80	0.079	3	80	0.029	3	80	0.108
17:00 - 18:00	3	80	0.117	3	80	0.084	3	80	0.201
18:00 - 19:00	3	80	0.126	3	80	0.121	3	80	0.247
19:00 - 20:00	3	80	0.167	3	80	0.134	3	80	0.301
20:00 - 21:00	3	80	0.038	3	80	0.079	3	80	0.117
21:00 - 22:00	3	80	0.029	3	80	0.075	3	80	0.104
22:00 - 23:00	3	80	0.017	3	80	0.092	3	80	0.109
23:00 - 24:00	2	81	0.000	2	81	0.006	2	81	0.006
Total Rates:			0.874			0.844			1.718

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 34 - 127 (units:)
Survey date date range: 01/01/14 - 25/09/19

Number of weekdays (Monday-Friday):0Number of Saturdays:3Number of Sundays:0Surveys automatically removed from selection:0Surveys manually removed from selection:0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Calculation Reference: AUDIT-706706-220406-0449

Licence No: 706706

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK

Category : A - HOTELS TOTAL VEHICLES

Selected regions and areas:

SOUTH WEST GLOUCESTERSHIRE GS 1 days 04 EAST ANGLIA NORFOLK NF 1 days 06 WEST MIDLANDS WW WEST MIDLANDS 1 days WORCESTERSHIRE WO 1 days YORKSHIRE & NORTH LINCOLNSHIRE 07 NY NORTH YORKSHIRE 1 days 1 days WY WEST YORKSHIRE 80 NORTH WEST LC LANCASHIRE 1 days 09 **NORTH** TV TEES VALLEY 1 days TW TYNE & WEAR 1 days 10 **WALES CARDIFF** CF 1 days **SWANSEA** SW 1 days SCOTLAND 11 HΙ HIGHLAND 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of bedrooms
Actual Range: 38 to 100 (units:)
Range Selected by User: 10 to 100 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 12/11/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday 5 days
Tuesday 1 days
Thursday 2 days
Friday 4 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 12 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre 5
Suburban Area (PPS6 Out of Centre) 3
Edge of Town 3
Neighbourhood Centre (PPS6 Local Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

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> This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

12 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

<u>Population within 1 mile:</u>	
1,001 to 5,000	1 days
5,001 to 10,000	4 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	2 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	2 days
75,001 to 100,000	2 days
125,001 to 250,000	4 days
250,001 to 500,000	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	7 davs

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 12 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 12 days

This data displays the number of selected surveys with PTAL Ratings.

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LIST OF SITES relevant to selection parameters

CARDIFF CF-06-A-03 HOLIDAY INN EXPRESS

LONGUEIL CLOSE

CARDIFF

Edge of Town Centre Residential Zone

Total Number of bedrooms: 87

Survey date: MONDAY 16/07/12 Survey Type: MANUAL **GLOUCESTERSHIRE**

GS-06-A-02 PREMIER INN **GLOUCESTER ROAD**

CHELTENHAM SPA SAINT MARKS

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Number of bedrooms: 67

Survey date: THURSDAY 28/11/13 Survey Type: MANUAL

3 HI-06-A-05 **BEST WESTERN HIGHLAND**

NESS WALK INVERNESS

Edge of Town Centre

Built-Up Zone

Total Number of bedrooms: 89

Survey date: THURSDAY 19/04/18 Survey Type: MANUAL

LC-06-A-04 **BEST WESTERN** LANCASHIRE

LEYLAND WAY LEYLAND

> Edge of Town Residential Zone

Total Number of bedrooms: 93

Survey date: FRIDAY 21/10/11 Survey Type: MANUAL

NF-06-A-04 HOTEL NORFOLK

THORPE ROAD **NORWICH** THORPE HAMLET Edge of Town Centre Built-Up Zone

Total Number of bedrooms: 38

Survey date: MONDAY 25/11/19 Survey Type: MANUAL

NY-06-A-01 ASCEND HOTEL NORTH YORKSHIRE

PARK PARADE **HARROGATE**

Edge of Town Centre Residential Zone

Total Number of bedrooms: 100

Survey date: TUESDAY 23/10/18 Survey Type: MANUAL

SW-06-A-01 IBIS **SWANSFA**

FABIAN WAY SWANSEA PORT TENNANT Edge of Town Development Zone

Total Number of bedrooms: 99

Survey date: MONDAY 07/10/19 Survey Type: MANUAL

TV-06-A-02 HOTEL TEES VALLEY 8

MARTON ROAD MIDDLESBROUGH

Suburban Area (PPS6 Out of Centre)

No Sub Category

Total Number of bedrooms: 74

Survey date: FRIDAY 18/12/09 Survey Type: MANUAL TRICS 7.9.1 300322 B20.41 Database right of TRICS Consortium Limited, 2022. All rights reserved Wednesday 06/04/22 Hotel Weekday Page 4

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LIST OF SITES relevant to selection parameters (Cont.)

9 TW-06-A-02 TRAVELODGE TYNE & WEAR

CASPER WAY GATESHEAD SWALWELL

Suburban Area (PPS6 Out of Centre)

Development Zone

Total Number of bedrooms: 60

Survey date: FRIDAY 13/11/15 Survey Type: MANUAL

0 WM-06-A-05 HOTEL WEST MIDLANDS

BIRMINGHAM ROAD BIRMINGHAM HOPWOOD

Neighbourhood Centre (PPS6 Local Centre)

Village

Total Number of bedrooms: 56

Survey date: MONDAY 09/11/15 Survey Type: MANUAL
WO-06-A-04 PREMIER INN WORCESTERSHIRE

11 WO-06-A-04 PREMIER INN GROVEWOOD ROAD

MALVERN

Edge of Town Industrial Zone

Total Number of bedrooms: 64

Survey date: FRIDAY 12/11/21 Survey Type: MANUAL

12 WY-06-A-03 TRAVELODGE WEST YÖRKSHIRE

DEAN CLOUGH HALIFAX

HALIFAX

Edge of Town Centre Development Zone

Total Number of bedrooms: 51

Survey date: MONDAY 22/10/18 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

TOTAL VEHICLES

Calculation factor: 1 BEDRMS

BOLD print indicates peak (busiest) period

	ARRIVALS			[DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	BEDRMS	Rate	Days	BEDRMS	Rate	Days	BEDRMS	Rate	
00:00 - 01:00							·			
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00	12	73	0.026	12	73	0.105	12	73	0.131	
08:00 - 09:00	12	73	0.110	12	73	0.180	12	73	0.290	
09:00 - 10:00	12	73	0.116	12	73	0.158	12	73	0.274	
10:00 - 11:00	12	73	0.073	12	73	0.104	12	73	0.177	
11:00 - 12:00	12	73	0.080	12	73	0.082	12	73	0.162	
12:00 - 13:00	12	73	0.091	12	73	0.068	12	73	0.159	
13:00 - 14:00	12	73	0.076	12	73	0.092	12	73	0.168	
14:00 - 15:00	12	73	0.088	12	73	0.081	12	73	0.169	
15:00 - 16:00	12	73	0.108	12	73	0.091	12	73	0.199	
16:00 - 17:00	12	73	0.116	12	73	0.077	12	73	0.193	
17:00 - 18:00	12	73	0.137	12	73	0.099	12	73	0.236	
18:00 - 19:00	12	73	0.174	12	73	0.098	12	73	0.272	
19:00 - 20:00	12	73	0.146	12	73	0.085	12	73	0.231	
20:00 - 21:00	12	73	0.091	12	73	0.058	12	73	0.149	
21:00 - 22:00	12	73	0.048	12	73	0.026	12	73	0.074	
22:00 - 23:00	1	74	0.081	1	74	0.068	1	74	0.149	
23:00 - 24:00	1	74	0.014	1	74	0.000	1	74	0.014	
Total Rates:			1.575			1.472			3.047	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 38 - 100 (units:)
Survey date date range: 01/01/08 - 12/11/21

Number of weekdays (Monday-Friday): 12
Number of Saturdays: 0
Number of Sundays: 0
Surveys automatically removed from selection: 1
Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

Calculation Reference: AUDIT-706706-220406-0431

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 06 - HOTEL, FOOD & DRINK Land Use

WEST MIDLANDS

Category : A - HOTELS TOTAL VEHICLES

Selected regions and areas:

SOUTH WEST

WW

DC DORSET 1 days

05 EAST MIDLANDS

1 days

DERBYSHIRE DS

06 WEST MIDLANDS

1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of bedrooms 15 to 99 (units:) Actual Range: 5 to 300 (units:) Range Selected by User:

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

01/01/01 to 12/11/21 Date Range:

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 3 days Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 1 Edge of Town 1 Free Standing (PPS6 Out of Town)

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone 1 2 No Sub Category

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection:

Use Class: C1

3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less 1 days 1,001 to 5,000 1 days 25,001 to 50,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000 1 days 1 days 125,001 to 250,000 250,001 to 500,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less 1 days 0.6 to 1.0 1 days 1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

1 days Not Known 2 days Nο

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 3 days

This data displays the number of selected surveys with PTAL Ratings.

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LIST OF SITES relevant to selection parameters

1 DC-06-A-03 HOTEL DORSET

EAST STOKE NEAR WAREHAM

BINNEGAR

Free Standing (PPS6 Out of Town)

No Sub Category

Total Number of bedrooms: 15

Survey date: SATURDAY 21/09/02 Survey Type: MANUAL

DS-06-A-03 MENZIES HOTEL DERBYSHIRE

ETWALL ROAD DERBY MICKLEOVER Edge of Town Residential Zone

Total Number of bedrooms: 99

Survey date: SATURDAY 25/07/15 Survey Type: MANUAL

3 WM-06-A-02 HOTEL WEST MÍ DLÁNDS

ST NICHOLAS STREET

COVENTRY

DRAPER'S FIELD

Suburban Area (PPS6 Out of Centre)

No Sub Category

Total Number of bedrooms: 26

Survey date: SATURDAY 18/02/06 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

Page 4

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

TOTAL VEHICLES

Calculation factor: 1 BEDRMS

BOLD print indicates peak (busiest) period

		ARRIVALS		Į.	DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	BEDRMS	Rate	Days	BEDRMS	Rate	Days	BEDRMS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	47	0.229	3	47	0.214	3	47	0.443
08:00 - 09:00	3	47	0.250	3	47	0.429	3	47	0.679
09:00 - 10:00	3	47	0.221	3	47	0.271	3	47	0.492
10:00 - 11:00	3	47	0.200	3	47	0.221	3	47	0.421
11:00 - 12:00	3	47	0.193	3	47	0.286	3	47	0.479
12:00 - 13:00	3	47	0.179	3	47	0.186	3	47	0.365
13:00 - 14:00	3	47	0.193	3	47	0.129	3	47	0.322
14:00 - 15:00	3	47	0.200	3	47	0.250	3	47	0.450
15:00 - 16:00	3	47	0.207	3	47	0.207	3	47	0.414
16:00 - 17:00	3	47	0.243	3	47	0.329	3	47	0.572
17:00 - 18:00	3	47	0.336	3	47	0.179	3	47	0.515
18:00 - 19:00	3	47	0.364	3	47	0.221	3	47	0.585
19:00 - 20:00	2	63	0.288	2	63	0.184	2	63	0.472
20:00 - 21:00	2	63	0.120	2	63	0.240	2	63	0.360
21:00 - 22:00	1	99	0.091	1	99	0.152	1	99	0.243
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.314			3.498			6.812

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 15 - 99 (units:) Survey date date range: 01/01/01 - 12/11/21

Number of weekdays (Monday-Friday): 0Number of Saturdays: 3 Number of Sundays: 0 Surveys automatically removed from selection: 0 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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Tuesday 05/04/22 Page 1 Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE Category : W - THEATRE

TOTAL VEHICLES

Selected regions and areas:

04 EAST ANGLIA

NF NORFOLK 1 days

06 WEST MIDLANDS

WK WARWICKSHIRE 2 days

09 NORTH

TW TYNE & WEAR 1 days

11 SCOTLAND

AG ANGUS 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross Floor Area

Actual Range: 400 to 1815 (units: sqm) Range Selected by User: 400 to 5750 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 19/10/13

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday 1 days Wednesday 1 days Thursday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 5 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Town Centre 4
Suburban Area (PPS6 Out of Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone 1
Built-Up Zone 4

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Tuesday 05/04/22 Page 2 Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection:

Use Class:

Sui Generis 5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

 5,001 to 10,000
 1 days

 10,001 to 15,000
 2 days

 20,001 to 25,000
 1 days

 25,001 to 50,000
 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	2 days
75,001 to 100,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	3 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 5 days

This data displays the number of selected surveys with PTAL Ratings.

Tuesday 05/04/22 Page 3

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

1 AG-07-W-01 THEATRE ANGUS

HIGH STREET ARBROATH

Town Centre Built-Up Zone

Total Gross Floor Area: 1568 sqm

Survey date: WEDNESDAY 23/05/12 Survey Type: MANUAL

NF-07-W-01 THEATRE NORFOLK

ST JOHN'S ALLEY

NORWICH

Town Centre Built-Up Zone

Total Gross Floor Area: 678 sqm

Survey date: THURSDAY 18/10/12 Survey Type: MANUAL

3 TW-07-W-01 THEATRE TYNE & WEAR

SALTWELL VIEW GATESHEAD

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Gross Floor Area: 400 sqm

Survey date: MONDAY 07/10/13 Survey Type: MANUAL

4 WK-07-W-01 THEATRE WARWIĆKŚĤIRE

VICTORIA TERRACE LEAMINGTON SPA

Town Centre Built-Up Zone

Total Gross Floor Area: 654 sqm

Survey date: THURSDAY 01/11/12 Survey Type: MANUAL

WK-07-W-02 THEATRE WARWIČKŠHIRE

BELGRADE SQUARE

COVENTRY

Town Centre Built-Up Zone

Total Gross Floor Area: 1815 sqm

Survey date: THURSDAY 17/10/13 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 07 - LEISURE/W - THEATRE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			[DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00										
08:00 - 09:00										
09:00 - 10:00	1	678	0.295	1	678	0.000	1	678	0.295	
10:00 - 11:00	2	1247	0.201	2	1247	0.080	2	1247	0.281	
11:00 - 12:00	2	1247	0.401	2	1247	0.241	2	1247	0.642	
12:00 - 13:00	3	1354	0.172	3	1354	0.246	3	1354	0.418	
13:00 - 14:00	3	1354	0.394	3	1354	0.148	3	1354	0.542	
14:00 - 15:00	3	1354	0.295	3	1354	0.271	3	1354	0.566	
15:00 - 16:00	4	1179	0.255	4	1179	0.106	4	1179	0.361	
16:00 - 17:00	4	1179	0.233	4	1179	0.170	4	1179	0.403	
17:00 - 18:00	5	1023	0.665	5	1023	0.215	5	1023	0.880	
18:00 - 19:00	5	1023	2.600	5	1023	0.274	5	1023	2.874	
19:00 - 20:00	5	1023	5.904	5	1023	0.841	5	1023	6.745	
20:00 - 21:00	5	1023	0.391	5	1023	0.196	5	1023	0.587	
21:00 - 22:00	5	1023	0.352	5	1023	0.137	5	1023	0.489	
22:00 - 23:00	5	1023	0.723	5	1023	8.113	5	1023	8.836	
23:00 - 24:00	4	1179	0.064	4	1179	1.315	4	1179	1.379	
Total Rates:			12.945			12.353			25.298	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 400 - 1815 (units: sqm) Survey date date range: 01/01/08 - 19/10/13

Number of weekdays (Monday-Friday): 5
Number of Saturdays: 0
Number of Sundays: 0
Surveys automatically removed from selection: 0
Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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Calculation Reference: AUDIT-706706-220405-0435

Tuesday 05/04/22

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 07 - LEISURE Land Use : W - THEATRE Category TOTAL VEHICLES

Selected regions and areas:

NORTH WEST

MERSEYSIDE MS 1 days

09 **NORTH**

DURHAM DH 1 days

10 **WALES**

> CF **CARDIFF** 1 days **SWANSEA** SW 1 days

SCOTLAND

ΕB CITY OF EDINBURGH 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Gross Floor Area Parameter:

Actual Range: 500 to 5750 (units: sqm) Range Selected by User: 400 to 5750 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 19/10/13

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

5 days Saturday

This data displays the number of selected surveys by day of the week.

Selected survey types:

5 days Manual count Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

5 Town Centre

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Built-Up Zone 4 High Street 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

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Tuesday 05/04/22 Page 2

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection:

Use Class:

Sui Generis 5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

 1,001 to 5,000
 1 days

 10,001 to 15,000
 1 days

 25,001 to 50,000
 3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

 100,001 to 125,000
 1 days

 125,001 to 250,000
 1 days

 250,001 to 500,000
 3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 2 days 1.1 to 1.5 3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

lo 5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 5 days

This data displays the number of selected surveys with PTAL Ratings.

Tuesday 05/04/22 Page 3

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

CARDIFF CF-07-W-01 **THEATRE**

GREYFRIARS ROAD

CARDIFF

Town Centre Built-Up Zone

Total Gross Floor Area: 2050 sqm

Survey date: SATURDAY 06/10/12 Survey Type: MANUAL

DH-07-W-01 THEATRE & CINEMA **DURHAM**

MILLENNIUM PLACE

DURHAM

Town Centre Built-Up Zone

Total Gross Floor Area: 2800 sqm

Survey date: SATURDAY 24/11/12 Survey Type: MANUAL EB-07-W-01 CITY OF EDINBURGH

THEATRE

NICOLSON STREET **EDINBURGH** SOUTH SIDE Town Centre High Street

Total Gross Floor Area: 5750 sqm

Survey date: SATURDAY 01/06/13 Survey Type: MANUAL

MS-07-W-01 THEATRE MERSEYSI DE

HOPE PLACE LIVERPOOL

> Town Centre Built-Up Zone

Total Gross Floor Area: 500 sqm

Survey date: SATURDAY Survey Type: MANUAL 15/06/13

SW-07-W-01 **THEATRE SWANSEA**

SINGLETON STREET

SWANSEA

Town Centre Built-Up Zone

Total Gross Floor Area: 3240 sqm

Survey date: SATURDAY Survey Type: MANUAL 19/10/13

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 07 - LEISURE/W - THEATRE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

		ARRIVALS		[DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00										
08:00 - 09:00										
09:00 - 10:00	1	5750	0.122	1	5750	0.000	1	5750	0.122	
10:00 - 11:00	5	2868	0.488	5	2868	0.167	5	2868	0.655	
11:00 - 12:00	5	2868	0.683	5	2868	0.314	5	2868	0.997	
12:00 - 13:00	5	2868	0.823	5	2868	0.460	5	2868	1.283	
13:00 - 14:00	5	2868	1.722	5	2868	0.579	5	2868	2.301	
14:00 - 15:00	5	2868	1.576	5	2868	0.537	5	2868	2.113	
15:00 - 16:00	5	2868	0.509	5	2868	0.356	5	2868	0.865	
16:00 - 17:00	5	2868	0.537	5	2868	2.071	5	2868	2.608	
17:00 - 18:00	5	2868	0.509	5	2868	1.158	5	2868	1.667	
18:00 - 19:00	5	2868	2.950	5	2868	0.690	5	2868	3.640	
19:00 - 20:00	4	3460	2.760	4	3460	0.636	4	3460	3.396	
20:00 - 21:00	4	3460	0.195	4	3460	0.224	4	3460	0.419	
21:00 - 22:00	4	3460	0.116	4	3460	1.380	4	3460	1.496	
22:00 - 23:00	4	3460	0.882	4	3460	5.072	4	3460	5.954	
23:00 - 24:00	1	2800	0.286	1	2800	0.536	1_	2800	0.822	
Total Rates:			14.158			14.180			28.338	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 500 - 5750 (units: sqm) Survey date date range: 01/01/08 - 19/10/13

Number of weekdays (Monday-Friday):0Number of Saturdays:5Number of Sundays:0Surveys automatically removed from selection:0Surveys manually removed from selection:0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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Holiday Accommodation Weekday
PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE

BIRMINGHAM

Calculation Reference: AUDIT-706706-220405-0436

Tuesday 05/04/22

Licence No: 706706

Page 1

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL

Category : J - HOLIDAY ACCOMMODATION

TOTAL VEHICLES

Selected regions and areas:

03 SOUTH WEST

DC DORSET 2 days

04 EAST ANGLIA

NF NORFOLK 1 days
SF SUFFOLK 1 days

06 WEST MIDLANDS

SH SHROPSHIRE 1 days

07 YORKSHIRE & NORTH LINCOLNSHIRE

NY NORTH YORKSHIRE 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of units
Actual Range: 72 to 799 (units:)
Range Selected by User: 31 to 9700 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 17/08/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday 2 days Wednesday 1 days Friday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 6 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 1
Edge of Town 2
Neighbourhood Centre (PPS6 Local Centre) 3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Village 3
Out of Town 1
No Sub Category 2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

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VICTORIA SQUARE BIRMINGHAM PETER BRETT ASSSOCIATES LLP

Secondary Filtering selection:

Use Class:

6 days n/a

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less 1 days 1,001 to 5,000 2 days 5,001 to 10,000 2 days 10,001 to 15,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000 1 days 50,001 to 75,000 3 days 75,001 to 100,000 1 days 125,001 to 250,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 3 days 1.1 to 1.5 1 days 1.6 to 2.0 2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known 2 days No 4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 6 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions Yes At least one survey within the selected data set

was undertaken at a time of Covid-19 restrictions

Page 3 PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

DORSET 1 DC-03-J-03 **CARAVAN PARK**

PRESTON ROAD **NEAR WEYMOUTH**

PRESTON

Neighbourhood Centre (PPS6 Local Centre)

Total Number of units: 799

> Survey date: FRIDAY 24/08/01 Survey Type: MANUAL

DC-03-J-04 CARAVAN PARK DORSET

PRESTON ROAD

NEAR WEYMOUTH

PRESTON

Neighbourhood Centre (PPS6 Local Centre)

Village

Total Number of units: 353

Survey date: FRIDAY 26/07/02 Survey Type: MANUAL

NF-03-J-02 **CAMPING** NORFOLK

WHITLINGHAM LANE

NORWICH WHITLINGHAM Edge of Town Out of Town

Total Number of units:

17/08/21 Survey date: TUESDAY Survey Type: MANUAL NY-03-J-01 **CAMPING & CARAVANNING** NORTH YORKSHIRE

BAR LANE

NEAR BOROUGHBRIDGE

ROECLIFFE

Neighbourhood Centre (PPS6 Local Centre)

Village

Total Number of units: 163

Survey date: TUESDAY 16/09/08 Survey Type: MANUAL

5 SF-03-J-01 CARAVAN PARK SUFFOLK

WALTON AVENUE **FELIXSTOWE**

Suburban Area (PPS6 Out of Centre)

No Sub Category

Total Number of units: 300

Survey date: WEDNESDAY 28/05/08 Survey Type: MANUAL

SH-03-J-01 SHROPSHI RE CARAVAN PARK

WELSHPOOL ROAD **SHREWSBURY BICTON HEATH** Edge of Town No Sub Category

Total Number of units: 115

Survey date: FRIDAY 26/06/09 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Page 4

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION

TOTAL VEHICLES

Calculation factor: 1 UNITS

BOLD print indicates peak (busiest) period

		ARRIVALS		[DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	UNITS	Rate	Days	UNITS	Rate	Days	UNITS	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00	6	300	0.011	6	300	0.017	6	300	0.028	
08:00 - 09:00	6	300	0.033	6	300	0.037	6	300	0.070	
09:00 - 10:00	6	300	0.044	6	300	0.077	6	300	0.121	
10:00 - 11:00	6	300	0.049	6	300	0.157	6	300	0.206	
11:00 - 12:00	6	300	0.062	6	300	0.156	6	300	0.218	
12:00 - 13:00	6	300	0.068	6	300	0.107	6	300	0.175	
13:00 - 14:00	6	300	0.068	6	300	0.088	6	300	0.156	
14:00 - 15:00	6	300	0.099	6	300	0.070	6	300	0.169	
15:00 - 16:00	6	300	0.099	6	300	0.079	6	300	0.178	
16:00 - 17:00	6	300	0.113	6	300	0.091	6	300	0.204	
17:00 - 18:00	6	300	0.144	6	300	0.095	6	300	0.239	
18:00 - 19:00	6	300	0.118	6	300	0.083	6	300	0.201	
19:00 - 20:00	4	163	0.046	4	163	0.040	4	163	0.086	
20:00 - 21:00	4	163	0.038	4	163	0.014	4	163	0.052	
21:00 - 22:00	3	193	0.016	3	193	0.016	3	193	0.032	
22:00 - 23:00										
23:00 - 24:00										
Total Rates:			1.008			1.127			2.135	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

72 - 799 (units:) Trip rate parameter range selected: Survey date date range: 01/01/01 - 17/08/21

Number of weekdays (Monday-Friday): 8 Number of Saturdays: 0 Number of Sundays: 0 Surveys automatically removed from selection: 0 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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VICTORIA SQUARE **BIRMINGHAM** PETER BRETT ASSSOCIATES LLP

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 03 - RESIDENTIAL : J - HOLIDAY ACCOMMODATION Category

TOTAL VEHICLES

Selected regions and areas:

SOUTH WEST 03

> DC DORSET 1 days

10 **WALES**

Land Use

BRIDGEND BG 1 days

SCOTLAND 11

MO MORAY 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Number of units Parameter: Actual Range: 295 to 2700 (units:) 31 to 9700 (units:) Range Selected by User: Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 17/08/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

3 days Saturday

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 3 days **Directional ATC Count** 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town 2 Neighbourhood Centre (PPS6 Local Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone 1 Village 1 No Sub Category

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE

Use Class:

3 days n/a

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

Secondary Filtering selection:

All Surveys Included

Population within 1 mile:

1,001 to 5,000 1 days 5,001 to 10,000 2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000 1 days 1 days 25,001 to 50,000 50,001 to 75,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 2 days 1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known 1 days 2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

Covid-19 Restrictions

No PTAL Present 3 days

This data displays the number of selected surveys with PTAL Ratings.

Yes At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions TRICS 7.9.1 300322 B20.41 Database right of TRICS Consortium Limited, 2022. All rights reserved Tuesday 05/04/22 Holiday Accommodation Sat Page 3

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

1 BG-03-J-01 CARAVAN PARK BRIDGEND

BAY VIEW ROAD PORTHCAWL

Edge of Town Residential Zone

Total Number of units: 2700

Survey date: SATURDAY 20/09/08 Survey Type: MANUAL

2 DC-03-J-04 CARAVAN PARK DORSET

PRESTON ROAD
NEAR WEYMOUTH

PRESTON

Neighbourhood Centre (PPS6 Local Centre)

Village

Total Number of units: 353

Survey date: SATURDAY 27/07/02 Survey Type: MANUAL

3 MO-03-J-01 CARAVAN PARK MORAY

EAST BEACH

NAIRN

Edge of Town No Sub Category

Total Number of units: 295

Survey date: SATURDAY 17/07/21 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION

TOTAL VEHICLES

Calculation factor: 1 UNITS

BOLD print indicates peak (busiest) period

		ARRIVALS		Ţ	DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	UNITS	Rate	Days	UNITS	Rate	Days	UNITS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	1116	0.008	3	1116	0.015	3	1116	0.023
08:00 - 09:00	3	1116	0.024	3	1116	0.040	3	1116	0.064
09:00 - 10:00	3	1116	0.055	3	1116	0.083	3	1116	0.138
10:00 - 11:00	3	1116	0.086	3	1116	0.104	3	1116	0.190
11:00 - 12:00	3	1116	0.097	3	1116	0.076	3	1116	0.173
12:00 - 13:00	3	1116	0.127	3	1116	0.083	3	1116	0.210
13:00 - 14:00	3	1116	0.137	3	1116	0.092	3	1116	0.229
14:00 - 15:00	3	1116	0.137	3	1116	0.087	3	1116	0.224
15:00 - 16:00	3	1116	0.122	3	1116	0.080	3	1116	0.202
16:00 - 17:00	3	1116	0.106	3	1116	0.092	3	1116	0.198
17:00 - 18:00	3	1116	0.107	3	1116	0.117	3	1116	0.224
18:00 - 19:00	3	1116	0.078	3	1116	0.090	3	1116	0.168
19:00 - 20:00	2	1498	0.054	2	1498	0.063	2	1498	0.117
20:00 - 21:00	2	1498	0.041	2	1498	0.045	2	1498	0.086
21:00 - 22:00	1	2700	0.029	1	2700	0.024	1	2700	0.053
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.208			1.091			2.299

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 295 - 2700 (units:) Survey date date range: 01/01/01 - 17/08/21

Number of weekdays (Monday-Friday):0Number of Saturdays:3Number of Sundays:0Surveys automatically removed from selection:0Surveys manually removed from selection:0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Calculation Reference: AUDIT-706706-220406-0402

Licence No: 706706

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE Category : C - LEISURE CENTRE

TOTAL VEHICLES

Selected regions and areas:

SOUTH WEST BR **BRISTOL CITY** 1 days DC DORSET 1 days EAST ANGLIA 04 CA CAMBRIDGESHIRE 2 days 05 EAST MIDLANDS LEICESTERSHIRE ΙF 1 days NOTTINGHAMSHIRE 1 days 06 WEST MIDLANDS WM WEST MIDLANDS 1 days WO WORCESTERSHIRE 1 days 80 NORTH WEST **MERSEYSIDE** MS 1 days 09 NORTH DH **DURHAM** 1 days TW TYNE & WEAR 2 days 10 **WALES CARDIFF** CF 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

POWYS

ANGUS

SCOTLAND

PS

AG

11

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

1 days

1 days

Parameter: Site area

Actual Range: 0.36 to 4.80 (units: hect)
Range Selected by User: 0.17 to 5. (units: hect)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 16/10/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

 Monday
 3 days

 Tuesday
 3 days

 Wednesday
 4 days

 Thursday
 4 days

 Friday
 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 15 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 7
Edge of Town 6
Neighbourhood Centre (PPS6 Local Centre) 2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

n/a 13 days E(d)1 days F2(d) 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	3 days
10,001 to 15,000	3 days
15,001 to 20,000	3 days
20,001 to 25,000	2 days
25,001 to 50,000	4 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	2 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	5 days
500,001 or More	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	5 days
1.1 to 1.5	8 days
1.6 to 2.0	1 davs

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

15 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 15 days

This data displays the number of selected surveys with PTAL Ratings.

Wednesday 06/04/22 TRICS 7.9.1 300322 B20.41 Database right of TRICS Consortium Limited, 2022. All rights reserved Leisure Centre Weekday Page 3

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

ANGUS AG-07-C-01 LEI SURE CENTRE A92 MONTROSE ROAD **ARBROATH**

Suburban Area (PPS6 Out of Centre)

Residential Zone

WARDDYKES

Total Site area: 0.92 hect

Survey date: WEDNESDAY 23/05/12 Survey Type: MANUAL BR-07-C-01 SWIMMING POOL **BRISTOL CITY**

JUBILEE ROAD **BRISTOL KNOWLE**

Suburban Area (PPS6 Out of Centre)

Residential Zone

0.36 hect Total Site area:

Survey date: MONDAY 26/10/09 Survey Type: MANUAL CAMBRI DGÉSHI RE

CA-07-C-01 SWIMMING POOL POOL WAY CAMBRIDGE

COLDHAM'S COMMON

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Site area: 0.44 hect

Survey date: MONDAY 19/10/09 Survey Type: MANUAL CAMBRI DGESHI RE

CA-07-C-02 LEISURE CENTRE BACK LANE

CAMBOURNE

Edge of Town Residential Zone

1.49 hect Total Site area:

Survey date: THURSDAY 07/06/18 Survey Type: MANUAL

CF-07-C-01 LEISURE CENTRE CARDIFF

JIM DRISCOLL WAY **CARDIFF**

WINDSOR QUAY

Suburban Area (PPS6 Out of Centre)

Residential Zone

0.60 hect Total Site area:

Survey date: WEDNESDAY 18/07/12 Survey Type: MANUAL

DC-07-C-06 LEISURE CENTRE **DORSET**

MILLDOWN ROAD **BLANDFORD FORUM**

Edge of Town No Sub Category

Total Site area: 3.50 hect

Survey date: MONDAY 07/07/08 Survey Type: MANUAL

DH-07-C-01 LEI SURE CENTRE DURHAM

ABBEY ROAD **DURHAM** PITY ME Edge of Town No Sub Category Total Site area:

0.55 hect

Survey date: THURSDAY 04/12/08 Survey Type: MANUAL LEI CESTERSHI RE

LE-07-C-01 SWIMMING POOL STATION ROAD **LEICESTER** WIGSTON Edge of Town No Sub Category

Total Site area: 0.46 hect

Survey date: WEDNESDAY 24/06/09 Survey Type: MANUAL Leisure Centre Weekday

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Licence No: 706706

LIST OF SITES relevant to selection parameters (Cont.)

9 MS-07-C-03 SWIMMING POOL MERSEYSIDE

WELLINGTON ROAD LIVERPOOL

WAVERTREE SPORTS PK

Neighbourhood Centre (PPS6 Local Centre)

Commercial Zone

Total Site area: 1.80 hect

Survey date: TUESDAY 07/09/10 Survey Type: MANUAL
10 NT-07-C-05 LEISURE CENTRE NOTTINGHAMSHIRE

O NT-07-C-05 LEI SURE CENTRE DENMAN STREET CENTRAL

NOTTINGHAM

RADFORD Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Site area: 0.64 hect

Survey date: FRIDAY 02/12/16 Survey Type: MANUAL

11 PS-07-C-01 LEISURE CENTRE POWYS

PLANTATION LANE

NEWTOWN GARTH OWEN

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Site area: 4.80 hect

Survey date: THURSDAY 16/10/08 Survey Type: MANUAL

2 TW-07-C-02 SWIM. POOL TYNE & WEAR

NORTH ROAD NORTH SHIELDS

PRESTON

Neighbourhood Centre (PPS6 Local Centre)

Residential Zone

Total Site area: 1.03 hect

Survey date: TUESDAY 09/11/10 Survey Type: MANUAL

3 TW-07-C-03 LEISURE CENTRE TYNE & WEAR

ALEXANDRA ROAD GATESHEAD

MOUNT PLEASANT Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Site area: 3.01 hect

Survey date: WEDNESDAY 01/05/19 Survey Type: MANUAL

14 WM-07-C-02 LEISURE CENTRE WEST MIDLANDS

BEECHES ROAD BIRMINGHAM

Edge of Town Residential Zone

Total Site area: 3.10 hect

Survey date: THURSDAY 26/09/19 Survey Type: MANUAL
15 WO-07-C-04 SWIMMING POOL WORCESTERSHIRE

15 WO-07-C-04 SWIMMING POOL WEIR LANE

WORCESTER

Edge of Town Industrial Zone

Total Site area: 0.63 hect

Survey date: TUESDAY 30/06/09 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Page 5 Licence No: 706706

TRIP RATE for Land Use 07 - LEISURE/C - LEISURE CENTRE

TOTAL VEHICLES

Calculation factor: 1 hect

BOLD print indicates peak (busiest) period

		ARRIVALS		[DEPARTURES		TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	AREA	Rate	Days	AREA	Rate	Days	AREA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	11	1.80	4.856	11	1.80	0.354	11	1.80	5.210
07:00 - 08:00	14	1.62	8.491	14	1.62	4.136	14	1.62	12.627
08:00 - 09:00	15	1.56	9.001	15	1.56	7.930	15	1.56	16.931
09:00 - 10:00	15	1.56	12.259	15	1.56	7.673	15	1.56	19.932
10:00 - 11:00	15	1.56	10.373	15	1.56	9.816	15	1.56	20.189
11:00 - 12:00	15	1.56	10.416	15	1.56	12.816	15	1.56	23.232
12:00 - 13:00	15	1.56	10.930	15	1.56	10.930	15	1.56	21.860
13:00 - 14:00	15	1.56	10.244	15	1.56	10.030	15	1.56	20.274
14:00 - 15:00	15	1.56	8.873	15	1.56	8.315	15	1.56	17.188
15:00 - 16:00	15	1.56	12.730	15	1.56	8.530	15	1.56	21.260
16:00 - 17:00	15	1.56	20.789	15	1.56	14.316	15	1.56	35.105
17:00 - 18:00	15	1.56	24.432	15	1.56	22.975	15	1.56	47.407
18:00 - 19:00	15	1.56	24.646	15	1.56	26.790	15	1.56	51.436
19:00 - 20:00	15	1.56	18.131	15	1.56	19.074	15	1.56	37.205
20:00 - 21:00	15	1.56	8.744	15	1.56	15.902	15	1.56	24.646
21:00 - 22:00	14	1.56	3.022	14	1.56	14.286	14	1.56	17.308
22:00 - 23:00	4	1.87	0.801	4	1.87	4.272	4	1.87	5.073
23:00 - 24:00	1	0.92	0.000	1	0.92	0.000	1	0.92	0.000
Total Rates:			198.738			198.145			396.883

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 0.36 to 4.80 (units: hect) Survey date date range: 01/01/08 - 16/10/21

Number of weekdays (Monday-Friday): 15 Number of Saturdays: 0 Number of Sundays: 0 Surveys automatically removed from selection: 0 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

Calculation Reference: AUDIT-706706-220406-0430

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE Category : C - LEISURE CENTRE

TOTAL VEHICLES

Selected regions and areas:

4 EAST ANGLI A NF NORFOLK 1 days

YORKSHIRE & NORTH LINCOLNSHIRE

NY NORTH YORKSHIRE 1 days

09 NORTH

07

TW TYNE & WEAR 1 days

11 SCOTLAND

EB CITY OF EDINBURGH 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Site area

Actual Range: 1.10 to 2.30 (units: hect)
Range Selected by User: 0.17 to 5 (units: hect)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 16/10/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 4 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 4 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre 1
Suburban Area (PPS6 Out of Centre) 2
Edge of Town 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone 2
Built-Up Zone 1
Out of Town 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection:

Use Class:

n/a 2 days 1 days E(d) F2(d) 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

10,001 to 15,000 2 days 20,001 to 25,000 1 days 50,001 to 100,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000 2 days 125,001 to 250,000 1 days 250,001 to 500,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 2 days 1.1 to 1.5 2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

4 days Nο

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 4 days

This data displays the number of selected surveys with PTAL Ratings.

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PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

1 EB-07-C-02 SWIMMING POOL CITY OF EDINBURGH

LEITH WALK EDINBURGH LEITH

Suburban Area (PPS6 Out of Centre)

Built-Up Zone

Total Site area: 1.10 hect

Survey date: SATURDAY 30/10/10 Survey Type: MANUAL

2 NF-07-C-03 LEISURE CENTRE NORFOLK

NORWICH ROAD WYMONDHAM

Edge of Town Centre Residential Zone

Total Site area: 1.22 hect

Survey date: SATURDAY 09/11/19 Survey Type: MANUAL
NY-07-C-02 LEISURE CENTRE NORTH YORKSHIRE

GARGRAVE ROAD

SKIPTON

Edge of Town Out of Town

Total Site area: 2.30 hect

Survey date: SATURDAY 09/03/19 Survey Type: MANUAL

TW-07-C-04 LEISURE CENTRE TYNE & WEAR

THE LINKS WHITLEY BAY

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Site area: 1.50 hect

Survey date: SATURDAY 16/10/21 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Page 4 Licence No: 706706

TRIP RATE for Land Use 07 - LEISURE/C - LEISURE CENTRE

TOTAL VEHICLES

Calculation factor: 1 hect

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	AREA	Rate	Days	AREA	Rate	Days	AREA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	1.22	1.639	1	1.22	0.000	1	1.22	1.639
06:00 - 07:00	1	1.22	17.213	1	1.22	0.820	1	1.22	18.033
07:00 - 08:00	2	1.36	30.515	2	1.36	4.044	2	1.36	34.559
08:00 - 09:00	3	1.67	40.637	3	1.67	17.729	3	1.67	58.366
09:00 - 10:00	4	1.53	42.974	4	1.53	34.477	4	1.53	77.451
10:00 - 11:00	4	1.53	45.588	4	1.53	39.216	4	1.53	84.804
11:00 - 12:00	4	1.53	41.340	4	1.53	52.614	4	1.53	93.954
12:00 - 13:00	4	1.53	30.065	4	1.53	41.013	4	1.53	71.078
13:00 - 14:00	4	1.53	33.824	4	1.53	29.739	4	1.53	63.563
14:00 - 15:00	4	1.53	36.275	4	1.53	30.882	4	1.53	67.157
15:00 - 16:00	4	1.53	34.641	4	1.53	29.739	4	1.53	64.380
16:00 - 17:00	4	1.53	15.196	4	1.53	31.699	4	1.53	46.895
17:00 - 18:00	3	1.27	14.921	3	1.27	22.251	3	1.27	37.172
18:00 - 19:00	2	1.36	9.926	2	1.36	30.147	2	1.36	40.073
19:00 - 20:00	1	1.22	2.459	1	1.22	12.295	1	1.22	14.754
20:00 - 21:00	1	1.22	1.639	1	1.22	13.934	1	1.22	15.573
21:00 - 22:00	1	1.22	0.000	1	1.22	0.000	1	1.22	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			398.852			390.599			789.451

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 1.10 to 2.30 (units: hect) Survey date date range: 01/01/08 - 16/10/21

Number of weekdays (Monday-Friday): 0Number of Saturdays: 4 Number of Sundays: 0 Surveys automatically removed from selection: 0 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Tuesday 05/04/22 Page 1

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE **BIRMINGHAM** Licence No: 706706

Calculation Reference: AUDIT-706706-220405-0422

TRIP RATE CALCULATION SELECTION PARAMETERS:

: 02 - EMPLOYMENT Land Use Category : A - OFFICE

TOTAL VEHICLES

Selected regions and areas:

EAST ANGLIA NF NORFOLK 2 days EAST MIDLANDS 05 DS DERBYSHIRE 1 days 07 YORKSHIRE & NORTH LINCOLNSHIRE WY WEST YORKSHIRE 1 days **NORTH WEST** 80 GREATER MANCHESTER GM 1 days MS MERSEYSIDE 1 days 09 NORTH CB **CUMBRIA** 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area

500 to 1230 (units: sqm) Actual Range: 350 to 1400 (units: sqm) Range Selected by User:

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

01/01/14 to 11/11/21 Date Range:

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday 2 days Tuesday 2 days Wednesday 1 days Thursday 1 days Friday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 7 days Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre 3 Suburban Area (PPS6 Out of Centre) 2 Edge of Town 2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 1 2 Commercial Zone Residential Zone 1 No Sub Category 3

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

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Tuesday 05/04/22 Page 2 Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

Secondary Filtering selection:

Use Class:

Not Known 6 days E(c) 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

 1,001 to 5,000
 1 days

 15,001 to 20,000
 3 days

 20,001 to 25,000
 2 days

 25,001 to 50,000
 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0 6 days 1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 7 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 7 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions Yes At least one survey within the selected data set

was undertaken at a time of Covid-19 restrictions

Tuesday 05/04/22 Page 3

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM Licence No: 706706

LIST OF SITES relevant to selection parameters

1 CB-02-A-02 OFFICE CUMBRIA

PORT ROAD CARLISLE

Edge of Town Centre Industrial Zone

Total Gross floor area: 925 sqm

Survey date: FRIDAY 24/06/16 Survey Type: MANUAL

2 DS-02-A-02 REAL ESTATE DEVELOPERS DERBYSHIRE

PRIME PARKWAY

DERBY

Edge of Town Centre No Sub Category

Total Gross floor area: 594 sqm

Survey date: THURSDAY 21/10/21 Survey Type: MANUAL
3 GM-02-A-10 ACCOUNTANTS GREATER MANCHESTER

CHORLEY NEW ROAD

BOLTON HEATON

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Gross floor area: 500 sgm

Survey date: MONDAY 19/04/21 Survey Type: MANUAL

4 MS-02-A-03 HOMES DEVELOPER MERSEYSI DÉ

ALDERMAN ROAD LIVERPOOL

Suburban Area (PPS6 Out of Centre)

No Sub Category

Total Gross floor area: 1200 sqm

Survey date: TUESDAY 20/04/21 Survey Type: MANUAL

5 NF-02-A-02 FINANCIAL PLANNERS NORFOLK

NORTH QUAY GREAT YARMOUTH

Edge of Town Centre Commercial Zone

Total Gross floor area: 894 sqm

Survey date: MONDAY 11/09/17 Survey Type: MANUAL

6 NF-02-A-04 BUILDING CONSULTANT NORFOLK

WHITING ROAD NORWICH

Edge of Town Commercial Zone

Total Gross floor area: 500 sqm

Survey date: WEDNESDAY 13/11/19 Survey Type: MANUAL WY-02-A-05 OFFICES WEST YORKSHIRE

PIONEER WAY CASTLEFORD WHITWOOD Edge of Town No Sub Category

Total Gross floor area: 1230 sqm

Survey date: TUESDAY 23/05/17 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Licence No: 706706

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 00:30				,			,		
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	7	835	0.222	7	835	0.017	7	835	0.239
07:30 - 08:00	7	835	0.513	7	835	0.017	7	835	0.530
08:00 - 08:30	7	835	1.660	7	835	0.188	7	835	1.848
08:30 - 09:00	7	835	1.130	7	835	0.154	7	835	1.284
09:00 - 09:30	7	835	0.702	7	835	0.188	7	835	0.890
09:30 - 10:00	7	835	0.240	7	835	0.120	7	835	0.360
10:00 - 10:30	7	835	0.240	7	835	0.120	7	835	0.300
10:30 - 11:00	7	835	0.203	7	835	0.103	7	835	0.323
11:00 - 11:30	7	835	0.171	7	835	0.103	7	835	0.274
11:30 - 12:00	7	835	0.068	7	835	0.120	7	835	0.166
	7	835	0.154	7			7	835	0.462
12:00 - 12:30					835	0.548			
12:30 - 13:00	7	835	0.411	7	835	0.496	7	835	0.907
13:00 - 13:30	7	835	0.394	7	835	0.325		835	0.719
13:30 - 14:00	7	835	0.462	7	835	0.222	7	835	0.684
14:00 - 14:30	7	835	0.137	7	835	0.120	7	835	0.257
14:30 - 15:00	7	835	0.068	7	835	0.137	7	835	0.205
15:00 - 15:30	7	835	0.171	7	835	0.188	7	835	0.359
15:30 - 16:00	7	835	0.068	7	835	0.274	7	835	0.342
16:00 - 16:30	7	835	0.086	7	835	0.325	7	835	0.411
16:30 - 17:00	7	835	0.188	7	835	0.993	7	835	1.181
17:00 - 17:30	7	835	0.137	7	835	1.266	7	835	1.403
17:30 - 18:00	7	835	0.086	7	835	0.821	7	835	0.907
18:00 - 18:30	6	769	0.065	6	769	0.390	6	769	0.455
18:30 - 19:00	6	769	0.022	6	769	0.152	6	769	0.174
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			7.514			7.592		·	15.106

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

PETER BRETT ASSSOCIATES LLP VICTORIA SQUARE BIRMINGHAM

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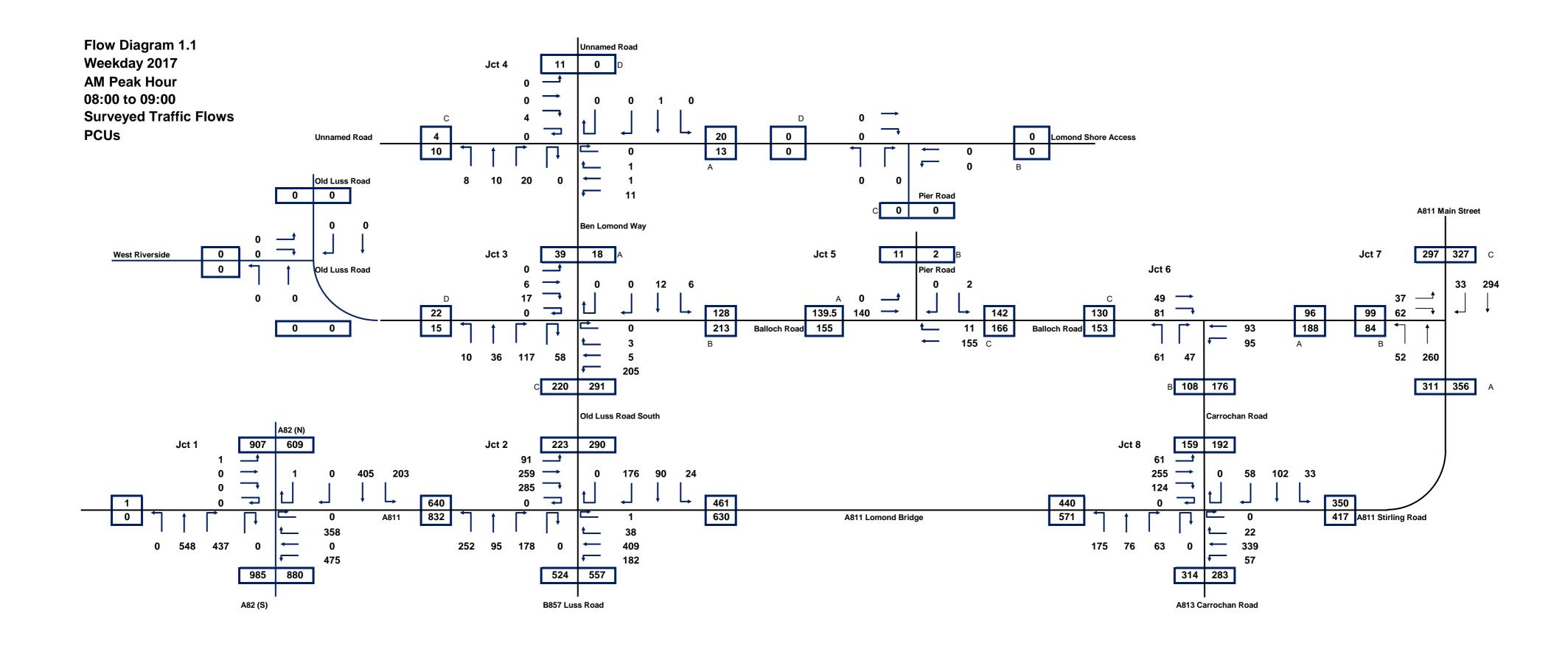
Parameter summary

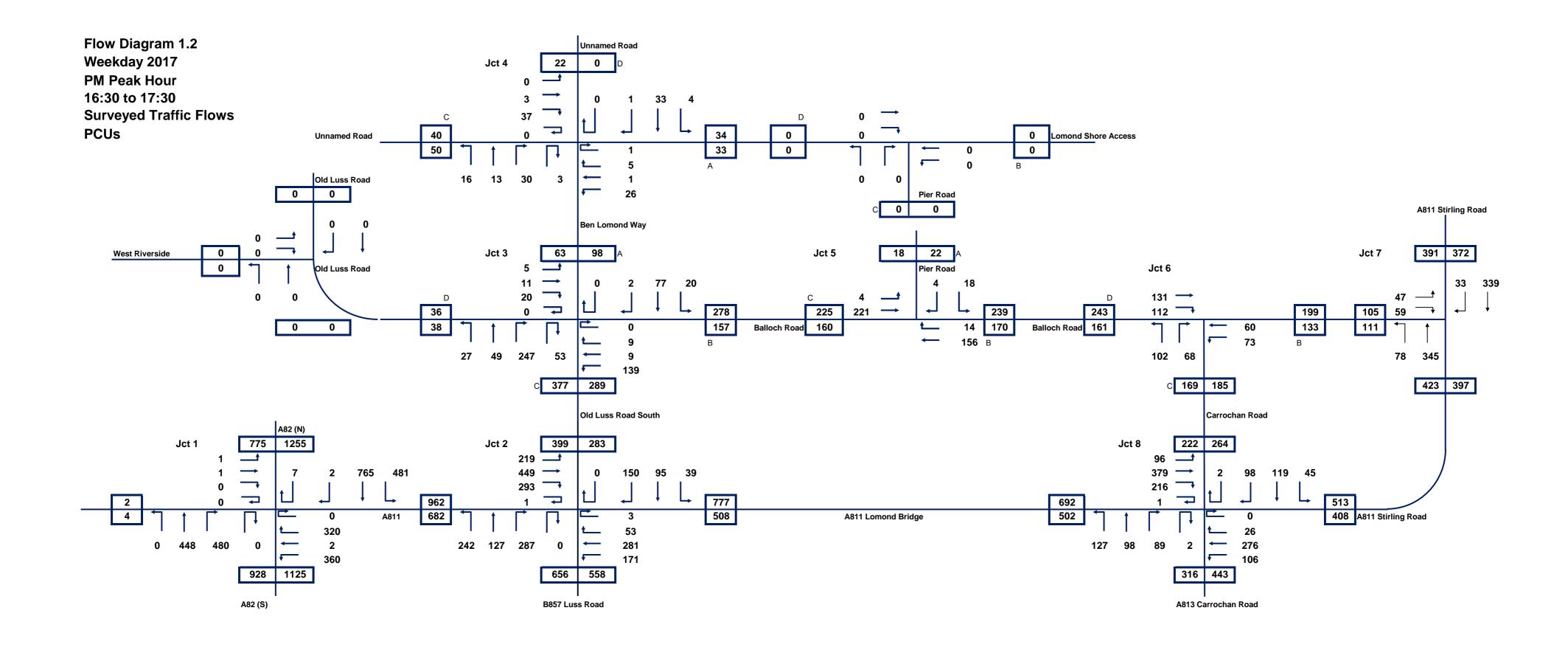
Trip rate parameter range selected: 500 - 1230 (units: sqm) Survey date date range: 01/01/14 - 11/11/21

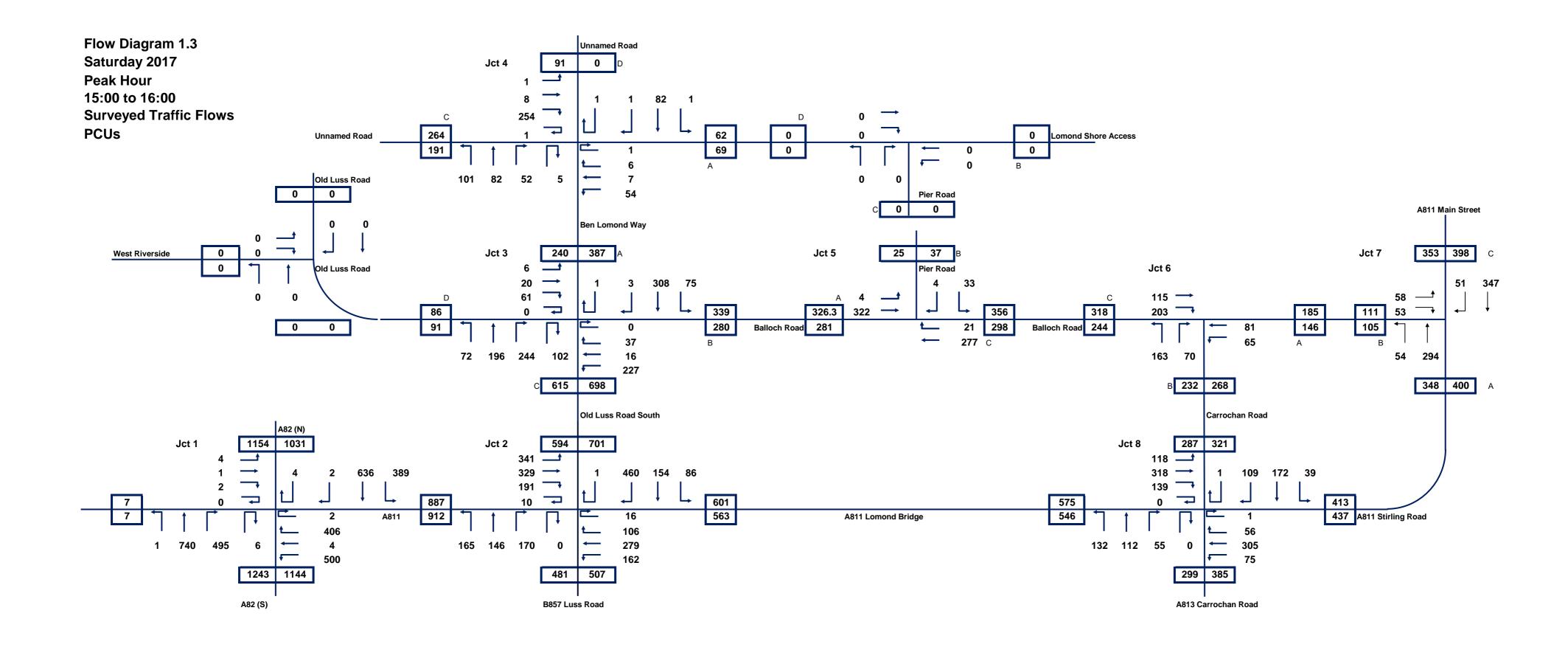
Number of weekdays (Monday-Friday): 7
Number of Saturdays: 0
Number of Sundays: 0
Surveys automatically removed from selection: 1
Surveys manually removed from selection: 0

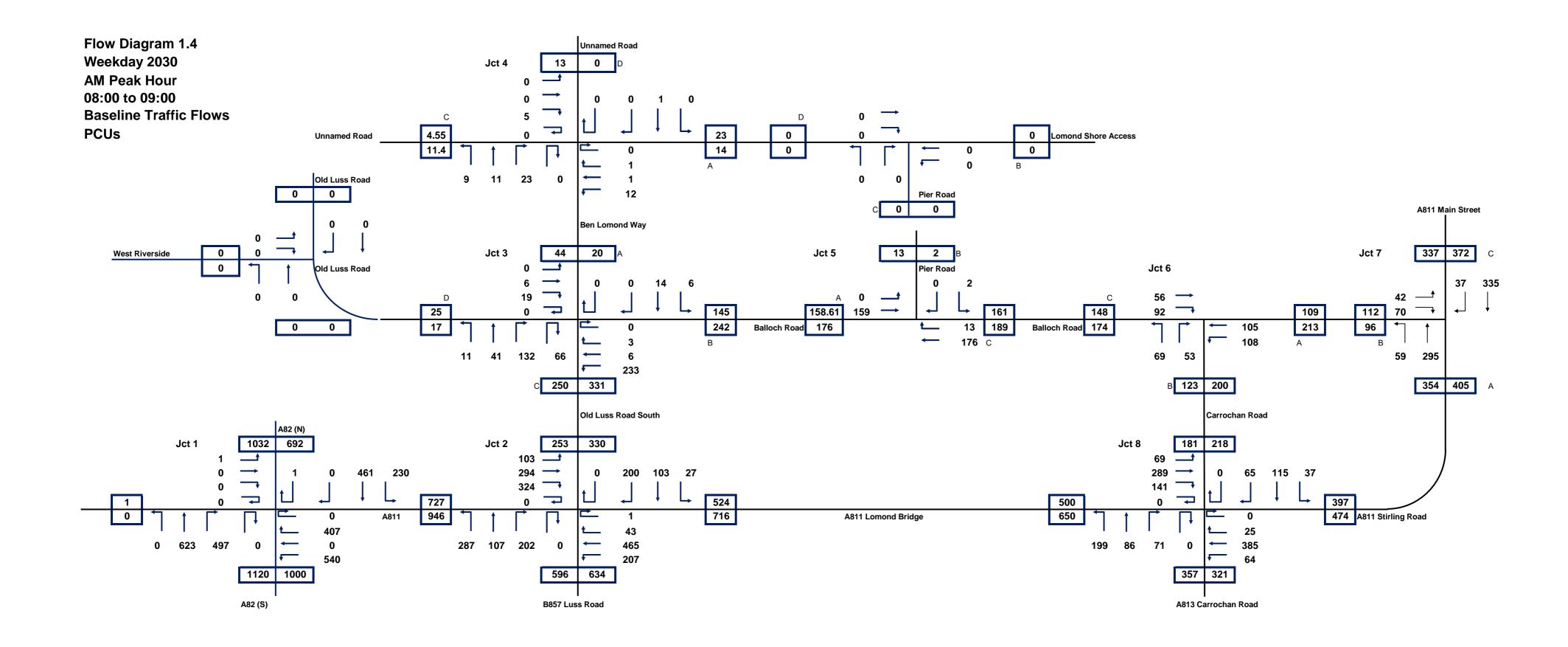
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

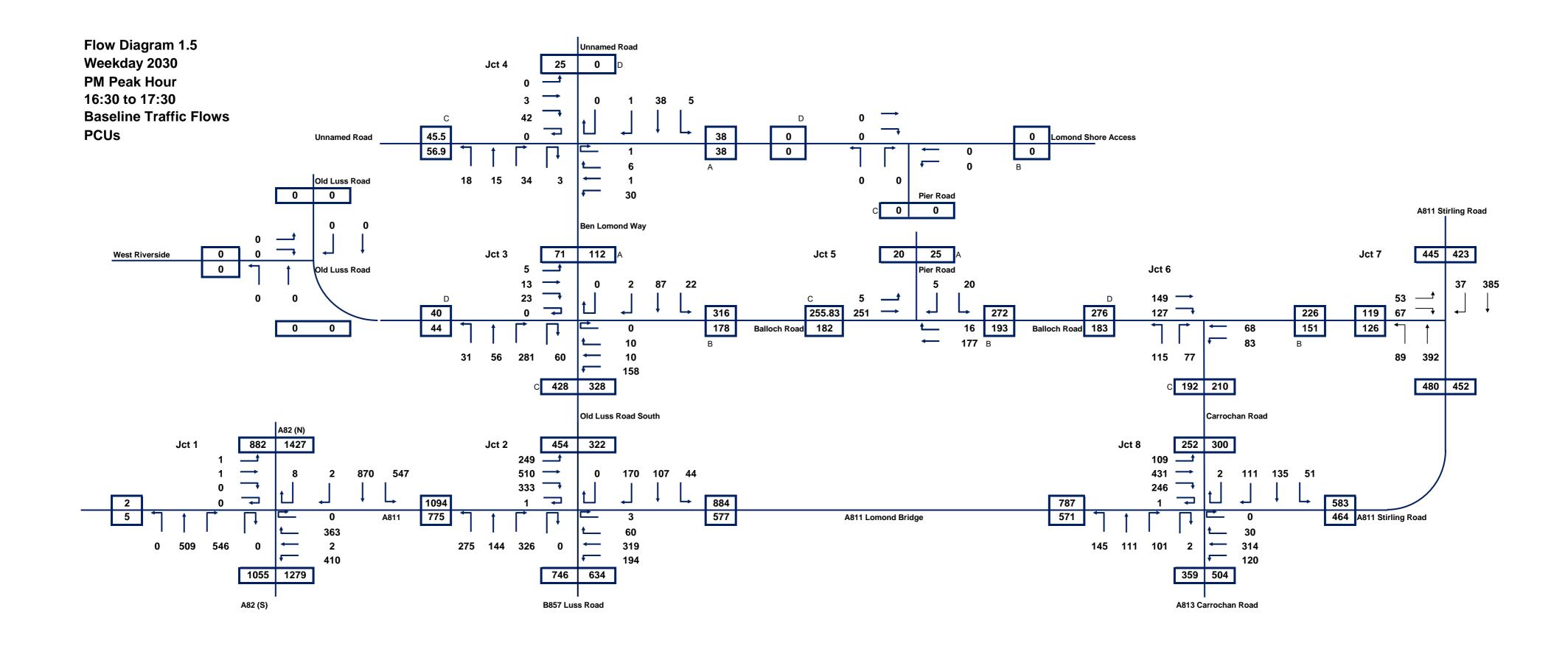
Appendix E Flow Diagrams

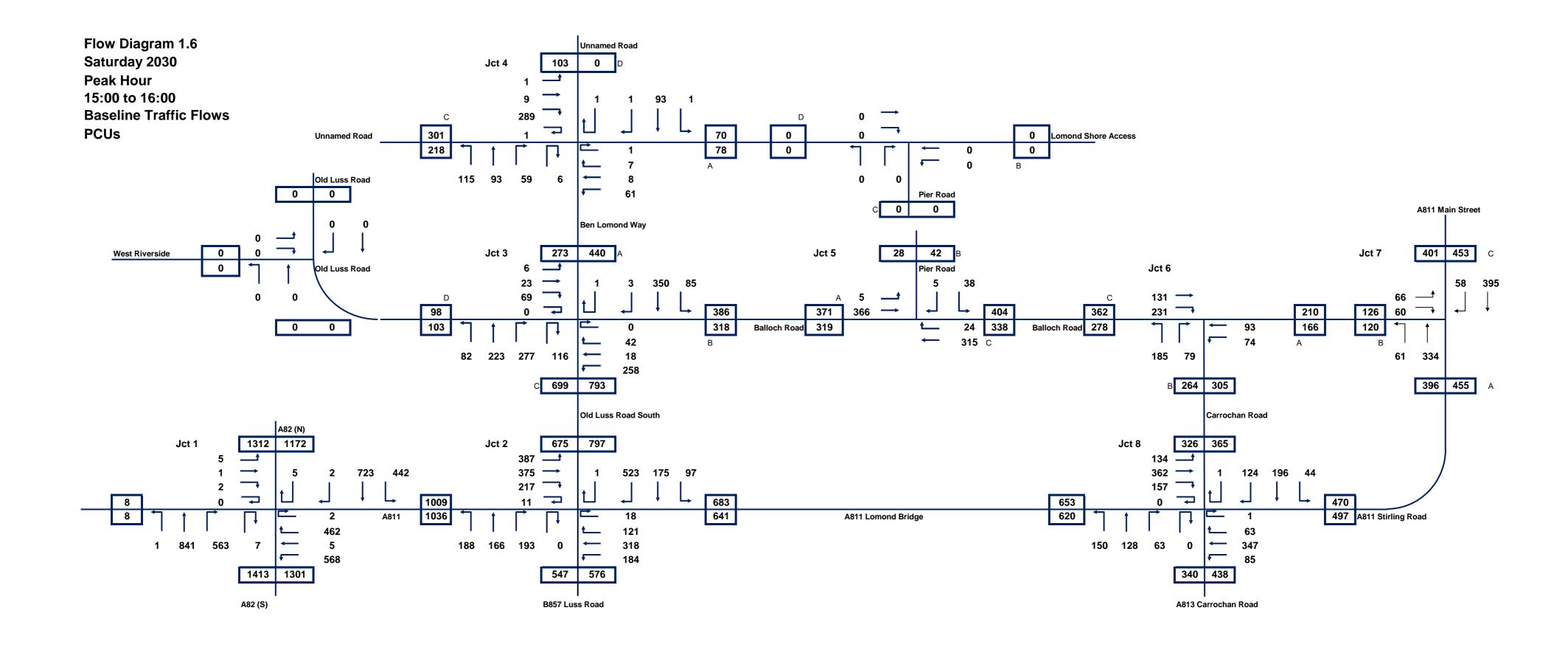


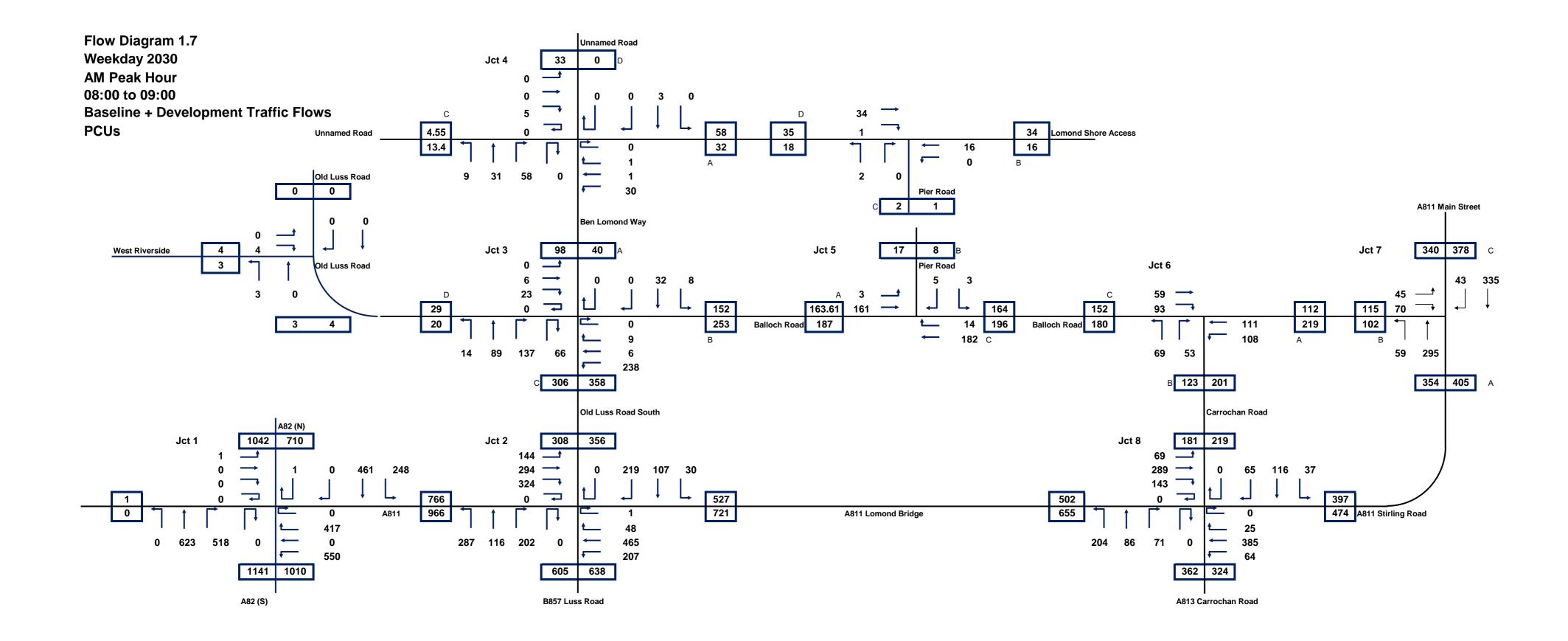


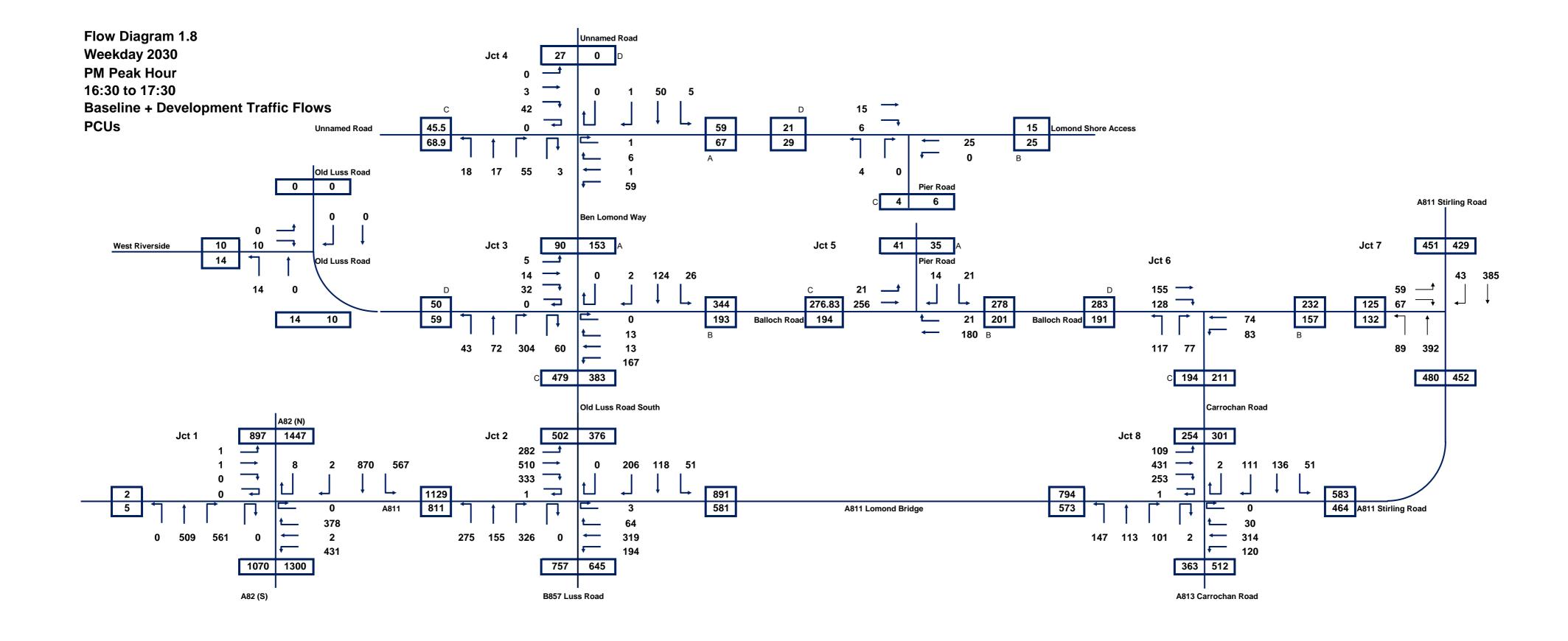


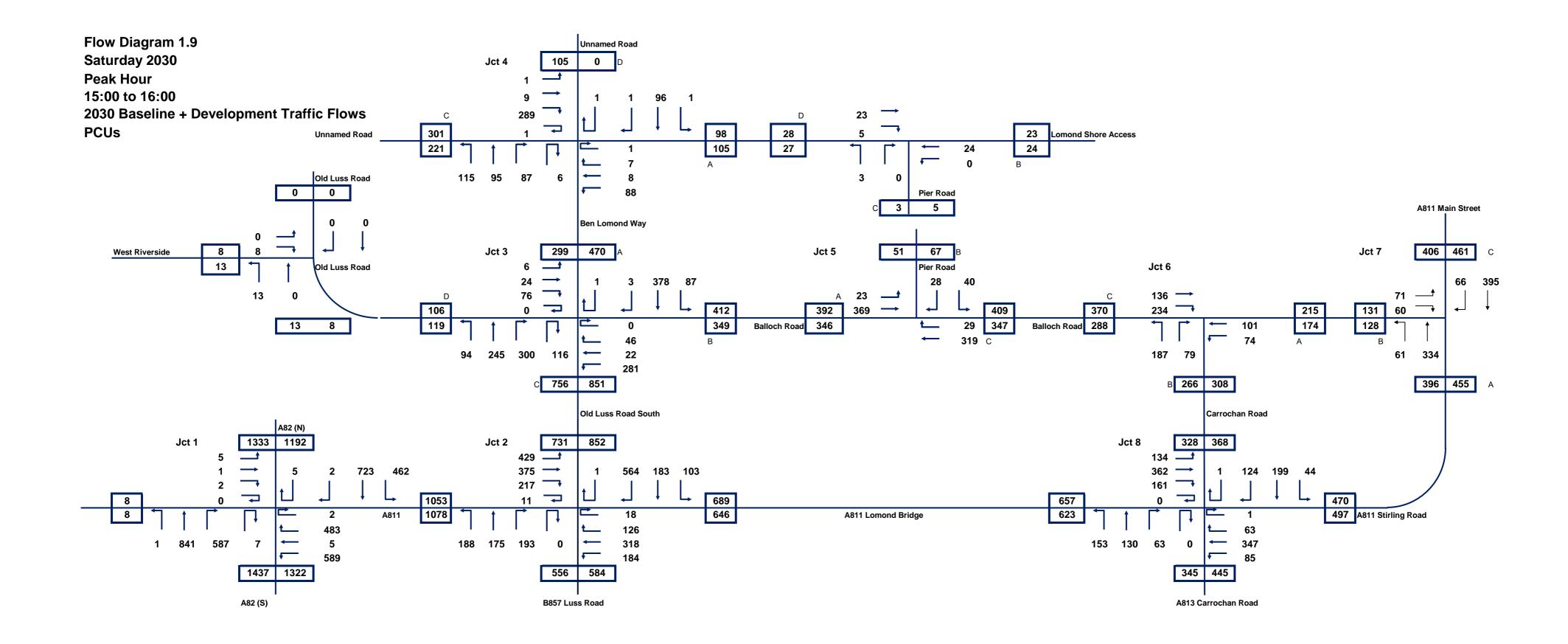












Appendix F Junctions 10 Output

Junctions 10

ARCADY 10 - Roundabout Module PICADY 10 - Priority Intersection Module

Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021

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Filename: Import of Base Model.j10

Path: J:\332010549\Transport\Working\Junction Assessments

Report generation date: 29/04/2022 10:30:25

»Existing Layout - 2030, Base Weekday AM

»Existing Layout - 2030, Base Weekday PM

»Existing Layout - 2030, Base Saturday Peak Hour

»Existing Layout - 2030, Ass. Weekday AM

»Existing Layout - 2030, Ass. Weekday PM

»Existing Layout - 2030, Ass. Saturday Peak Hour

Summary of junction performance

		В	ase W	eekda	y Al	Λ		Ва	se We	eekday	/ PM			Base S	Saturd	lay Pe	eak H	our		As	s. Wee	kday AN	1		As	s. We	ekda	y PM			Ass. S	Saturda	у Реа	ak Ho	ur
		Queue (PCU)	Delay (s)	RFC	Los	Network Residua Capacity	l Set	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity		Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity		Queue (PCU)	Delay (s)	RFC LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	Los	Network Residual Capacity		Queue (PCU)	Delay (s)	RFC	Los	Netwoi Residu Capaci
																	Ex	sting La	yout -	- 2030															
1 - untitled - 1 - A82 (North)		0.6	2.93	0.36	Α		Т	3.3	7.72	0.75	Α			1.7	4.65	0.62	Α			0.6	3.00	0.37 A		П	3.6	8.22	0.77	Α			1.8	4.88	0.64	Α	
- untitled - 2 - A811 (East)	1	1.3	4.46	0.54	Α	1		1.1	4.80	0.51	Α			1.8	5.79	0.65	Α			1.3	4.57	0.55 A	1		1.2	5.04	0.53	Α			2.0	6.25	0.67	Α	
- untitled - 3 - A82 (South)	1	0.9	2.67	0.45	Α	1		0.8	2.51	0.42	Α			1.4	3.24	0.58	Α			0.9	2.73	0.46 A	1		0.8	2.55	0.43	Α			1.5	3.36	0.60	Α	
- untitled - 4 - Local Access (West)	1	0.0	0.00	0.00	Α	1		0.0	0.00	0.00	Α			0.0	18.07	0.04	С			0.0	0.00	0.00 A	1		0.0	0.00	0.00	Α			0.0	19.46	0.05	С	
2 - untitled - 1 - Old Luss Road (North)	1	0.3	2.74	0.20	Α	1		0.3	3.23	0.22	Α			0.9	4.00	0.46	Α			0.3	2.80	0.22 A	1		0.4	3.40	0.26	Α			1.1	4.12	0.52	Α	
2 - untitled - 2 - A811 (East)		1.1	5.05	0.50	А			0.7	4.18	0.40	Α			0.8	4.79	0.45	Α			1.1	5.18	0.51 A			0.8	4.32	0.41	Α			1.1	5.43	0.52	Α	
2 - untitled - 3 - Luss Road (South)	1	0.6	3.09	0.34	Α	1		0.7	3.25	0.40	Α			0.4	2.62	0.28	Α			0.6	3.16	0.35 A	1		0.8	3.36	0.41	Α			0.6	3.25	0.36	Α	
2 - untitled - 4 - A811 (West)	1	0.8	3.62	0.42	Α	1		2.3	6.88	0.68	Α			1.4	5.22	0.58	Α			0.9	3.81	0.45 A	1		2.5	7.46	0.70	Α			1.7	5.50	0.63	Α	
- untitled - 1 - Ben Lomond Way (North)		0.0	2.80	0.02	Α	1		0.1	3.28	0.09	Α			0.6	4.66	0.38	Α			0.0	2.86	0.03 A	1		0.2	3.47	0.13	Α			0.7	5.01	0.42	Α	
- untitled - 2 - Balloch Road (East)	1	0.2	3.11	0.17	Α	1		0.2	3.05	0.13	Α			0.4	4.02	0.28	Α			0.2	3.17	0.18 A	1		0.2	3.17	0.15	Α			0.5	4.29	0.31	Α	
3 - untitled - 3 - Old Luss Road (South)	1	0.2	2.61	0.15	Α	1		0.4	3.01	0.26	Α			0.8	3.65	0.44	Α			0.3	2.73	0.19 A	1		0.5	3.16	0.30	Α			0.9	3.92	0.48	Α	
3 - untitled - 4 - Old Luss Road (West)	1	0.0	2.87	0.02	Α	60 %		0.0	3.18	0.03	Α	22 %		0.1	3.57	0.10	Α	16 %		0.0	2.97	0.02 A	57 %		0.1	3.28	0.04	Α	20 %		0.1	3.73	0.11	Α	13 %
4 - untitled - 1 - Ben Lomond Way (East)	1	0.0	2.66	0.01	Α	00 %		0.0	2.82	0.03	Α	22 /0		0.1	3.49	0.08	Α	r1 -		0.0	2.70	0.03 A	37 70		0.1	2.92	0.06	Α	20 /0		0.1	3.60	0.10	Α	[1 -
4 - untitled - 2 - Ben Lomond Way (South)	D1	0.0	2.41	0.03	Α	[1 - untitled -	D2	0.1	2.47	0.05	Α	[1 - untitled -	D3	0.2	2.93	0.20	Α	untitled -	D4	0.1	2.51	0.07 A	[2 - untitled -	D5	0.1	2.51	0.07	Α	[1 - untitled -	D6	0.3	3.01	0.22	Α	untitled
4 - untitled - 3 - Lomond Shores (Access Only)	1	0.0	2.55	0.00	Α	2 - A811		0.0	2.67	0.03	Α	1 - A82		0.3	3.64	0.25	Α	4 - Local Access		0.0	2.60	0.00 A	2 - A811		0.0	2.69	0.03	Α	1 - A82		0.3	3.71	0.25	Α	4 - Loca Access
4 - untitled - 4 - Lomond Shores (Access / Egress)		0.0	0.00	0.00	Α	(East)]		0.1	5.67	0.07	Α	(North)]		0.2	7.81	0.19	Α	(West)]		0.0	0.00	0.00 A	(East)]		0.1	5.88	0.09	Α	(North)]		0.2	8.07	0.20	Α	(West)
5 - Balloch Road / Pier Road - Stream B-AC		0.0	0.00	0.00	Α			0.0	6.20	0.04	Α			0.1	6.01	0.07	Α			0.0	6.62	0.01 A			0.1	6.83	0.06	Α			0.2	7.34	0.13	Α	
5 - Balloch Road / Pier Road - Stream C-AB		0.0	5.67	0.03	Α	1		0.0	5.81	0.03	Α			0.1	4.99	0.06	Α			0.0	5.66	0.03 A			0.1	5.87	0.04	Α			0.1	5.03	0.07	Α	
6 - Balloch Road / Carrochan Road - Stream B-C		0.2	7.15	0.12	Α			0.3	7.85	0.20	Α			0.5	8.62	0.33	Α			0.2	7.17	0.12 A			0.3	7.91	0.20	Α			0.5	8.72	0.33	Α	
6 - Balloch Road / Carrochan Road - Stream B-A		0.2	10.52	0.13	В			0.3	11.82	0.20	В			0.3	12.24	0.23	В			0.2	10.58	0.13 B			0.3	11.91	0.20	В			0.3	12.40	0.23	В	
6 - Balloch Road / Carrochan Road - Stream C-AB	1	0.2	7.07	0.17	А			0.4	6.90	0.24	Α			0.9	8.58	0.43	Α			0.2	7.09	0.17 A			0.4	6.91	0.24	Α			0.9	8.70	0.44	Α	
7 - untitled - Stream B-AC		0.4	10.70	0.25	В			0.4	11.83	0.28	В			0.4	9.99	0.28	Α			0.4	10.76	0.26 B			0.5	11.93	0.29	В			0.4	10.09	0.29	В	
7 - untitled - Stream C-AB		0.2	5.43	0.09	Α			0.2	5.42	0.10	Α			0.3	4.97	0.15	Α			0.2	5.48	0.10 A			0.3	5.47	0.12	Α			0.4	5.05	0.17	Α	
8 - untitled - 1 - Carrochan Road	1	0.2	3.59	0.18	Α			0.4	4.71	0.28	Α			0.4	4.04	0.31	Α			0.2	3.59	0.18 A			0.4	4.74	0.28	Α			0.5	4.07	0.31	Α	
8 - untitled - 2 - A811 Lomond Road		0.8	5.29	0.41	Α	1		0.8	6.03	0.44	Α			0.9	5.69	0.46	Α			0.8	5.30	0.41 A			0.9	6.07	0.44	Α			0.9	5.72	0.46	Α	
8 - untitled - 3 - A813 Carrochan Road (South)		0.4	3.29	0.25	Α			0.4	3.26	0.25	Α			0.3	3.05	0.24	Α			0.4	3.30	0.25 A			0.4	3.28	0.25	Α			0.3	3.07	0.24	Α	
B - untitled - 4 - A811 (West)		0.6	4.02	0.36	Α	1		1.5	6.36	0.59	Α			0.9	4.77	0.49	Α			0.6	4.03	0.36 A			1.6	6.46	0.59	Α			1.0	4.80	0.49	Α	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

ne Descript	
Title	(untitled)
Location	
Site number	
Date	12/02/2018
Version	
Status	(new file)
Identifier	

Client	
Jobnumber	
Enumerator	PBA\breynolds
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75					✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	Base Weekday AM	ONE HOUR	08:00	09:30	15	✓
D2	2030	Base Weekday PM	ONE HOUR	16:30	18:00	15	✓
D3	2030	Base Saturday Peak Hour	ONE HOUR	15:00	16:30	15	✓
D4	2030	Ass. Weekday AM	ONE HOUR	08:00	09:30	15	✓
D5	2030	Ass. Weekday PM	ONE HOUR	16:30	18:00	15	✓
D6	2030	Ass. Saturday Peak Hour	ONE HOUR	15:00	16:30	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Existing Layout	✓	100.000	100.000

Existing Layout - 2030, Base Weekday AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - untitled - 3 - Luss Road (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix	4 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout					1, 2, 3, 4	3.35	Α
2	untitled	Standard Roundabout					1, 2, 3, 4	3.80	Α
3	untitled	Standard Roundabout					1, 2, 3, 4	2.85	Α
4	untitled	Standard Roundabout					1, 2, 3, 4	2.48	Α
5	Balloch Road / Pier Road	T-Junction	Two-way	Two-way	Two-way			0.27	Α
6	Balloch Road / Carrochan Road	T-Junction	Two-way	Two-way	Two-way			3.64	Α
7	untitled	T-Junction	Two-way	Two-way	Two-way			1.83	Α
8	untitled	Standard Roundabout					1, 2, 3, 4	4.18	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	60	1 - untitled - 2 - A811 (East)	3.33	Α

Arms

Arms

Junction	Arm	Name	Description	No give-way line	Arm type
	1	A82 (North)			
1 - untitled	2	A811 (East)			
i - unitiled	3	A82 (South)			
	4	Local Access (West)			
	1	Old Luss Road (North)			
2 - untitled	2	A811 (East)			
2 - untitied	3	Luss Road (South)			
	4	A811 (West)			
	1	Ben Lomond Way (North)			
3 - untitled	2	Balloch Road (East)			
3 - untitled	3	Old Luss Road (South)			
	4	Old Luss Road (West)			
	1	Ben Lomond Way (East)			
4 - untitled	2	Ben Lomond Way (South)			
4 - untitled	3	Lomond Shores (Access Only)			
	4	Lomond Shores (Access / Egress)			
	Α	Balloch Road (West)			Major
5 - Balloch Road / Pier Road	В	Pier Road			Minor
	С	Balloch Road (East)			Major
	Α	Drymen Road (East)			Major
6 - Balloch Road / Carrochan Road	В	Carrochan Road			Minor
	С	Balloch Road (west)			Major
	Α	A811 Lomond Road			Major
7 - untitled	В	Drymen Road			Minor
	С	A811 Main Street			Major
-	1	Carrochan Road			
9 - untitled	2	A811 Lomond Road			
3 - untitled	3	A813 Carrochan Road (South)			
	4	A811 (West)			

Roundabout Geometry

	,								
Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
	1 - A82 (North)	3.68	10.36	24.2	40.5	90.0	4.9		
1 - untitled	2 - A811 (East)	3.53	11.83	16.0	29.6	90.0	6.4		
i - unititieu	3 - A82 (South)	7.15	10.97	12.8	37.3	90.0	9.8		
	4 - Local Access (West)	3.12	4.39	0.6	3.0	90.0	7.0		
	1 - Old Luss Road (North)	4.28	9.65	17.9	46.9	80.0	9.7		
2 - untitled	2 - A811 (East)	3.75	6.98	27.0	37.5	80.0	23.5		

[3 - Luss Road (South)	4.27	8.20	37.3	33.1	80.0	6.9	 1
	, ,							
	4 - A811 (West)	3.80	10.89	13.5	36.2	80.0	14.4	
	1 - Ben Lomond Way (North)	4.16	6.09	7.5	8.5	40.0	9.8	
3 - untitled	2 - Balloch Road (East)	4.67	5.99	11.7	6.3	38.3	16.7	
3 - unitileu	3 - Old Luss Road (South)	4.02	7.51	16.9	20.7	40.0	39.0	
	4 - Old Luss Road (West)	3.75	6.05	8.0	16.5	40.0	12.6	
	1 - Ben Lomond Way (East)	3.18	5.62	7.2	13.7	40.0	12.1	
4 - untitled	2 - Ben Lomond Way (South)	3.68	5.89	5.4	32.5	40.0	7.7	
4 - ununeu	3 - Lomond Shores (Access Only)	3.92	4.73	7.5	17.5	40.0	13.8	
	4 - Lomond Shores (Access / Egress)	3.00	3.00	0.0	3.0	40.0	11.1	
	1 - Carrochan Road	4.29	7.52	4.5	18.5	60.0	18.8	
8 - untitled	2 - A811 Lomond Road	3.91	7.03	2.6	17.1	60.0	11.2	
o - untitled	3 - A813 Carrochan Road (South)	4.54	7.72	6.6	24.0	60.0	4.7	
	4 - A811 (West)	3.76	7.96	5.9	24.0	60.0	12.3	

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
5 - Balloch Road / Pier Road	C - Balloch Road (East)	8.91			132.0	✓	0.00
6 - Balloch Road / Carrochan Road	C - Balloch Road (west)	7.58			200.0	√	0.00
7 - untitled	C - A811 Main Street	7.19			164.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Junction	Arm	Minor arm type	Lane width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
5 - Balloch Road / Pier Road	B - Pier Road	One lane	4.50			61	100
6 - Balloch Road / Carrochan Road	B - Carrochan Road	Two lanes		3.73	2.94	60	35
7 - untitled	B - Drymen Road	One lane	5.00			20	20

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
	1 - A82 (North)	0.585	2435
1 - untitled	2 - A811 (East)	0.550	2211
1 - untitied	3 - A82 (South)	0.663	3013
	4 - Local Access (West)	0.286	800
	1 - Old Luss Road (North)	0.588	2337
2 - untitled	2 - A811 (East)	0.516	1928
	3 - Luss Road (South)	0.597	2402
	4 - A811 (West)	0.548	2101
	1 - Ben Lomond Way (North)	0.620	1587
3 - untitled	2 - Balloch Road (East)	0.609	1607
3 - untitieu	3 - Old Luss Road (South)	0.653	1800
	4 - Old Luss Road (West)	0.632	1574
	1 - Ben Lomond Way (East)	0.588	1370
4 - untitled	2 - Ben Lomond Way (South)	0.639	1541
4 - untitied	3 - Lomond Shores (Access Only)	0.604	1437
	4 - Lomond Shores (Access / Egress)	0.382	717
	1 - Carrochan Road	0.558	1650
8 - untitled	2 - A811 Lomond Road	0.530	1458
o - untitlea	3 - A813 Carrochan Road (South)	0.621	1921
	4 - A811 (West)	0.564	1633

The slope and intercept shown above include any corrections and adjustments.

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
5 - Balloch Road / Pier Road	B-A	629	0.100	0.253	0.159	0.362
	B-C	790	0.106	0.267	-	-
	C-B	650	0.220	0.220	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6 - Balloch Road / Carrochan Road	B-A	511	0.087	0.219	0.138	0.313
	B-C	693	0.099	0.250	-	-
	C-B	690	0.249	0.249	-	-

Priority Intersection Slopes and Intercepts

Ju	ınction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
		B-A	593	0.102	0.259	0.163	0.370
7 -	untitled	B-C	764	0.111	0.281	-	-
		C-B	669	0.246	0.246	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	Base Weekday AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	
✓	✓	HV Percentages	2.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
	1 - A82 (North)		ONE HOUR	√	692	100.000
1 - untitled	2 - A811 (East)		ONE HOUR	✓	947	100.000
1 - untitled	3 - A82 (South)		ONE HOUR	✓	1120	100.000
	4 - Local Access (West)		ONE HOUR	√	1	100.000
	1 - Old Luss Road (North)		ONE HOUR	✓	330	100.000
2 - untitled	2 - A811 (East)		ONE HOUR	✓	716	100.000
2 - unitileu	3 - Luss Road (South)		ONE HOUR	✓	596	100.000
	4 - A811 (West)		ONE HOUR	✓	721	100.000
	1 - Ben Lomond Way (North)		ONE HOUR	✓	20	100.000
3 - untitled	2 - Balloch Road (East)		ONE HOUR	✓	242	100.000
3 - unitileu	3 - Old Luss Road (South)		ONE HOUR	✓	250	100.000
	4 - Old Luss Road (West)		ONE HOUR	✓	25	100.000
	1 - Ben Lomond Way (East)		ONE HOUR	✓	14	100.000
4 - untitled	2 - Ben Lomond Way (South)		ONE HOUR	✓	43	100.000
4 - unitileu	3 - Lomond Shores (Access Only)		ONE HOUR	✓	5	100.000
	4 - Lomond Shores (Access / Egress)		ONE HOUR	✓	1	100.000
	A - Balloch Road (West)		ONE HOUR	✓	159	100.000
5 - Balloch Road / Pier Road	B - Pier Road		ONE HOUR	✓	2	100.000
	C - Balloch Road (East)		ONE HOUR	✓	189	100.000
	A - Drymen Road (East)		ONE HOUR	✓	213	100.000
6 - Balloch Road / Carrochan Road	B - Carrochan Road		ONE HOUR	✓	122	100.000
	C - Balloch Road (west)		ONE HOUR	✓	148	100.000
	A - A811 Lomond Road		ONE HOUR	✓	354	100.000
7 - untitled	B - Drymen Road		ONE HOUR	✓	112	100.000
	C - A811 Main Street		ONE HOUR	✓	372	100.000
	1 - Carrochan Road		ONE HOUR	✓	217	100.000
8 - untitled	2 - A811 Lomond Road		ONE HOUR	✓	474	100.000
o - ununeu	3 - A813 Carrochan Road (South)		ONE HOUR	✓	356	100.000
	4 - A811 (West)		ONE HOUR	✓	499	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - untitled

	То									
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)					
	1 - A82 (North)	1	230	461	0					
From	2 - A811 (East)	407	0	540	0					
	3 - A82 (South)	623	497	0	0					
	4 - Local Access (West)	1	0	0	0					

Demand (PCU/hr)

2 - untitled

	(**************************************										
		То									
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)						
	1 - Old Luss Road (North)	0	27	103	200						
From	2 - A811 (East)	43	1	207	465						
	3 - Luss Road (South)	107	202	0	287						
	4 - A811 (West)	103	294	324	0						

Demand (PCU/hr)

Demand (1 CO/III)		
	То	

3 - untitled

		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)
	1 - Ben Lomond Way (North)	0	6	14	0
From	2 - Balloch Road (East)	3	0	233	6
	3 - Old Luss Road (South)	41	132	66	11
	4 - Old Luss Road (West)	0	6	19	0

Demand (PCU/hr)

4 - untitled

	То					
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)	
	1 - Ben Lomond Way (East)	0	12	1	1	
From	2 - Ben Lomond Way (South)	23	0	11	9	
	3 - Lomond Shores (Access Only)	0	5	0	0	
	4 - Lomond Shores (Access / Egress)	0	1	0	0	

Demand (PCU/hr)

5 - Balloch Road / Pier Road

		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)
From	A - Balloch Road (West)	0	0	159
FIOIII	B - Pier Road	0	0	2
	C - Balloch Road (East)	176	13	0

Demand (PCU/hr)

6 - Balloch Road / Carrochan Road

		То		
		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)
From	A - Drymen Road (East)	0	108	105
FIOIII	B - Carrochan Road	53	0	69
	C - Balloch Road (west)	56	92	0

Demand (PCU/hr)

7 - untitled

	То					
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street		
From	A - A811 Lomond Road	0	59	295		
FIOIII	B - Drymen Road	70	0	42		
	C - A811 Main Street	335	37	0		

Demand (PCU/hr)

8 - untitled

	То						
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)		
	1 - Carrochan Road	0	37	115	65		
From	2 - A811 Lomond Road	25	0	64	385		
	3 - A813 Carrochan Road (South)	86	71	0	199		
	4 - A811 (West)	69	289	141	0		

Vehicle Mix

Heavy Vehicle Percentages

1 - untitled

	То						
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)		
	1 - A82 (North)	10	10	10	10		
From	2 - A811 (East)	10	10	10	10		
	3 - A82 (South)	10	10	10	10		
	4 - Local Access (West)	10	10	10	10		

Heavy Vehicle Percentages

2 - untitled

neavy venicle rercentages									
		То							
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)				
	1 - Old Luss Road (North)	10	10	10	10				
From	2 - A811 (East)	10	10	10	10				
	3 - Luss Road (South)	10	10	10	10				
	4 - A811 (West)	10	10	10	0				

Heavy Vehicle Percentages

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	10	10	10	10	
From	2 - Balloch Road (East)	10	10	10	10	
	3 - Old Luss Road (South)	10	10	10	10	
	4 - Old Luss Road (West)	10	10	10	10	

Heavy Vehicle Percentages

4 - untitled

	То					
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)	
	1 - Ben Lomond Way (East)	0	0	0	0	
From	2 - Ben Lomond Way (South)	0	0	0	0	
	3 - Lomond Shores (Access Only)	0	0	0	0	
	4 - Lomond Shores (Access / Egress)	0	0	0	0	

Heavy Vehicle Percentages

5 - Balloch Road / Pier Road

	То					
		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)		
From	A - Balloch Road (West)	10	10	10		
FIOIII	B - Pier Road	10	10	10		
	C - Balloch Road (East)	10	10	10		

Heavy Vehicle Percentages

6 - Balloch Road / Carrochan Road

		То		
		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)
From	A - Drymen Road (East)	10	10	10
FIOIII	B - Carrochan Road	10	10	10
	C - Balloch Road (west)	10	10	10

Heavy Vehicle Percentages

7 - untitled

		То		
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street
From	A - A811 Lomond Road	10	10	10
FIOIII	B - Drymen Road	10	10	10
	C - A811 Main Street	10	10	10

Heavy Vehicle Percentages

8 - untitled

			То		
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
	1 - Carrochan Road	10	10	10	10
From	2 - A811 Lomond Road	10	10	10	10
	3 - A813 Carrochan Road (South)	10	10	10	10
	4 - A811 (West)	0	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	1 - A82 (North)	0.36	2.93	0.6	Α	635	952
1 - untitled	2 - A811 (East)	0.54	4.46	1.3	A	869	1303
ı - ununeu	3 - A82 (South)	0.45	2.67	0.9	Α	1028	1542
	4 - Local Access (West)	0.00	0.00	0.0	A	0	0
	1 - Old Luss Road (North)	0.20	2.74	0.3	Α	303	454
2 - untitled	2 - A811 (East)	0.50	5.05	1.1	Α	657	986
z - undideu	3 - Luss Road (South)	0.34	3.09	0.6	Α	547	820
	4 - A811 (West)	0.42	3.62	0.8	Α	662	992
	1 - Ben Lomond Way (North)	0.02	2.80	0.0	Α	18	28
3 - untitled	2 - Balloch Road (East)	0.17	3.11	0.2	Α	222	333
3 - unulleu	3 - Old Luss Road (South)	0.15	2.61	0.2	Α	229	344

	4 - Old Luss Road (West)	0.02	2.87	0.0	Α	23	34
	1 - Ben Lomond Way (East)	0.01	2.66	0.0	A	13	19
4 - untitled	2 - Ben Lomond Way (South)	0.03	2.41	0.0	Α	39	59
4 - unuleu	3 - Lomond Shores (Access Only)	0.00	2.55	0.0	Α	5	7
	4 - Lomond Shores (Access / Egress)	0.00	0.00	0.0	A	0	0
	1 - Carrochan Road	0.18	3.59	0.2	Α	199	299
8 - untitled	2 - A811 Lomond Road	0.41	5.29	0.8	Α	435	652
o - unititieu	3 - A813 Carrochan Road (South)	0.25	3.29	0.4	Α	327	490
	4 - A811 (West)	0.36	4.02	0.6	A	458	687

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	B-AC	0.00	0.00	0.0	Α	0	0
	C-AB	0.03	5.67	0.0	Α	15	23
5 - Balloch Road / Pier Road	C-A					158	237
	A-B					0	0
	A-C					146	219
	B-C	0.12	7.15	0.2	Α	63	95
	B-A	0.13	10.52	0.2	В	49	73
6 - Balloch Road / Carrochan Road	C-AB	0.17	7.07	0.2	Α	92	137
6 - Balloch Road / Carrochan Road	C-A					44	66
	A-B					99	149
	A-C					96	145
	B-AC	0.25	10.70	0.4	В	103	154
	C-AB	0.09	5.43	0.2	Α	56	85
7 - untitled	C-A					285	427
	A-B					54	81
	A-C					271	406

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	521	130	373	2217	0.235	520	774	0.0	0.3	2.331	A
4 constitue d	2 - A811 (East)	-	713	178	347	2020	0.353	711	546	0.0	0.6	3.019	A
1 - untitled	3 - A82 (South)	-	843	211	306	2811	0.300	841	751	0.0	0.5	2.009	A
	4 - Local Access (West)	-	0	0	1147	472	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	248	62	616	1975	0.126	248	190	0.0	0.2	2.293	A
2 - untitled	2 - A811 (East)	-	539	135	471	1685	0.320	537	393	0.0	0.5	3.443	A
2 - untitied	3 - Luss Road (South)	-	449	112	532	2084	0.215	447	476	0.0	0.3	2.419	A
	4 - A811 (West)	-	543	136	265	1955	0.278	541	714	0.0	0.4	2.796	A
	1 - Ben Lomond Way (North)	-	15	4	167	1483	0.010	15	33	0.0	0.0	2.696	A
3 - untitled	2 - Balloch Road (East)	-	182	46	74	1562	0.117	182	108	0.0	0.1	2.866	A
3 - unidieu	3 - Old Luss Road (South)	-	188	47	7	1796	0.105	188	249	0.0	0.1	2.462	A
	4 - Old Luss Road (West)	-	19	5	182	1459	0.013	19	13	0.0	0.0	2.749	A
	1 - Ben Lomond Way (East)	-	11	3	4	1368	0.008	11	17	0.0	0.0	2.651	A
4 - untitled	2 - Ben Lomond Way (South)	-	32	8	2	1540	0.021	32	13	0.0	0.0	2.388	A
4 - untitied	3 - Lomond Shores (Access Only)	-	4	0.94	25	1422	0.003	4	9	0.0	0.0	2.538	A
	4 - Lomond Shores (Access / Egress)	-	0	0	21	709	0.000	0	8	0.0	0.0	0.000	A
	-	B-AC	0	0		654	0.000	0		0.0	0.0	0.000	A
	-	C-AB	12	3		711	0.017	12		0.0	0.0	5.667	A
5 - Balloch Road / Pier Road	-	C-A	130	33				130					
	-	A-B	0	0				0					
	-	A-C	120	30				120					
	-	B-C	52	13		651	0.080	52		0.0	0.1	6.606	A
	-	B-A	40	10		459	0.087	39		0.0	0.1	9.430	A
6 - Balloch Road / Carrochan Road	-	C-AB	74	18		677	0.109	73		0.0	0.1	6.556	A
0 - Ballocii Road / Carrochali Road	-	C-A	38	9				38					
	-	A-B	81	20				81					
	-	A-C	79	20				79					
<u> </u>	-	B-AC	84	21		543	0.155	84		0.0	0.2	8.604	A
	-	C-AB	41	10		771	0.054	41		0.0	0.1	5.424	Α
7 - untitled	-	C-A	239	60				239					
	-	A-B	44	11				44					
	-	A-C	222	56				222					
	1 - Carrochan Road	-	163	41	376	1441	0.113	163	135	0.0	0.1	3.097	A
8 - untitled	2 - A811 Lomond Road	-	357	89	241	1330	0.268	355	298	0.0	0.4	4.054	Α
o - unititeu	3 - A813 Carrochan Road (South)	-	268	67	356	1700	0.158	267	240	0.0	0.2	2.762	A

08:15 - 08:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	622	156	447	2174	0.286	622	926	0.3	0.4	2.551	A
4 months d	2 - A811 (East)	-	851	213	415	1983	0.429	850	653	0.6	0.8	3.494	A
1 - untitled	3 - A82 (South)	-	1007	252	366	2771	0.363	1006	899	0.5	0.6	2.244	A
	4 - Local Access (West)	-	0	0	1373	407	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	297	74	737	1904	0.156	296	227	0.2	0.2	2.463	A
2 - untitled	2 - A811 (East)	-	644	161	563	1638	0.393	643	471	0.5	0.7	3.975	A
2 - untitled	3 - Luss Road (South)	-	536	134	637	2022	0.265	535	569	0.3	0.4	2.664	A
	4 - A811 (West)	-	648	162	317	1927	0.336	648	855	0.4	0.6	3.093	A
	1 - Ben Lomond Way (North)	-	18	4	200	1463	0.012	18	40	0.0	0.0	2.739	A
3 - untitled	2 - Balloch Road (East)	-	218	54	89	1553	0.140	217	129	0.1	0.2	2.964	A
3 - unided	3 - Old Luss Road (South)	-	225	56	8	1795	0.125	225	298	0.1	0.2	2.521	A
	4 - Old Luss Road (West)	-	22	6	217	1436	0.016	22	15	0.0	0.0	2.800	A
	1 - Ben Lomond Way (East)	-	13	3	4	1368	0.009	13	21	0.0	0.0	2.656	A
4 - untitled	2 - Ben Lomond Way (South)	-	39	10	2	1539	0.025	39	15	0.0	0.0	2.398	A
4 - untitled	3 - Lomond Shores (Access Only)	-	4	1	30	1419	0.003	4	11	0.0	0.0	2.544	A
	4 - Lomond Shores (Access / Egress)	-	0	0	25	707	0.000	0	9	0.0	0.0	0.000	A
	-	B-AC	0	0		644	0.000	0		0.0	0.0	0.000	A
	-	C-AB	15	4		723	0.021	15		0.0	0.0	5.594	A
5 - Balloch Road / Pier Road	-	C-A	155	39				155					
	-	A-B	0	0				0					
	-	A-C	143	36				143					
	-	B-C	62	16		642	0.097	62		0.1	0.1	6.827	A
	-	B-A	48	12		449	0.106	48		0.1	0.1	9.865	A
6 - Balloch Road / Carrochan Road	-	C-AB	89	22		675	0.133	89		0.1	0.2	6.767	A
6 - Balloch Road / Carrochan Road	-	C-A	44	11				44					
	-	A-B	97	24				97					
	-	A-C	94	24				94					
	-	B-AC	101	25		522	0.193	100		0.2	0.3	9.385	A
	-	C-AB	54	13		793	0.068	54		0.1	0.1	5.356	A
7 - untitled	-	C-A	281	70				281					
	-	A-B	53	13				53					
	-	A-C	265	66				265					
	1 - Carrochan Road	-	195	49	450	1399	0.139	195	162	0.1	0.2	3.287	A
8 - untitled	2 - A811 Lomond Road	-	426	107	288	1305	0.326	426	357	0.4	0.5	4.498	A
o - ununeu	3 - A813 Carrochan Road (South)	-	320	80	427	1657	0.193	320	287	0.2	0.3	2.962	A
	4 - A811 (West)	-	449	112	163	1541	0.291	448	583	0.3	0.4	3.575	A

08:30 - 08:45

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	762	190	547	2115	0.360	761	1134	0.4	0.6	2.923	A
1 - untitled	2 - A811 (East)	-	1043	261	508	1931	0.540	1041	800	0.8	1.3	4.438	A
i - unitied	3 - A82 (South)	-	1233	308	448	2716	0.454	1232	1101	0.6	0.9	2.667	A
	4 - Local Access (West)	-	0	0	1680	319	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	363	91	903	1806	0.201	363	278	0.2	0.3	2.743	A
2 - untitled	2 - A811 (East)	-	788	197	690	1572	0.501	787	576	0.7	1.1	5.030	A
z - untitied	3 - Luss Road (South)	-	656	164	779	1936	0.339	656	697	0.4	0.6	3.090	A
	4 - A811 (West)	-	794	198	388	1888	0.421	793	1047	0.6	0.8	3.613	A
	1 - Ben Lomond Way (North)	-	22	6	245	1435	0.015	22	48	0.0	0.0	2.801	A
3 - untitled	2 - Balloch Road (East)	-	266	67	109	1541	0.173	266	158	0.2	0.2	3.106	A
s - untitled	3 - Old Luss Road (South)	-	275	69	10	1794	0.153	275	365	0.2	0.2	2.607	A
	4 - Old Luss Road (West)	-	28	7	266	1406	0.020	28	19	0.0	0.0	2.872	A
	1 - Ben Lomond Way (East)	-	15	4	6	1367	0.011	15	25	0.0	0.0	2.663	A
4 - untitled	2 - Ben Lomond Way (South)	-	47	12	2	1539	0.031	47	19	0.0	0.0	2.412	A
4 - untitled	3 - Lomond Shores (Access Only)	-	6	1	36	1415	0.004	6	13	0.0	0.0	2.553	A
	4 - Lomond Shores (Access / Egress)	-	0	0	31	705	0.000	0	11	0.0	0.0	0.000	A
	-	B-AC	0	0		632	0.000	0		0.0	0.0	0.000	A
	-	C-AB	19	5		740	0.026	19		0.0	0.0	5.496	A
5 - Balloch Road / Pier Road	-	C-A	189	47				189					
	-	A-B	0	0				0					
	-	A-C	175	44				175					
	-	B-C	76	19		630	0.121	76		0.1	0.1	7.142	A
	-	B-A	58	15		435	0.134	58		0.1	0.2	10.507	В
6 - Balloch Road / Carrochan Road	-	C-AB	112	28		671	0.166	111		0.2	0.2	7.069	A
- Danoen Noad / Carrochan Noad	-	C-A	51	13				51					
	-	A-B	119	30				119					
	-	A-C	116	29				116					
	-	B-AC	123	31		493	0.250	123		0.3	0.4	10.680	В
	-	C-AB	74	18		825	0.090	74		0.1	0.2	5.275	A
7 - untitled	-	C-A	336	84				336					

		-	A-B	65	16				65					1
		-	A-C	325	81				325					1
		1 - Carrochan Road	-	239	60	551	1343	0.178	239	198	0.2	0.2	3.586	A
8 - untitled 2 - A	2 - A811 Lomond Road	-	522	130	353	1271	0.411	521	437	0.5	0.8	5.273	A	
	3 - A813 Carrochan Road (South)	-	392	98	522	1597	0.245	392	352	0.3	0.4	3.284	Α	
		4 - A811 (West)	-	549	137	200	1520	0.361	549	714	0.4	0.6	4.018	Α

08:45 - 09:00

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	762	190	547	2115	0.360	762	1135	0.6	0.6	2.925	A
1 - untitled	2 - A811 (East)	-	1043	261	509	1931	0.540	1043	800	1.3	1.3	4.456	A
i - untitied	3 - A82 (South)	-	1233	308	449	2716	0.454	1233	1102	0.9	0.9	2.670	A
	4 - Local Access (West)	-	0	0	1682	319	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	363	91	904	1806	0.201	363	279	0.3	0.3	2.744	A
2 - untitled	2 - A811 (East)	-	788	197	690	1572	0.501	788	577	1.1	1.1	5.052	A
2 - untitled	3 - Luss Road (South)	-	656	164	781	1936	0.339	656	698	0.6	0.6	3.094	A
	4 - A811 (West)	-	794	198	389	1888	0.421	794	1048	0.8	0.8	3.619	A
	1 - Ben Lomond Way (North)	-	22	6	246	1435	0.015	22	48	0.0	0.0	2.801	A
3 - untitled	2 - Balloch Road (East)	-	266	67	109	1541	0.173	266	159	0.2	0.2	3.106	A
3 - untitled	3 - Old Luss Road (South)	-	275	69	10	1794	0.153	275	366	0.2	0.2	2.607	A
	4 - Old Luss Road (West)	-	28	7	266	1405	0.020	28	19	0.0	0.0	2.873	A
	1 - Ben Lomond Way (East)	-	15	4	6	1367	0.011	15	25	0.0	0.0	2.663	Α
4 contribut	2 - Ben Lomond Way (South)	-	47	12	2	1539	0.031	47	19	0.0	0.0	2.412	A
4 - untitled	3 - Lomond Shores (Access Only)	-	6	1	36	1415	0.004	6	13	0.0	0.0	2.553	A
	4 - Lomond Shores (Access / Egress)	-	0	0	31	705	0.000	0	11	0.0	0.0	0.000	A
	-	B-AC	0	0		632	0.000	0		0.0	0.0	0.000	A
	-	C-AB	19	5		740	0.026	19		0.0	0.0	5.499	A
5 - Balloch Road / Pier Road	-	C-A	189	47				189					
	-	A-B	0	0				0					
	-	A-C	175	44				175					
	-	B-C	76	19		630	0.121	76		0.1	0.2	7.146	A
	-	B-A	58	15		435	0.134	58		0.2	0.2	10.517	В
A. Belleck Bred (Commelter Bred	-	C-AB	112	28		672	0.166	112		0.2	0.2	7.073	A
6 - Balloch Road / Carrochan Road	-	C-A	51	13				51					
	-	A-B	119	30				119					
	-	A-C	116	29				116					
	-	B-AC	123	31		493	0.250	123		0.4	0.4	10.705	В
	-	C-AB	74	19		825	0.090	74		0.2	0.2	5.281	A
7 - untitled	-	C-A	336	84				336					
	-	A-B	65	16				65					
	-	A-C	325	81				325					
	1 - Carrochan Road	-	239	60	552	1343	0.178	239	198	0.2	0.2	3.587	A
	2 - A811 Lomond Road	-	522	130	353	1271	0.411	522	437	0.8	0.8	5.287	A
8 - untitled	3 - A813 Carrochan Road (South)	-	392	98	523	1597	0.245	392	352	0.4	0.4	3.286	A
	4 - A811 (West)	-	549	137	200	1520	0.361	549	715	0.6	0.6	4.024	A

09:00 - 09:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	622	156	447	2173	0.286	623	928	0.6	0.4	2.554	A
1 - untitled	2 - A811 (East)	-	851	213	416	1982	0.429	853	654	1.3	0.8	3.514	Α
i - untitied	3 - A82 (South)	-	1007	252	368	2770	0.363	1008	901	0.9	0.6	2.250	Α
	4 - Local Access (West)	-	0	0	1376	407	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	297	74	739	1903	0.156	297	228	0.3	0.2	2.466	A
2 - untitled	2 - A811 (East)	-	644	161	564	1637	0.393	645	472	1.1	0.7	4.000	A
2 - untitied	3 - Luss Road (South)	-	536	134	639	2020	0.265	536	571	0.6	0.4	2.669	A
	4 - A811 (West)	-	648	162	318	1926	0.336	649	857	0.8	0.6	3.101	A
	1 - Ben Lomond Way (North)	-	18	4	201	1463	0.012	18	40	0.0	0.0	2.742	A
3 - untitled	2 - Balloch Road (East)	-	218	54	89	1553	0.140	218	130	0.2	0.2	2.965	A
5 - untitied	3 - Old Luss Road (South)	-	225	56	8	1795	0.125	225	299	0.2	0.2	2.524	Α
	4 - Old Luss Road (West)	-	22	6	218	1436	0.016	22	15	0.0	0.0	2.800	Α
	1 - Ben Lomond Way (East)	-	13	3	4	1368	0.009	13	21	0.0	0.0	2.658	Α
4 - untitled	2 - Ben Lomond Way (South)	-	39	10	2	1539	0.025	39	15	0.0	0.0	2.400	A
4 - untitled	3 - Lomond Shores (Access Only)	-	4	1	30	1419	0.003	4	11	0.0	0.0	2.544	Α
	4 - Lomond Shores (Access / Egress)	-	0	0	25	707	0.000	0	9	0.0	0.0	0.000	Α
	-	B-AC	0	0		644	0.000	0		0.0	0.0	0.000	A
	-	C-AB	15	4		723	0.021	15		0.0	0.0	5.597	A
5 - Balloch Road / Pier Road	-	C-A	155	39				155					
	-	A-B	0	0				0					
	-	A-C	143	36				143					
	-	В-С	62	16		642	0.097	62		0.2	0.1	6.831	A
	-	B-A	48	12		449	0.106	48		0.2	0.1	9.879	A
6 Pollock Bood / Corrects: Dood	-	C-AB	89	22		675	0.133	90		0.2	0.2	6.773	A
6 - Balloch Road / Carrochan Road	-	C-A	44	11				44					

	-	A-B	97	24				97					
	-	A-C	94	24				94					
	-	B-AC	101	25		522	0.193	101		0.4	0.3	9.413	A
	-	C-AB	54	13		793	0.068	54		0.2	0.1	5.361	A
7 - untitled	-	C-A	281	70				281					
	-	A-B	53	13				53					
	-	A-C	265	66				265					
	1 - Carrochan Road	-	195	49	451	1399	0.139	195	162	0.2	0.2	3.293	A
8 - untitled	2 - A811 Lomond Road	-	426	107	289	1305	0.327	427	357	0.8	0.5	4.516	A
6 - ununeu	3 - A813 Carrochan Road (South)	-	320	80	428	1656	0.193	320	288	0.4	0.3	2.968	A
	4 - A811 (West)	-	449	112	164	1541	0.291	449	584	0.6	0.4	3.583	A

09:15 - 09:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	521	130	374	2216	0.235	521	777	0.4	0.3	2.338	A
1 - untitled	2 - A811 (East)	-	713	178	348	2019	0.353	714	548	0.8	0.6	3.034	A
1 - untitled	3 - A82 (South)	-	843	211	308	2810	0.300	844	754	0.6	0.5	2.014	A
	4 - Local Access (West)	-	0	0	1151	471	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	248	62	619	1973	0.126	249	191	0.2	0.2	2.295	Α
2 - untitled	2 - A811 (East)	-	539	135	472	1684	0.320	540	395	0.7	0.5	3.461	Α
z - untitied	3 - Luss Road (South)	-	449	112	534	2083	0.215	449	478	0.4	0.3	2.426	Α
	4 - A811 (West)	-	543	136	266	1955	0.278	543	718	0.6	0.4	2.806	Α
	1 - Ben Lomond Way (North)	-	15	4	168	1483	0.010	15	33	0.0	0.0	2.696	Α
3 - untitled	2 - Balloch Road (East)	-	182	46	75	1562	0.117	182	108	0.2	0.1	2.869	Α
3 - untitlea	3 - Old Luss Road (South)	-	188	47	7	1796	0.105	188	250	0.2	0.1	2.463	Α
	4 - Old Luss Road (West)	-	19	5	182	1459	0.013	19	13	0.0	0.0	2.749	Α
	1 - Ben Lomond Way (East)	-	11	3	4	1368	0.008	11	17	0.0	0.0	2.653	Α
4 - untitled	2 - Ben Lomond Way (South)	-	32	8	2	1540	0.021	32	13	0.0	0.0	2.388	Α
4 - untitled	3 - Lomond Shores (Access Only)	-	4	0.94	25	1422	0.003	4	9	0.0	0.0	2.538	Α
	4 - Lomond Shores (Access / Egress)	-	0	0	21	709	0.000	0	8	0.0	0.0	0.000	Α
	-	B-AC	0	0		654	0.000	0		0.0	0.0	0.000	Α
	-	C-AB	12	3		711	0.017	12		0.0	0.0	5.668	Α
5 - Balloch Road / Pier Road	-	C-A	130	33				130					
	-	A-B	0	0				0					
	-	A-C	120	30				120					
	-	B-C	52	13		650	0.080	52		0.1	0.1	6.620	Α
	-	B-A	40	10		459	0.087	40		0.1	0.1	9.457	A
6 - Balloch Road / Carrochan Road	-	C-AB	74	18		677	0.109	74		0.2	0.1	6.573	A
6 - Balloch Road / Carrochan Road	-	C-A	38	9				38					
	-	A-B	81	20				81					
	-	A-C	79	20				79					
	-	B-AC	84	21		543	0.155	85		0.3	0.2	8.646	Α
	-	C-AB	42	10		771	0.054	42		0.1	0.1	5.432	Α
7 - untitled	-	C-A	239	60				239					
	-	A-B	44	11				44					
	-	A-C	222	56				222			İ		
	1 - Carrochan Road	-	163	41	378	1440	0.113	164	136	0.2	0.1	3.105	Α
8 - untitled	2 - A811 Lomond Road	-	357	89	242	1330	0.268	357	299	0.5	0.4	4.074	A
o - ununea	3 - A813 Carrochan Road (South)	-	268	67	358	1699	0.158	268	241	0.3	0.2	2.769	А
	4 - A811 (West)	-	376	94	137	1556	0.241	376	489	0.4	0.3	3.314	A

Existing Layout - 2030, Base Weekday PM

Data Errors and Warnings

Severity			Description			
Warning	Warning Geometry 2 - untitled - 3 - Luss Road (South) - Roundabout Geometry		Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.			
Warning	arning Vehicle Mix 4 - untitled		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.			

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout					1, 2, 3, 4	5.34	A
2	untitled	Standard Roundabout					1, 2, 3, 4	4.89	Α
3	untitled	Standard Roundabout					1, 2, 3, 4	3.07	Α
4	untitled	Standard Roundabout					1, 2, 3, 4	3.31	Α
5	Balloch Road / Pier Road	T-Junction	Two-way	Two-way	Two-way			0.58	Α
6	Balloch Road / Carrochan Road	T-Junction	Two-way	Two-way	Two-way			4.68	Α
7	untitled	T-Junction	Two-way	Two-way	Two-way			1.75	Α
8	untitled	Standard Roundabout					1, 2, 3, 4	5.44	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	22	1 - untitled - 1 - A82 (North)	4.47	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2030	Base Weekday PM	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn Vehicle mix varies over en		Vehicle mix source	PCU Factor for a HV (PCU)	
✓	✓	HV Percentages	2.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
	1 - A82 (North)		ONE HOUR	✓	1427	100.000
1 - untitled	2 - A811 (East)		ONE HOUR	✓	775	100.000
i - untitied	3 - A82 (South)		ONE HOUR	✓	1055	100.000
	4 - Local Access (West)		ONE HOUR	✓	2	100.000
	1 - Old Luss Road (North)		ONE HOUR	✓	321	100.000
2 - untitled	2 - A811 (East)		ONE HOUR	✓	576	100.000
2 - untitled	3 - Luss Road (South)		ONE HOUR	✓	745	100.000
	4 - A811 (West)		ONE HOUR	✓	1093	100.000
	1 - Ben Lomond Way (North)		ONE HOUR	√	111	100.000
3 - untitled	2 - Balloch Road (East)		ONE HOUR	✓	178	100.000
	3 - Old Luss Road (South)		ONE HOUR	✓	428	100.000
	4 - Old Luss Road (West)		ONE HOUR	✓	41	100.000
	1 - Ben Lomond Way (East)		ONE HOUR	✓	38	100.000
4 - untitled	2 - Ben Lomond Way (South)		ONE HOUR	✓	70	100.000
4 - ununeu	3 - Lomond Shores (Access Only)		ONE HOUR	✓	42	100.000
	4 - Lomond Shores (Access / Egress)		ONE HOUR	✓	44	100.000
	A - Balloch Road (West)		ONE HOUR	✓	256	100.000
5 - Balloch Road / Pier Road	B - Pier Road		ONE HOUR	✓	25	100.000
	C - Balloch Road (East)		ONE HOUR	✓	193	100.000
	A - Drymen Road (East)		ONE HOUR	✓	151	100.000
6 - Balloch Road / Carrochan Road	B - Carrochan Road		ONE HOUR	✓	192	100.000
	C - Balloch Road (west)		ONE HOUR	✓	276	100.000
	A - A811 Lomond Road		ONE HOUR	✓	481	100.000
7 - untitled	B - Drymen Road		ONE HOUR	✓	120	100.000
	C - A811 Main Street		ONE HOUR	✓	422	100.000
_	1 - Carrochan Road		ONE HOUR	✓	299	100.000
8 - untitled	2 - A811 Lomond Road		ONE HOUR	✓	464	100.000
o - unuleu	3 - A813 Carrochan Road (South)		ONE HOUR	✓	359	100.000
	4 - A811 (West)		ONE HOUR	✓	787	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - untitled

	То								
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)				
	1 - A82 (North)	8	547	870	2				
From	2 - A811 (East)	363	0	410	2				
	3 - A82 (South)	509	546	0	0				
	4 - Local Access (West)	1	1	0	0				

Demand (PCU/hr)

2 - untitled

			То		
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)
	1 - Old Luss Road (North)	0	44	107	170
From	2 - A811 (East)	60	3	194	319
	3 - Luss Road (South)	144	326	0	275
	4 - A811 (West)	249	510	333	1

Demand (PCU/hr)

3 - untitled

			То		
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)
	1 - Ben Lomond Way (North)	0	22	87	2
From	2 - Balloch Road (East)	10	0	158	10
	3 - Old Luss Road (South)	56	281	60	31
	4 - Old Luss Road (West)	5	13	23	0

Demand (PCU/hr)

4 - untitled

			То		
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)
	1 - Ben Lomond Way (East)	1	30	1	6
From	2 - Ben Lomond Way (South)	34	3	15	18
	3 - Lomond Shores (Access Only)	0	42	0	0
	4 - Lomond Shores (Access / Egress)	5	38	1	0

Demand (PCU/hr)

5 - Balloch Road / Pier Road

	То						
From		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)			
	A - Balloch Road (West)	0	5	251			
	B - Pier Road	5	0	20			
	C - Balloch Road (East)	177	16	0			

Demand (PCU/hr)

6 - Balloch Road / Carrochan Road

	То						
From		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)			
	A - Drymen Road (East)	0	83	68			
	B - Carrochan Road	77	0	115			
	C - Balloch Road (west)	149	127	0			

Demand (PCU/hr)

7 - untitled

	То					
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street		
From	A - A811 Lomond Road	0	89	392		
FIOIII	B - Drymen Road	67	0	53		
	C - A811 Main Street	385	37	0		

Demand (PCU/hr)

То				
	1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
1 - Carrochan Road	2	51	135	111

From	2 - A811 Lomond Road	30	0	120	314
	3 - A813 Carrochan Road (South)	111	101	2	145
	4 - A811 (West)	109	431	246	1

Vehicle Mix

Heavy Vehicle Percentages

1 - untitled

	То					
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)	
	1 - A82 (North)	10	10	10	10	
From	2 - A811 (East)	10	10	10	10	
	3 - A82 (South)	10	10	10	10	
	4 - Local Access (West)	10	10	10	10	

Heavy Vehicle Percentages

2 - untitled

	То						
From		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)		
	1 - Old Luss Road (North)	10	10	10	10		
	2 - A811 (East)	10	10	10	10		
	3 - Luss Road (South)	10	10	10	10		
	4 - A811 (West)	10	10	10	0		

Heavy Vehicle Percentages

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	10	10	10	10	
From	2 - Balloch Road (East)	10	10	10	10	
	3 - Old Luss Road (South)	10	10	10	10	
	4 - Old Luss Road (West)	10	10	10	10	

Heavy Vehicle Percentages

4 - untitled

	•						
	То						
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)		
	1 - Ben Lomond Way (East)	0	0	0	0		
From	2 - Ben Lomond Way (South)	0	0	0	0		
	3 - Lomond Shores (Access Only)	0	0	0	0		
	4 - Lomond Shores (Access / Egress)	0	0	0	0		

Heavy Vehicle Percentages

5 - Balloch Road / Pier Road

	То						
From		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)			
	A - Balloch Road (West)	10	10	10			
	B - Pier Road	10	10	10			
	C - Balloch Road (East)	10	10	10			

Heavy Vehicle Percentages

6 - Balloch Road / Carrochan Road

	То						
From		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)			
	A - Drymen Road (East)	10	10	10			
	B - Carrochan Road	10	10	10			
	C - Balloch Road (west)	10	10	10			

Heavy Vehicle Percentages

7 - untitled

	То						
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street			
From	A - A811 Lomond Road	10	10	10			
FIOIII	B - Drymen Road	10	10	10			
	C - A811 Main Street	10	10	10			

Heavy Vehicle Percentages

8 - untitled

			То		
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
	1 - Carrochan Road	10	10	10	10
From	2 - A811 Lomond Road	10	10	10	10
	3 - A813 Carrochan Road (South)	10	10	10	10
	4 - A811 (West)	0	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	1 - A82 (North)	0.75	7.72	3.3	Α	1309	1964
1 - untitled	2 - A811 (East)	0.51	4.80	1.1	Α	711	1067
i - untitied	3 - A82 (South)	0.42	2.51	0.8	Α	968	1452
	4 - Local Access (West)	0.00	0.00	0.0	Α	0	0
	1 - Old Luss Road (North)	0.22	3.23	0.3	Α	295	442
2 - untitled	2 - A811 (East)	0.40	4.18	0.7	Α	529	793
z - untitieu	3 - Luss Road (South)	0.40	3.25	0.7	Α	684	1025
	4 - A811 (West)	0.68	6.88	2.3	Α	1003	1504
	1 - Ben Lomond Way (North)	0.09	3.28	0.1	A	102	153
3 - untitled	2 - Balloch Road (East)	0.13	3.05	0.2	Α	163	245
3 - untitied	3 - Old Luss Road (South)	0.26	3.01	0.4	A	393	589
	4 - Old Luss Road (West)	0.03	3.18	0.0	Α	38	56
	1 - Ben Lomond Way (East)	0.03	2.82	0.0	Α	35	52
4 - untitled	2 - Ben Lomond Way (South)	0.05	2.47	0.1	Α	64	96
4 - unititieu	3 - Lomond Shores (Access Only)	0.03	2.67	0.0	Α	39	58
	4 - Lomond Shores (Access / Egress)	0.07	5.67	0.1	Α	40	61
	1 - Carrochan Road	0.28	4.71	0.4	A	274	412
8 - untitled	2 - A811 Lomond Road	0.44	6.03	0.8	Α	426	639
o - untitieu	3 - A813 Carrochan Road (South)	0.25	3.26	0.4	A	329	494
	4 - A811 (West)	0.59	6.36	1.5	Α	722	1083

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	B-AC	0.04	6.20	0.0	Α	23	34
	C-AB	0.03	5.81	0.0	Α	19	29
5 - Balloch Road / Pier Road	C-A					158	237
	A-B					5	7
	A-C					230	345
	B-C	0.20	7.85	0.3	Α	106	158
	B-A	0.20	11.82	0.3	В	71	106
6 - Balloch Road / Carrochan Road	C-AB	0.24	6.90	0.4	Α	144	216
6 - Balloch Road / Carrochan Road	C-A					109	164
	A-B					76	114
	A-C					62	94
	B-AC	0.28	11.83	0.4	В	110	165
	C-AB	0.10	5.42	0.2	Α	62	93
7 - untitled	C-A					325	488
	A-B					82	123
	A-C					360	540

Main Results for each time segment

16:30 - 16:45

16:30 - 16:45		_			l			l	1				
Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1074	269	410	2195	0.489	1070	661	0.0	1.0	3.507	A
1 - untitled	2 - A811 (East)	-	583	146	660	1848	0.316	581	820	0.0	0.5	3.121	A
i - unidea	3 - A82 (South)	-	794	199	281	2827	0.281	793	960	0.0	0.4	1.944	A
	4 - Local Access (West)	-	0	0	1071	494	0.000	0	3	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	242	60	880	1820	0.133	241	340	0.0	0.2	2.506	A
2 - untitled	2 - A811 (East)	-	434	108	458	1692	0.256	432	662	0.0	0.4	3.139	A
2 - untitied	3 - Luss Road (South)	-	561	140	415	2154	0.260	559	476	0.0	0.4	2.481	A
	4 - A811 (West)	-	823	206	400	1881	0.437	819	574	0.0	0.8	3.716	A
	1 - Ben Lomond Way (North)	-	84	21	283	1412	0.059	83	53	0.0	0.1	2.980	A
									1				1

3 - untitled	2 - Balloch Road (East)	-	134	34	129	1529	0.088	134	237	0.0	0.1	2.838	A
3 - untitied	3 - Old Luss Road (South)	-	322	81	17	1789	0.180	321	246	0.0	0.2	2.696	Α
	4 - Old Luss Road (West)	-	31	8	305	1381	0.022	31	32	0.0	0.0	2.932	A
	1 - Ben Lomond Way (East)	-	29	7	63	1333	0.021	29	30	0.0	0.0	2.759	Α
4 - untitled	2 - Ben Lomond Way (South)	-	53	13	7	1536	0.034	53	85	0.0	0.0	2.426	Α
4 - unititied	3 - Lomond Shores (Access Only)	-	32	8	47	1409	0.022	32	13	0.0	0.0	2.613	Α
	4 - Lomond Shores (Access / Egress)	-	33	8	60	694	0.048	33	18	0.0	0.0	5.446	Α
	-	B-AC	19	5		693	0.027	19		0.0	0.0	5.870	Α
	-	C-AB	15	4		696	0.021	15		0.0	0.0	5.811	Α
5 - Balloch Road / Pier Road	-	C-A	130	33				130					
	-	A-B	4	0.94				4					
	-	A-C	189	47				189					
	-	B-C	87	22		652	0.133	86		0.0	0.2	6.989	Α
6 Palloch Pood / Carrochan Pood	-	B-A	58	14		449	0.129	57		0.0	0.2	10.096	В
6 - Palloch Boad / Carrochan Boad		C-AB	113	28		732	0.154	112		0.0	0.2	6.376	Α
6 - Balloch Road / Carrochan Road	-	C-A	95	24				95					
	-	A-B	62	16				62					
	-	A-C	51	13				51					
	-	B-AC	90	23		529	0.171	89		0.0	0.2	8.991	Α
	-	C-AB	44	11		776	0.057	44		0.0	0.1	5.407	Α
7 - untitled	-	C-A	273	68				273					
	-	A-B	67	17				67					
	-	A-C	295	74				295					
	1 - Carrochan Road	-	225	56	585	1324	0.170	224	189	0.0	0.2	3.598	A
8 - untitled	2 - A811 Lomond Road	-	349	87	373	1261	0.277	348	437	0.0	0.4	4.330	A
o - ununeu	3 - A813 Carrochan Road (South)	-	270	68	343	1708	0.158	269	377	0.0	0.2	2.751	A
	3 - A813 Carrochan Road (South) 4 - A811 (West)	-	592	148	185	1529	0.388	590	428	0.0	0.7	4.148	Α

16:45 - 17:00

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1283	321	491	2148	0.597	1281	790	1.0	1.6	4.552	Α
1 - untitled	2 - A811 (East)	-	697	174	790	1777	0.392	696	981	0.5	0.7	3.663	A
1 - untitled	3 - A82 (South)	-	948	237	337	2790	0.340	948	1149	0.4	0.6	2.149	Α
	4 - Local Access (West)	-	0	0	1281	434	0.000	0	4	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	289	72	1053	1718	0.168	288	407	0.2	0.2	2.769	A
2 consisted	2 - A811 (East)	-	518	129	549	1645	0.315	517	793	0.4	0.5	3.509	Α
- untitled 3 - 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	3 - Luss Road (South)	-	670	167	497	2105	0.318	669	569	0.4	0.5	2.758	A
	4 - A811 (West)	-	983	246	479	1838	0.535	981	687	0.8	1.2	4.611	Α
	1 - Ben Lomond Way (North)	-	100	25	339	1377	0.072	100	64	0.1	0.1	3.099	A
2 umataloui	2 - Balloch Road (East)	-	160	40	155	1513	0.106	160	284	0.1	0.1	2.925	A
3 - unititied	3 - Old Luss Road (South)	-	385	96	20	1787	0.215	385	295	0.2	0.3	2.822	A
	4 - Old Luss Road (West)	-	37	9	366	1343	0.027	37	39	0.0	0.0	3.031	A
	1 - Ben Lomond Way (East)	-	34	9	75	1326	0.026	34	36	0.0	0.0	2.786	Α
4 umtitled	2 - Ben Lomond Way (South)	-	63	16	8	1535	0.041	63	102	0.0	0.0	2.444	Α
4 - untitled	3 - Lomond Shores (Access Only)	-	38	9	56	1403	0.027	38	15	0.0	0.0	2.635	A
	4 - Lomond Shores (Access / Egress)	-	40	10	72	689	0.057	40	22	0.0	0.1	5.540	Α
	-	B-AC	22	6		682	0.033	22		0.0	0.0	6.004	Α
	-	C-AB	19	5		706	0.026	19		0.0	0.0	5.761	A
5 - Balloch Road / Pier Road	-	C-A	155	39				155					
	-	A-B	4	1				4					
	-	A-C	226	56				226					
	-	B-C	103	26		643	0.161	103		0.2	0.2	7.329	A
	-	B-A	69	17		437	0.159	69		0.2	0.2	10.766	В
6 - Balloch Road / Carrochan Road	-	C-AB	140	35		741	0.188	139		0.2	0.3	6.580	A
6 - Balloch Road / Carrochan Road	-	C-A	109	27				109					
	-	A-B	75	19				75					
	-	A-C	61	15				61					T
	-	B-AC	108	27		503	0.214	108		0.2	0.3	10.004	В
	-	C-AB	59	15		801	0.073	59		0.1	0.1	5.337	A
7 - untitled	-	C-A	321	80				321					
	-	A-B	80	20				80					
	-	A-C	352	88				352					
	1 - Carrochan Road	-	269	67	701	1259	0.213	269	226	0.2	0.3	3.996	Α
8 - untitled	2 - A811 Lomond Road	-	417	104	446	1222	0.341	417	523	0.4	0.6	4.916	А
o - unitited	3 - A813 Carrochan Road (South)	-	323	81	411	1666	0.194	323	452	0.2	0.3	2.947	Α
	4 - A811 (West)	-	707	177	221	1508	0.469	706	513	0.7	0.9	4.865	A

17:00 - 17:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - untitled	1 - A82 (North)	-	1571	393	601	2084	0.754	1565	968	1.6	3.3	7.531	Α
	2 - A811 (East)	-	853	213	965	1680	0.508	852	1200	0.7	1.1	4.768	Α
	3 - A82 (South)	-	1162	290	412	2740	0.424	1161	1404	0.6	0.8	2.505	Α
	4 - Local Access (West)	-	0	0	1568	351	0.000	0	4	0.0	0.0	0.000	A

	,												
	1 - Old Luss Road (North)	-	353	88	1288	1580	0.224	353	498	0.2	0.3	3.227	Α
2 - untitled	2 - A811 (East)	-	634	159	671	1582	0.401	633	970	0.5	0.7	4.171	A
2 - ununeu	3 - Luss Road (South)	-	820	205	608	2039	0.402	819	696	0.5	0.7	3.246	A
	4 - A811 (West)	-	1203	301	586	1779	0.676	1199	841	1.2	2.2	6.780	A
	1 - Ben Lomond Way (North)	-	122	31	415	1330	0.092	122	78	0.1	0.1	3.277	A
2 consisted	2 - Balloch Road (East)	-	196	49	189	1492	0.131	196	348	0.1	0.2	3.054	A
3 - Old Luss 4 - Old Luss 1 - Ben Lomc 2 - Ben Lomc 3 - Lomond S 4 - Lomond S	3 - Old Luss Road (South)	-	471	118	24	1784	0.264	471	361	0.3	0.4	3.015	A
	4 - Old Luss Road (West)	-	45	11	448	1291	0.035	45	47	0.0	0.0	3.177	A
	1 - Ben Lomond Way (East)	-	42	10	92	1316	0.032	42	44	0.0	0.0	2.825	A
4	2 - Ben Lomond Way (South)	-	77	19	10	1534	0.050	77	124	0.0	0.1	2.470	A
4 - untitled	3 - Lomond Shores (Access Only)	-	46	12	68	1396	0.033	46	19	0.0	0.0	2.667	A
	4 - Lomond Shores (Access / Egress)	-	48	12	88	683	0.071	48	26	0.1	0.1	5.671	A
	-	B-AC	28	7		666	0.041	27		0.0	0.0	6.201	A
	-	C-AB	24	6		720	0.034	24		0.0	0.0	5.694	A
5 - Balloch Road / Pier Road	-	C-A	188	47				188					
	-	A-B	6	1				6					
	-	A-C	276	69				276					
	-	В-С	127	32		631	0.201	126	İ	0.2	0.3	7.840	Α
	-	B-A	85	21		420	0.202	85		0.2	0.3	11.796	В
6 - Balloch Road / Carrochan Road	-	C-AB	179	45		754	0.238	179		0.3	0.4	6.889	A
6 - Balloch Road / Carrochan Road	-	C-A	125	31				125					
	-	A-B	91	23				91					
	-	A-C	75	19				75					
	-	B-AC	132	33		467	0.283	132		0.3	0.4	11.791	В
	-	C-AB	83	21		836	0.099	83		0.1	0.2	5.261	A
7 - untitled	-	C-A	382	95				382					
	-	A-B	98	24				98					
	-	A-C	432	108				432					
	1 - Carrochan Road	-	329	82	858	1172	0.281	329	277	0.3	0.4	4.694	Α
O servicio d	2 - A811 Lomond Road	-	511	128	546	1169	0.437	510	640	0.6	0.8	6.001	A
8 - untitled	3 - A813 Carrochan Road (South)	-	395	99	503	1609	0.246	395	553	0.3	0.4	3.262	A
	4 - A811 (West)	-	867	217	271	1480	0.585	864	628	0.9	1.5	6.316	A

17:15 - 17:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1571	393	601	2083	0.754	1571	969	3.3	3.3	7.717	A
4	2 - A811 (East)	-	853	213	969	1678	0.508	853	1203	1.1	1.1	4.799	A
1 - untitled	3 - A82 (South)	-	1162	290	413	2740	0.424	1162	1409	0.8	0.8	2.508	A
- untitled 2 3 4 - untitled 2 3 - untitled 3 4 - untitled 2 3 4 - untitled 2 3 4 - untitled 3 - untitled 4 - untitled 5 - Balloch Road / Pier Road 5 - Balloch Road / Carrochan Road 6 - Balloch Road / Carrochan Road 6	4 - Local Access (West)	-	0	0	1570	351	0.000	0	4	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	353	88	1291	1578	0.224	353	499	0.3	0.3	3.233	A
2mtitled	2 - A811 (East)	-	634	159	673	1581	0.401	634	972	0.7	0.7	4.181	A
z - untitied	3 - Luss Road (South)	-	820	205	609	2038	0.402	820	698	0.7	0.7	3.250	A
	4 - A811 (West)	-	1203	301	587	1779	0.676	1203	842	2.2	2.3	6.875	A
	1 - Ben Lomond Way (North)	-	122	31	415	1330	0.092	122	78	0.1	0.1	3.278	A
2mtitle.d	2 - Balloch Road (East)	-	196	49	189	1492	0.131	196	348	0.2	0.2	3.054	A
s - undded	3 - Old Luss Road (South)	-	471	118	24	1784	0.264	471	361	0.4	0.4	3.015	A
	4 - Old Luss Road (West)	-	45	11	448	1291	0.035	45	47	0.0	0.0	3.178	A
	1 - Ben Lomond Way (East)	-	42	10	92	1316	0.032	42	44	0.0	0.0	2.825	A
4mtitle.d	2 - Ben Lomond Way (South)	-	77	19	10	1534	0.050	77	124	0.1	0.1	2.470	A
4 - untitied	3 - Lomond Shores (Access Only)	-	46	12	68	1396	0.033	46	19	0.0	0.0	2.667	A
	4 - Lomond Shores (Access / Egress)	-	48	12	88	683	0.071	48	26	0.1	0.1	5.671	A
	-	B-AC	28	7		666	0.041	28		0.0	0.0	6.201	A
	-	C-AB	24	6		720	0.034	24		0.0	0.0	5.694	A
Balloch Road / Pier Road	-	C-A	188	47				188					
	-	A-B	6	1				6					
	-	A-C	276	69				276					
	-	B-C	127	32		631	0.201	127		0.3	0.3	7.849	A
	-	B-A	85	21		420	0.202	85		0.3	0.3	11.818	В
6 Bellech Bood / Correction Bood	-	C-AB	179	45		754	0.238	179		0.4	0.4	6.901	A
6 - Balloch Road / Carrochan Road	-	C-A	125	31				125					
	-	A-B	91	23				91					
	-	A-C	75	19				75					
	-	B-AC	132	33		467	0.283	132		0.4	0.4	11.830	В
	-	C-AB	83	21		836	0.099	83		0.2	0.2	5.264	A
7 - untitled	-	C-A	381	95				381					
	-	A-B	98	24				98					
		A-C	432	108				432					
<u> </u>	1 - Carrochan Road	-	329	82	860	1171	0.281	329	277	0.4	0.4	4.705	Α
8 - untitled	2 - A811 Lomond Road	-	511	128	547	1168	0.437	511	642	0.8	0.8	6.025	A
o - unuucu	3 - A813 Carrochan Road (South)	-	395	99	504	1608	0.246	395	554	0.4	0.4	3.263	A
	4 - A811 (West)	-	867	217	271	1480	0.585	866	629	1.5	1.5	6.363	A

1	7:30 - 17:45													
	Junction	Arm	Stream	Total Demand	Junction Arrivals	Circulating flow	Capacity (PCU/hr)	RFC	Throughput	Throughput (exit	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level

			(PCU/hr)	(PCU)	(PCU/hr)			(PCU/hr)	side) (PCU/hr)				of service
	1 - A82 (North)	-	1283	321	491	2148	0.597	1290	792	3.3	1.7	4.649	А
	2 - A811 (East)	-	697	174	795	1774	0.393	698	986	1.1	0.7	3.690	А
1 - untitled	3 - A82 (South)	-	948	237	338	2790	0.340	949	1156	0.8	0.6	2.152	А
	4 - Local Access (West)	-	0	0	1284	433	0.000	0	4	0.0	0.0	0.000	А
	1 - Old Luss Road (North)	-	289	72	1058	1715	0.168	289	408	0.3	0.2	2.776	А
	2 - A811 (East)	-	518	129	551	1644	0.315	519	796	0.7	0.5	3.524	А
2 - untitled	3 - Luss Road (South)	-	670	167	498	2104	0.318	671	572	0.7	0.5	2.765	А
	4 - A811 (West)	-	983	246	480	1838	0.535	987	689	2.3	1.3	4.675	A
	1 - Ben Lomond Way (North)	-	100	25	339	1377	0.072	100	64	0.1	0.1	3.100	А
O constitue d	2 - Balloch Road (East)	-	160	40	155	1513	0.106	160	284	0.2	0.1	2.926	А
3 - untitled	3 - Old Luss Road (South)	-	385	96	20	1787	0.215	385	295	0.4	0.3	2.826	A
	4 - Old Luss Road (West)	-	37	9	366	1342	0.027	37	39	0.0	0.0	3.032	А
	1 - Ben Lomond Way (East)	-	34	9	76	1326	0.026	34	36	0.0	0.0	2.789	А
4 - untitled	2 - Ben Lomond Way (South)	-	63	16	8	1535	0.041	63	102	0.1	0.0	2.446	А
4 - untitled	3 - Lomond Shores (Access Only)	-	38	9	56	1403	0.027	38	15	0.0	0.0	2.636	А
	4 - Lomond Shores (Access / Egress)	-	40	10	72	689	0.057	40	22	0.1	0.1	5.543	A
	-	B-AC	22	6		682	0.033	23		0.0	0.0	6.007	A
	-	C-AB	19	5		706	0.026	19		0.0	0.0	5.762	A
5 - Balloch Road / Pier Road	-	C-A	155	39				155					
	-	A-B	4	1				4					
	-	A-C	226	56				226					
	-	B-C	103	26		643	0.161	104		0.3	0.2	7.344	A
	-	B-A	69	17		436	0.159	69		0.3	0.2	10.798	В
6 - Balloch Road / Carrochan Road	-	C-AB	140	35		741	0.188	140		0.4	0.3	6.594	A
6 - Balloch Road / Carrochan Road	-	C-A	108	27				108					
	-	A-B	75	19				75					
	-	A-C	61	15				61					
	-	B-AC	108	27		503	0.214	108		0.4	0.3	10.046	В
	-	C-AB	59	15		801	0.074	59		0.2	0.1	5.346	A
7 - untitled	-	C-A	320	80				320					
	-	A-B	80	20				80					
	-	A-C	352	88				352					
	1 - Carrochan Road	-	269	67	704	1258	0.214	269	227	0.4	0.3	4.009	Α
8 - untitled	2 - A811 Lomond Road	-	417	104	448	1221	0.342	418	526	0.8	0.6	4.941	A
o - ununeu	3 - A813 Carrochan Road (South)	-	323	81	413	1665	0.194	323	453	0.4	0.3	2.950	A
	4 - A811 (West)	-	707	177	221	1508	0.469	710	514	1.5	1.0	4.906	A

17:45 - 18:00

17:45 - 18:00													1
Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1074	269	411	2194	0.490	1077	663	1.7	1.1	3.552	A
1 - untitled	2 - A811 (East)	-	583	146	664	1846	0.316	584	824	0.7	0.5	3.140	A
i - unitited	3 - A82 (South)	-	794	199	283	2826	0.281	795	966	0.6	0.4	1.949	A
	4 - Local Access (West)	-	0	0	1075	493	0.000	0	3	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	242	60	885	1817	0.133	242	342	0.2	0.2	2.515	A
2 - untitled	2 - A811 (East)	-	434	108	461	1690	0.257	434	666	0.5	0.4	3.155	A
2 - untitled	3 - Luss Road (South)	-	561	140	417	2153	0.261	561	478	0.5	0.4	2.488	A
	4 - A811 (West)	-	823	206	402	1880	0.438	825	577	1.3	0.9	3.754	A
	1 - Ben Lomond Way (North)	-	84	21	284	1411	0.059	84	53	0.1	0.1	2.982	A
3 - untitled	2 - Balloch Road (East)	-	134	34	130	1528	0.088	134	238	0.1	0.1	2.839	A
3 - unitilea	3 - Old Luss Road (South)	-	322	81	17	1789	0.180	322	247	0.3	0.2	2.699	A
	4 - Old Luss Road (West)	-	31	8	307	1380	0.022	31	32	0.0	0.0	2.936	A
	1 - Ben Lomond Way (East)	-	29	7	63	1333	0.021	29	30	0.0	0.0	2.759	A
4 - untitled	2 - Ben Lomond Way (South)	-	53	13	7	1536	0.034	53	85	0.0	0.0	2.426	A
4 - untitled	3 - Lomond Shores (Access Only)	-	32	8	47	1409	0.022	32	13	0.0	0.0	2.615	A
	4 - Lomond Shores (Access / Egress)	-	33	8	60	694	0.048	33	18	0.1	0.1	5.451	A
4-1	-	B-AC	19	5		693	0.027	19		0.0	0.0	5.873	A
	-	C-AB	15	4		696	0.021	15		0.0	0.0	5.812	A
5 - Balloch Road / Pier Road	-	C-A	130	33				130					
	-	A-B	4	0.94				4	Ì				
	-	A-C	189	47				189					
	-	B-C	87	22		652	0.133	87		0.2	0.2	7.009	A
	-	B-A	58	14		449	0.129	58		0.2	0.2	10.148	В
6 - Balloch Road / Carrochan Road	-	C-AB	113	28		733	0.154	113		0.3	0.2	6.400	A
0 - Ballocii Koau / Carrociian Koau	-	C-A	95	24				95					
	-	A-B	62	16				62					
	-	A-C	51	13				51					
	-	B-AC	90	23		529	0.171	91		0.3	0.2	9.043	A
	-	C-AB	45	11		777	0.058	45		0.1	0.1	5.416	A
7 - untitled	-	C-A	273	68				273					
	-	A-B	67	17				67					
	-	A-C	295	74				295					
	1 - Carrochan Road	-	225	56	589	1322	0.170	225	190	0.3	0.2	3.615	A
	2 - A811 Lomond Road	-	349	87	375	1259	0.277	350	440	0.6	0.4	4.356	A

8 - untitled													
6 - unitileu	3 - A813 Carrochan Road (South)	-	270	68	345	1707	0.158	271	379	0.3	0.2	2.758	Α
	4 - A811 (West)	-	592	148	185	1528	0.388	594	430	1.0	0.7	4.182	A

Existing Layout - 2030, Base Saturday Peak Hour

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Warning Geometry 2 - untitled - 3 - Luss Road (South) - Roundabout Geometry		Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix	1 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	3 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	4 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	5 - Balloch Road / Pier Road	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	6 - Balloch Road / Carrochan Road	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	7 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	8 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout					1, 2, 3, 4	4.45	Α
2	untitled	Standard Roundabout					1, 2, 3, 4	4.32	Α
3	untitled	Standard Roundabout					1, 2, 3, 4	4.01	Α
4	untitled	Standard Roundabout					1, 2, 3, 4	3.90	Α
5	Balloch Road / Pier Road	T-Junction	Two-way	Two-way	Two-way			0.60	Α
6	Balloch Road / Carrochan Road	T-Junction	Two-way	Two-way	Two-way			6.25	Α
7	untitled	T-Junction	Two-way	Two-way	Two-way			1.83	Α
8	untitled	Standard Roundabout					1, 2, 3, 4	4.55	Α

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	16	1 - untitled - 4 - Local Access (West)	4.04	Α

Traffic Demand

Demand Set Details

1	D	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
	03	2030	Base Saturday Peak Hour	ONE HOUR	15:00	16:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	
✓	✓	HV Percentages	2.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
	1 - A82 (North)		ONE HOUR	✓	1172	100.000
1 - untitled	2 - A811 (East)		ONE HOUR	✓	1037	100.000
i - untitied	3 - A82 (South)		ONE HOUR	✓	1412	100.000
	4 - Local Access (West)		ONE HOUR	✓	8	100.000
	1 - Old Luss Road (North)		ONE HOUR	✓	701	100.000
2 - untitled	2 - A811 (East)		ONE HOUR	✓	563	100.000
2 - untitied	3 - Luss Road (South)		ONE HOUR	✓	481	100.000
	4 - A811 (West)		ONE HOUR	✓	871	100.000
	1 - Ben Lomond Way (North)		ONE HOUR	✓	439	100.000
3 - untitled	2 - Balloch Road (East)		ONE HOUR	✓	318	100.000
3 - untitied	3 - Old Luss Road (South)		ONE HOUR	✓	698	100.000
	4 - Old Luss Road (West)		ONE HOUR	✓	98	100.000
	1 - Ben Lomond Way (East)		ONE HOUR	✓	77	100.000
4 - untitled	2 - Ben Lomond Way (South)		ONE HOUR	✓	273	100.000
4 - untitied	3 - Lomond Shores (Access Only)		ONE HOUR	✓	292	100.000
	4 - Lomond Shores (Access / Egress)		ONE HOUR	✓	96	100.000
	A - Balloch Road (West)		ONE HOUR	✓	371	100.000
5 - Balloch Road / Pier Road	B - Pier Road		ONE HOUR	✓	43	100.000
	C - Balloch Road (East)		ONE HOUR	✓	339	100.000
	A - Drymen Road (East)		ONE HOUR	✓	167	100.000
6 - Balloch Road / Carrochan Road	B - Carrochan Road		ONE HOUR	✓	264	100.000
	C - Balloch Road (west)		ONE HOUR	✓	362	100.000
	A - A811 Lomond Road		ONE HOUR		395	100.000

			✓		
7 - untitled	B - Drymen Road	ONE HOUR	✓	126	100.000
	C - A811 Main Street	ONE HOUR	✓	453	100.000
	1 - Carrochan Road	ONE HOUR	✓	365	100.000
O constitue d	2 - A811 Lomond Road	ONE HOUR	✓	496	100.000
8 - untitled	3 - A813 Carrochan Road (South)	ONE HOUR	✓	341	100.000
	4 - A811 (West)	ONE HOUR	✓	653	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - untitled

	То							
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)			
	1 - A82 (North)	5	442	723	2			
From	2 - A811 (East)	462	2	568	5			
	3 - A82 (South)	841	563	7	1			
	4 - Local Access (West)	5	1	2	0			

Demand (PCU/hr)

2 - untitled

	То								
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)				
	1 - Old Luss Road (North)	1	86	154	460				
From	2 - A811 (East)	106	162	279	16				
	3 - Luss Road (South)	146	170	165	0				
	4 - A811 (West)	341	329	191	10				

Demand (PCU/hr)

3 - untitled

		То								
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)					
	1 - Ben Lomond Way (North)	1	85	350	3					
From	2 - Balloch Road (East)	42	0	258	18					
	3 - Old Luss Road (South)	223	277	116	82					
	4 - Old Luss Road (West)	6	23	69	0					

Demand (PCU/hr)

4 - untitled

Demai	muna (i com)									
		То								
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)					
	1 - Ben Lomond Way (East)	1	61	8	7					
From	2 - Ben Lomond Way (South)	59	6	93	115					
	3 - Lomond Shores (Access Only)	1	289	1	1					
	4 - Lomond Shores (Access / Egress)	1	93	1	1					

Demand (PCU/hr)

5 - Balloch Road / Pier Road

	То					
From		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)		
	A - Balloch Road (West)	0	5	366		
	B - Pier Road	5	0	38		
	C - Balloch Road (East)	315	24	0		

Demand (PCU/hr)

6 - Balloch Road / Carrochan Road

	То					
From		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)		
	A - Drymen Road (East)	0	74	93		
	B - Carrochan Road	79	0	185		
	C - Balloch Road (west)	131	231	0		

Demand (PCU/hr)

7 - untitled

Demai	bemana (i com)					
	То					
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street		
From	A - A811 Lomond Road	0	61	334		
	B - Drymen Road	60	0	66		

C - A811 Main Street	395	58	0

Demand (PCU/hr)

8 - untitled

	То				
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
	1 - Carrochan Road	1	44	196	124
From	2 - A811 Lomond Road	63	1	85	347
	3 - A813 Carrochan Road (South)	128	63	0	150
	4 - A811 (West)	134	362	157	0

Vehicle Mix

Heavy Vehicle Percentages

1 - untitled

	То				
From		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)
	1 - A82 (North)	0	0	0	0
	2 - A811 (East)	0	0	0	0
	3 - A82 (South)	0	0	0	0
	4 - Local Access (West)	0	0	0	0

Heavy Vehicle Percentages

2 - untitled

	То				
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)
	1 - Old Luss Road (North)	0	0	0	0
From	2 - A811 (East)	0	0	0	0
	3 - Luss Road (South)	0	0	0	0
	4 - A811 (West)	0	0	0	0

Heavy Vehicle Percentages

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	0	0	0	0	
From	2 - Balloch Road (East)	0	0	0	0	
	3 - Old Luss Road (South)	0	0	0	0	
	4 - Old Luss Road (West)	0	0	0	0	

Heavy Vehicle Percentages

4 - untitled

	То					
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)	
	1 - Ben Lomond Way (East)	0	0	0	0	
From	2 - Ben Lomond Way (South)	0	0	0	0	
	3 - Lomond Shores (Access Only)	0	0	0	0	
	4 - Lomond Shores (Access / Egress)	0	0	0	0	

Heavy Vehicle Percentages

5 - Balloch Road / Pier Road

	То					
From		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)		
	A - Balloch Road (West)	0	0	0		
	B - Pier Road	0	0	0		
	C - Balloch Road (East)	0	0	0		

Heavy Vehicle Percentages

6 - Balloch Road / Carrochan Road

	То					
		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)		
From	A - Drymen Road (East)	0	0	0		
FIOIII	B - Carrochan Road	0	0	0		
	C - Balloch Road (west)	0	0	0		

Heavy Vehicle Percentages

7 - untitled

	То				
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street	
From	A - A811 Lomond Road	0	0	0	
FIOIII	B - Drymen Road	0	0	0	
	C - A811 Main Street	0	0	0	

Heavy Vehicle Percentages

8 - untitled

	То											
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)							
	1 - Carrochan Road	0	0	0	0							
From	2 - A811 Lomond Road	0	0	0	0							
	3 - A813 Carrochan Road (South)	0	0	0	0							
	4 - A811 (West)	0	0	0	0							

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	1 - A82 (North)	0.62	4.65	1.7	Α	1075	1613
1 - untitled	2 - A811 (East)	0.65	5.79	1.8	Α	952	1427
i - untitied	3 - A82 (South)	0.58	3.24	1.4	Α	1296	1944
	4 - Local Access (West)	0.04	18.07	0.0	С	7	11
	1 - Old Luss Road (North)	0.46	4.00	0.9	Α	643	965
2 - untitled	2 - A811 (East)	0.45	4.79	0.8	Α	517	775
z - untitieu	3 - Luss Road (South)	0.28	2.62	0.4	Α	441	662
	4 - A811 (West)	0.58	5.22	1.4	Α	799	1199
	1 - Ben Lomond Way (North)	0.38	4.66	0.6	Α	403	604
3 - untitled	2 - Balloch Road (East)	0.28	4.02	0.4	Α	292	438
3 - untitied	3 - Old Luss Road (South)	0.44	3.65	0.8	Α	640	961
	4 - Old Luss Road (West)	0.10	3.57	0.1	Α	90	135
	1 - Ben Lomond Way (East)	0.08	3.49	0.1	A	71	106
4 - untitled	2 - Ben Lomond Way (South)	0.20	2.93	0.2	Α	251	376
4 - untitied	3 - Lomond Shores (Access Only)	0.25	3.64	0.3	Α	268	402
	4 - Lomond Shores (Access / Egress)	0.19	7.81	0.2	Α	88	132
	1 - Carrochan Road	0.31	4.04	0.4	A	335	502
0	2 - A811 Lomond Road	0.46	5.69	0.9	Α	455	683
8 - untitled	3 - A813 Carrochan Road (South)	0.24	3.05	0.3	Α	313	469
	4 - A811 (West)	0.49	4.77	0.9	Α	599	899

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	B-AC	0.07	6.01	0.1	Α	39	59
	C-AB	0.06	4.99	0.1	Α	36	54
5 - Balloch Road / Pier Road	C-A					275	413
	A-B					5	7
	A-C					336	504
	B-C	0.33	8.62	0.5	Α	170	255
	B-A	0.23	12.24	0.3	В	72	109
6 - Balloch Road / Carrochan Road	C-AB	0.43	8.58	0.9	Α	256	383
6 - Balloch Road / Carrochan Road	C-A					77	115
	A-B					68	102
	A-C					85	128
	B-AC	0.28	9.99	0.4	Α	116	173
	C-AB	0.15	4.97	0.3	Α	97	146
7 - untitled	C-A					318	478
	A-B					56	84
	A-C					306	460

Main Results for each time segment

15:00 - 15:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	882	221	432	2182	0.404	880	986	0.0	0.7	2.757	Α

1 - untitled	2 - A811 (East)	-	781	195	555	1906	0.410	778	757	0.0	0.7	3.183	Α
1 - untitled	3 - A82 (South)	-	1063	266	357	2777	0.383	1061	976	0.0	0.6	2.095	A
	4 - Local Access (West)	-	6	2	1412	396	0.015	6	6	0.0	0.0	9.222	A
2 - untitled	1 - Old Luss Road (North)	-	528	132	771	1884	0.280	526	446	0.0	0.4	2.649	A
	2 - A811 (East)	-	424	106	736	1548	0.274	422	561	0.0	0.4	3.193	Α
	3 - Luss Road (South)	-	362	91	567	2063	0.175	361	592	0.0	0.2	2.114	Α
	4 - A811 (West)	-	656	164	563	1792	0.366	653	365	0.0	0.6	3.155	Α
	1 - Ben Lomond Way (North)	-	331	83	364	1362	0.243	329	204	0.0	0.3	3.482	Α
3 - untitled	2 - Balloch Road (East)	-	239	60	404	1361	0.176	239	289	0.0	0.2	3.205	A
3 - untitled	3 - Old Luss Road (South)	-	525	131	48	1769	0.297	524	595	0.0	0.4	2.888	A
	4 - Old Luss Road (West)	-	74	18	495	1261	0.058	74	77	0.0	0.1	3.030	Α
	1 - Ben Lomond Way (East)	-	58	14	293	1198	0.048	58	47	0.0	0.1	3.157	Α
4 - untitled	2 - Ben Lomond Way (South)	-	206	51	14	1531	0.134	205	337	0.0	0.2	2.712	A
4 - untitied	3 - Lomond Shores (Access Only)	-	220	55	142	1351	0.163	219	77	0.0	0.2	3.178	Α
	4 - Lomond Shores (Access / Egress)	-	72	18	268	615	0.118	72	93	0.0	0.1	6.628	Α
	-	B-AC	32	8		685	0.047	32		0.0	0.0	5.514	Α
	-	C-AB	26	7		748	0.035	26		0.0	0.0	4.983	Α
5 - Balloch Road / Pier Road	-	C-A	229	57				229					
	-	A-B	4	0.94				4					
	-	A-C	276	69				276					
	-	B-C	139	35		646	0.216	138		0.0	0.3	7.072	Α
	-	B-A	59	15		423	0.141	59		0.0	0.2	9.876	Α
6 - Balloch Road / Carrochan Road	-	C-AB	201	50		721	0.279	200		0.0	0.4	6.890	Α
0 - Ballocii Road / Carlocilari Road	-	C-A	71	18				71					
	-	A-B	56	14				56					
	-	A-C	70	18				70					
	-	B-AC	95	24		556	0.171	94		0.0	0.2	7.785	Α
	-	C-AB	70	17		795	0.088	69		0.0	0.2	4.961	A
7 - untitled	-	C-A	271	68				271					
	-	A-B	46	11				46					
	-	A-C	251	63				251					
	1 - Carrochan Road	-	275	69	437	1406	0.195	274	245	0.0	0.2	3.175	Α
8 - untitled	2 - A811 Lomond Road	-	373	93	359	1268	0.294	372	353	0.0	0.4	4.009	Α
	3 - A813 Carrochan Road (South)	-	257	64	402	1672	0.154	256	328	0.0	0.2	2.541	Α
	4 - A811 (West)	-	492	123	192	1525	0.322	490	466	0.0	0.5	3.473	Α

15:15 - 15:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised leve of service
1 - untitled	1 - A82 (North)	-	1054	263	517	2133	0.494	1052	1179	0.7	1.0	3.329	A
	2 - A811 (East)	-	932	233	664	1846	0.505	931	905	0.7	1.0	3.928	A
	3 - A82 (South)	-	1269	317	427	2730	0.465	1268	1167	0.6	0.9	2.461	A
	4 - Local Access (West)	-	7	2	1689	317	0.023	7	7	0.0	0.0	11.614	В
2 - untitled	1 - Old Luss Road (North)	-	630	158	922	1795	0.351	630	533	0.4	0.5	3.087	Α
	2 - A811 (East)	-	506	127	881	1474	0.343	506	671	0.4	0.5	3.717	A
2 - untitlea	3 - Luss Road (South)	-	432	108	678	1997	0.217	432	709	0.2	0.3	2.300	A
	4 - A811 (West)	-	783	196	674	1731	0.452	782	436	0.6	0.8	3.789	A
3 - untitled 4 - untitled	1 - Ben Lomond Way (North)	-	395	99	436	1317	0.300	394	244	0.3	0.4	3.899	A
	2 - Balloch Road (East)	-	286	71	484	1313	0.218	286	346	0.2	0.3	3.505	A
	3 - Old Luss Road (South)	-	627	157	57	1763	0.356	627	712	0.4	0.5	3.168	A
	4 - Old Luss Road (West)	-	88	22	592	1200	0.073	88	93	0.1	0.1	3.237	A
	1 - Ben Lomond Way (East)	-	69	17	351	1164	0.059	69	56	0.1	0.1	3.288	Α
	2 - Ben Lomond Way (South)	-	245	61	17	1530	0.160	245	403	0.2	0.2	2.802	A
4 - untitled	3 - Lomond Shores (Access Only)	-	263	66	170	1334	0.197	262	93	0.2	0.2	3.358	A
	4 - Lomond Shores (Access / Egress)	-	86	22	321	594	0.145	86	111	0.1	0.2	7.082	A
	-	B-AC	39	10		669	0.058	39		0.0	0.1	5.713	A
	-	C-AB	34	9		769	0.044	34		0.0	0.1	4.896	Α
5 - Balloch Road / Pier Road	-	C-A	271	68				271					
	-	A-B	4	1				4					
	-	A-C	329	82				329					
	-	B-C	166	42		636	0.262	166		0.3	0.4	7.655	A
	-	B-A	71	18		405	0.175	71		0.2	0.2	10.759	В
	-	C-AB	248	62		728	0.341	247		0.4	0.6	7.496	A
6 - Balloch Road / Carrochan Road	-	C-A	77	19				77					
	-	A-B	67	17				67					
	-	A-C	84	21				84					
	-	B-AC	113	28		532	0.213	113		0.2	0.3	8.583	A
	-	C-AB	92	23		822	0.112	92		0.2	0.2	4.934	A
7 - untitled	-	C-A	315	79				315					
	-	A-B	55	14				55					
	-	A-C	300	75				300					
	1 - Carrochan Road	-	328	82	524	1358	0.242	328	293	0.2	0.3	3.494	A
	2 - A811 Lomond Road	-	446	111	429	1230	0.362	445	422	0.4	0.6	4.582	A
8 - untitled	3 - A813 Carrochan Road (South)	-	307	77	481	1623	0.189	306	393	0.2	0.2	2.734	A
	4 - A811 (West)	-	587	147	230	1503	0.390	586	558	0.5	0.6	3.923	A

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1290	323	632	2065	0.625	1288	1443	1.0	1.6	4.614	A
1 - untitled	2 - A811 (East)	-	1142	285	812	1764	0.647	1139	1108	1.0	1.8	5.724	A
i - untitied	3 - A82 (South)	-	1555	389	523	2667	0.583	1553	1428	0.9	1.4	3.224	A
	4 - Local Access (West)	-	9	2	2066	209	0.042	9	9	0.0	0.0	17.971	С
	1 - Old Luss Road (North)	-	772	193	1129	1674	0.461	771	653	0.5	0.8	3.980	A
O constitue d	2 - A811 (East)	-	620	155	1078	1372	0.452	619	821	0.5	0.8	4.772	A
2 - untitled	3 - Luss Road (South)	-	530	132	830	1906	0.278	529	867	0.3	0.4	2.614	A
	4 - A811 (West)	-	959	240	825	1649	0.582	957	534	0.8	1.4	5.187	A
	1 - Ben Lomond Way (North)	-	483	121	533	1256	0.385	483	299	0.4	0.6	4.647	A
2 constitute of	2 - Balloch Road (East)	-	350	88	593	1247	0.281	350	423	0.3	0.4	4.012	A
3 - untitled	3 - Old Luss Road (South)	-	769	192	70	1754	0.438	768	872	0.5	0.8	3.645	A
	4 - Old Luss Road (West)	-	108	27	725	1116	0.097	108	113	0.1	0.1	3.570	A
	1 - Ben Lomond Way (East)	-	85	21	430	1117	0.076	85	68	0.1	0.1	3.485	A
4	2 - Ben Lomond Way (South)	-	301	75	21	1527	0.197	300	494	0.2	0.2	2.934	A
4 - untitled	3 - Lomond Shores (Access Only)	-	321	80	208	1311	0.245	321	113	0.2	0.3	3.636	A
	4 - Lomond Shores (Access / Egress)	-	106	26	393	567	0.186	105	136	0.2	0.2	7.798	A
	-	B-AC	47	12		646	0.073	47		0.1	0.1	6.012	A
	-	C-AB	47	12		799	0.059	47		0.1	0.1	4.785	A
5 - Balloch Road / Pier Road	-	C-A	326	82				326					
	-	A-B	6	1				6					
	-	A-C	403	101				403					
	-	B-C	204	51		621	0.328	203		0.4	0.5	8.599	A
	-	B-A	87	22		381	0.228	87		0.2	0.3	12.202	В
C. Bellech Beed (Common Beed	-	C-AB	317	79		737	0.430	316		0.6	0.9	8.541	A
6 - Balloch Road / Carrochan Road	-	C-A	82	20				82					
	-	A-B	81	20				81					
	-	A-C	102	26				102			İ		
	-	B-AC	139	35		499	0.278	138		0.3	0.4	9.966	A
	-	C-AB	130	32		861	0.150	129		0.2	0.3	4.920	A
7 - untitled	-	C-A	369	92				369					
	-	A-B	67	17				67					
	-	A-C	368	92				368					
	1 - Carrochan Road	-	402	100	641	1293	0.311	401	358	0.3	0.4	4.035	A
8 - untitled	2 - A811 Lomond Road	-	546	137	526	1179	0.463	545	517	0.6	0.9	5.663	A
o - untitieu	3 - A813 Carrochan Road (South)	-	375	94	589	1556	0.241	375	481	0.2	0.3	3.049	A
	4 - A811 (West)	-	719	180	282	1474	0.488	718	683	0.6	0.9	4.751	A

15:45 - 16:00

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1290	323	633	2065	0.625	1290	1446	1.6	1.7	4.648	A
1 - untitled	2 - A811 (East)	-	1142	285	814	1764	0.647	1142	1110	1.8	1.8	5.787	A
1 - untitled	3 - A82 (South)	-	1555	389	524	2666	0.583	1555	1431	1.4	1.4	3.237	A
	4 - Local Access (West)	-	9	2	2070	208	0.042	9	9	0.0	0.0	18.075	С
	1 - Old Luss Road (North)	-	772	193	1131	1672	0.461	772	654	0.8	0.9	3.996	A
2 - untitled	2 - A811 (East)	-	620	155	1080	1371	0.452	620	822	0.8	0.8	4.792	A
2 - untitled	3 - Luss Road (South)	-	530	132	831	1905	0.278	530	869	0.4	0.4	2.616	A
	4 - A811 (West)	-	959	240	826	1648	0.582	959	535	1.4	1.4	5.223	A
	1 - Ben Lomond Way (North)	-	483	121	534	1256	0.385	483	299	0.6	0.6	4.658	A
3 - untitled	2 - Balloch Road (East)	-	350	88	593	1246	0.281	350	424	0.4	0.4	4.017	A
3 - untitied	3 - Old Luss Road (South)	-	769	192	70	1754	0.438	769	873	0.8	0.8	3.651	A
	4 - Old Luss Road (West)	-	108	27	726	1115	0.097	108	113	0.1	0.1	3.572	A
	1 - Ben Lomond Way (East)	-	85	21	430	1117	0.076	85	68	0.1	0.1	3.486	A
4 - untitled	2 - Ben Lomond Way (South)	-	301	75	21	1527	0.197	301	494	0.2	0.2	2.934	A
4 - untitled	3 - Lomond Shores (Access Only)	-	321	80	208	1311	0.245	321	113	0.3	0.3	3.636	A
_	4 - Lomond Shores (Access / Egress)	-	106	26	393	567	0.187	106	137	0.2	0.2	7.808	A
	-	B-AC	47	12		646	0.073	47		0.1	0.1	6.012	A
	-	C-AB	47	12		799	0.059	47		0.1	0.1	4.786	A
5 - Balloch Road / Pier Road	-	C-A	326	82				326					
	-	A-B	6	1				6					
	-	A-C	403	101				403					
	-	B-C	204	51		621	0.328	204		0.5	0.5	8.624	A
	-	B-A	87	22		381	0.228	87		0.3	0.3	12.241	В
6 - Balloch Road / Carrochan Road	-	C-AB	317	79		737	0.430	317		0.9	0.9	8.583	A
o Bandon Noda, Gandonan Noda	-	C-A	82	20				82					
	-	A-B	81	20				81					
	-	A-C	102	26				102					
	-	B-AC	139	35		499	0.278	139		0.4	0.4	9.991	A
	-	C-AB	130	32		862	0.151	130		0.3	0.3	4.926	A
7 - untitled	-	C-A	369	92				369					
	-	A-B	67	17				67					

	-	A-C	368	92				368					
	1 - Carrochan Road	-	402	100	642	1292	0.311	402	359	0.4	0.4	4.043	A
8 - untitled	2 - A811 Lomond Road	-	546	137	526	1179	0.463	546	517	0.9	0.9	5.686	A
o - unitileu	3 - A813 Carrochan Road (South)	-	375	94	590	1555	0.241	375	482	0.3	0.3	3.051	A
	4 - A811 (West)	-	719	180	282	1474	0.488	719	684	0.9	0.9	4.767	A

16:00 - 16:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1054	263	518	2132	0.494	1056	1183	1.7	1.0	3.353	A
1 - untitled	2 - A811 (East)	-	932	233	666	1845	0.505	935	908	1.8	1.0	3.972	A
i - untitied	3 - A82 (South)	-	1269	317	429	2729	0.465	1271	1172	1.4	0.9	2.472	A
	4 - Local Access (West)	-	7	2	1694	316	0.023	7	7	0.0	0.0	11.677	В
	1 - Old Luss Road (North)	-	630	158	925	1793	0.351	631	535	0.9	0.5	3.103	A
2 - untitled	2 - A811 (East)	-	506	127	884	1472	0.344	507	673	0.8	0.5	3.734	A
2 - untitled	3 - Luss Road (South)	-	432	108	680	1996	0.217	433	711	0.4	0.3	2.303	A
	4 - A811 (West)	-	783	196	675	1731	0.452	785	438	1.4	0.8	3.818	A
	1 - Ben Lomond Way (North)	-	395	99	437	1316	0.300	395	245	0.6	0.4	3.913	A
0	2 - Balloch Road (East)	-	286	71	485	1312	0.218	286	347	0.4	0.3	3.511	A
3 - untitled	3 - Old Luss Road (South)	-	627	157	58	1763	0.356	628	714	0.8	0.6	3.178	A
	4 - Old Luss Road (West)	-	88	22	593	1199	0.073	88	93	0.1	0.1	3.243	A
	1 - Ben Lomond Way (East)	-	69	17	352	1163	0.060	69	56	0.1	0.1	3.293	A
	2 - Ben Lomond Way (South)	-	245	61	17	1530	0.160	246	404	0.2	0.2	2.805	A
4 - untitled	3 - Lomond Shores (Access Only)	-	263	66	170	1334	0.197	263	93	0.3	0.2	3.363	A
	4 - Lomond Shores (Access / Egress)	-	86	22	321	594	0.145	87	112	0.2	0.2	7.097	A
	-	B-AC	39	10		669	0.058	39		0.1	0.1	5.717	A
	-	C-AB	34	9		770	0.045	34		0.1	0.1	4.900	A
5 - Balloch Road / Pier Road	-	C-A	270	68				270					
	-	A-B	4	1				4					
	-	A-C	329	82				329			i		
	-	B-C	166	42		636	0.262	167		0.5	0.4	7.687	Α
	-	B-A	71	18		405	0.175	71		0.3	0.2	10.810	В
6 - Balloch Road / Carrochan Road	-	C-AB	248	62		728	0.341	249		0.9	0.6	7.546	A
6 - Balloch Road / Carrochan Road	-	C-A	77	19				77					
	-	A-B	67	17				67					
	-	A-C	84	21				84					
	-	B-AC	113	28		532	0.213	114		0.4	0.3	8.615	A
	-	C-AB	92	23		822	0.112	93		0.3	0.2	4.940	A
7 - untitled	-	C-A	315	79				315					
	-	A-B	55	14				55					
	-	A-C	300	75				300					
	1 - Carrochan Road	-	328	82	525	1357	0.242	329	294	0.4	0.3	3.500	A
	2 - A811 Lomond Road	-	446	111	430	1230	0.363	447	423	0.9	0.6	4.606	A
8 - untitled	3 - A813 Carrochan Road (South)	-	307	77	483	1622	0.189	307	395	0.3	0.2	2.738	A
	4 - A811 (West)	-	587	147	230	1503	0.391	588	559	0.9	0.6	3.941	A

16:15 - 16:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	882	221	433	2182	0.404	884	990	1.0	0.7	2.775	A
4 constitue d	2 - A811 (East)	-	781	195	557	1904	0.410	782	760	1.0	0.7	3.210	A
1 - untitled	3 - A82 (South)	-	1063	266	359	2776	0.383	1064	980	0.9	0.6	2.104	A
	4 - Local Access (West)	-	6	2	1417	395	0.015	6	6	0.0	0.0	9.263	A
	1 - Old Luss Road (North)	-	528	132	774	1882	0.280	528	448	0.5	0.4	2.660	A
2 - untitled	2 - A811 (East)	-	424	106	739	1547	0.274	424	563	0.5	0.4	3.208	A
z - untitied	3 - Luss Road (South)	-	362	91	569	2062	0.176	362	595	0.3	0.2	2.119	A
	4 - A811 (West)	-	656	164	565	1791	0.366	657	366	0.8	0.6	3.178	A
	1 - Ben Lomond Way (North)	-	331	83	365	1361	0.243	331	205	0.4	0.3	3.496	A
3 - untitled	2 - Balloch Road (East)	-	239	60	406	1360	0.176	240	290	0.3	0.2	3.215	A
3 - untitled	3 - Old Luss Road (South)	-	525	131	48	1769	0.297	526	598	0.6	0.4	2.897	A
	4 - Old Luss Road (West)	-	74	18	497	1260	0.059	74	78	0.1	0.1	3.036	A
	1 - Ben Lomond Way (East)	-	58	14	295	1197	0.048	58	47	0.1	0.1	3.162	A
4 - untitled	2 - Ben Lomond Way (South)	-	206	51	14	1531	0.134	206	338	0.2	0.2	2.717	A
4 - dilitiled	3 - Lomond Shores (Access Only)	-	220	55	142	1351	0.163	220	78	0.2	0.2	3.183	A
	4 - Lomond Shores (Access / Egress)	-	72	18	269	614	0.118	72	93	0.2	0.1	6.647	A
	-	B-AC	32	8		685	0.047	32		0.1	0.0	5.519	A
	-	C-AB	27	7		749	0.035	27		0.1	0.0	4.989	A
5 - Balloch Road / Pier Road	-	C-A	229	57				229					
	-	A-B	4	0.94				4					
	-	A-C	276	69				276					
- Balloch Road / Carrochan Road	-	B-C	139	35		646	0.216	140		0.4	0.3	7.117	A
	-	B-A	59	15		422	0.141	60		0.2	0.2	9.940	A
	-	C-AB	202	50		721	0.280	202		0.6	0.4	6.953	A
o - Ballocii Noau / Carrochan Roau	-	C-A	71	18				71					
	-	A-B	56	14				56					

	-	A-C	70	18				70	1				
	-	B-AC	95	24		556	0.171	95		0.3	0.2	7.824	А
	-	C-AB	70	18		795	0.088	70		0.2	0.2	4.974	A
7 - untitled	-	C-A	271	68				271					
	-	A-B	46	11				46					
	-	A-C	251	63				251					
	1 - Carrochan Road	-	275	69	439	1405	0.196	275	246	0.3	0.2	3.188	A
8 - untitled	2 - A811 Lomond Road	-	373	93	360	1267	0.295	374	354	0.6	0.4	4.033	A
o - ununeu	3 - A813 Carrochan Road (South)	-	257	64	404	1670	0.154	257	330	0.2	0.2	2.546	Α
	4 - A811 (West)	-	492	123	193	1524	0.323	492	468	0.6	0.5	3.490	A

Existing Layout - 2030, Ass. Weekday AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - untitled - 3 - Luss Road (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix	4 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout					1, 2, 3, 4	3.43	A
2	untitled	Standard Roundabout					1, 2, 3, 4	3.90	A
3	untitled	Standard Roundabout					1, 2, 3, 4	2.93	A
4	untitled	Standard Roundabout					1, 2, 3, 4	2.56	A
5	Balloch Road / Pier Road	T-Junction	Two-way	Two-way	Two-way			0.43	A
6	Balloch Road / Carrochan Road	T-Junction	Two-way	Two-way	Two-way			3.60	A
7	untitled	T-Junction	Two-way	Two-way	Two-way			1.92	A
8	untitled	Standard Roundabout					1, 2, 3, 4	4.19	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	57	2 - untitled - 2 - A811 (East)	3.39	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2030	Ass. Weekday AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
	1 - A82 (North)		ONE HOUR	✓	710	100.000
1 - untitled	2 - A811 (East)		ONE HOUR	✓	967	100.000
1 - undued	3 - A82 (South)		ONE HOUR	✓	1141	100.000
	4 - Local Access (West)		ONE HOUR	✓	1	100.000
	1 - Old Luss Road (North)		ONE HOUR	✓	356	100.000
2 - untitled	2 - A811 (East)		ONE HOUR	✓	721	100.000
2 - unutieu	3 - Luss Road (South)		ONE HOUR	✓	605	100.000
	4 - A811 (West)		ONE HOUR	✓	762	100.000
	1 - Ben Lomond Way (North)		ONE HOUR	✓	40	100.000
3 - untitled	2 - Balloch Road (East)		ONE HOUR	✓	253	100.000
3 - ununeu	3 - Old Luss Road (South)		ONE HOUR	✓	306	100.000
	4 - Old Luss Road (West)		ONE HOUR	✓	29	100.000
	1 - Ben Lomond Way (East)		ONE HOUR	✓	32	100.000
4 - untitled	2 - Ben Lomond Way (South)		ONE HOUR	✓	98	100.000
4 - undied	3 - Lomond Shores (Access Only)		ONE HOUR	✓	5	100.000
	4 - Lomond Shores (Access / Egress)		ONE HOUR	✓	3	100.000
	A - Balloch Road (West)		ONE HOUR	✓	164	100.000
5 - Balloch Road / Pier Road	B - Pier Road		ONE HOUR	✓	8	100.000
	C - Balloch Road (East)		ONE HOUR	✓	196	100.000
	A - Drymen Road (East)		ONE HOUR	✓	219	100.000
6 - Balloch Road / Carrochan Road	B - Carrochan Road		ONE HOUR	✓	122	100.000
	C - Balloch Road (west)		ONE HOUR	✓	152	100.000
	A - A811 Lomond Road		ONE HOUR	✓	354	100.000
7 - untitled	B - Drymen Road		ONE HOUR	✓	115	100.000
	C - A811 Main Street		ONE HOUR	✓	378	100.000
	1 - Carrochan Road		ONE HOUR	✓	218	100.000
8 - untitled	2 - A811 Lomond Road		ONE HOUR	✓	474	100.000
o - unadeu	3 - A813 Carrochan Road (South)		ONE HOUR	✓	361	100.000
	4 - A811 (West)		ONE HOUR	✓	501	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - untitled

	То						
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)		
	1 - A82 (North)	1	248	461	0		
From	2 - A811 (East)	417	0	550	0		
	3 - A82 (South)	623	518	0	0		
	4 - Local Access (West)	1	0	0	0		

Demand (PCU/hr)

2 - untitled

	То						
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)		
	1 - Old Luss Road (North)	0	30	107	219		
From	2 - A811 (East)	48	1	207	465		
	3 - Luss Road (South)	116	202	0	287		
	4 - A811 (West)	144	294	324	0		

Demand (PCU/hr)

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	0	8	32	0	
From	2 - Balloch Road (East)	9	0	238	6	
	3 - Old Luss Road (South)	89	137	66	14	
	4 - Old Luss Road (West)	0	6	23	0	

Demand (PCU/hr)

4 - untitled

	То						
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)		
	1 - Ben Lomond Way (East)	0	30	1	1		
From	2 - Ben Lomond Way (South)	58	0	31	9		
	3 - Lomond Shores (Access Only)	0	5	0	0		
	4 - Lomond Shores (Access / Egress)	0	3	0	0		

Demand (PCU/hr)

5 - Balloch Road / Pier Road

	То						
		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)			
Erom	A - Balloch Road (West)	0	3	161			
From	B - Pier Road	5	0	3			
	C - Balloch Road (East)	182	14	0			

Demand (PCU/hr)

6 - Balloch Road / Carrochan Road

	То						
From		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)			
	A - Drymen Road (East)	0	108	111			
	B - Carrochan Road	53	0	69			
	C - Balloch Road (west)	59	93	0			

Demand (PCU/hr)

7 - untitled

	То						
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street			
From	A - A811 Lomond Road	0	59	295			
FIOIII	B - Drymen Road	70	0	45			
	C - A811 Main Street	335	43	0			

Demand (PCU/hr)

То					
	1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)	
1 - Carrochan Road	0	37	116	65	

From	2 - A811 Lomond Road	25	0	64	385
	3 - A813 Carrochan Road (South)	86	71	0	204
	4 - A811 (West)	69	289	143	0

Vehicle Mix

Heavy Vehicle Percentages

1 - untitled

	То					
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)	
	1 - A82 (North)	10	10	10	10	
From	2 - A811 (East)	10	10	10	10	
	3 - A82 (South)	10	10	10	10	
	4 - Local Access (West)	10	10	10	10	

Heavy Vehicle Percentages

2 - untitled

	То						
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)		
	1 - Old Luss Road (North)	10	10	10	10		
From	2 - A811 (East)	10	10	10	10		
	3 - Luss Road (South)	10	10	10	10		
	4 - A811 (West)	10	10	10	0		

Heavy Vehicle Percentages

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	10	10	10	10	
From	2 - Balloch Road (East)	10	10	10	10	
	3 - Old Luss Road (South)	10	10	10	10	
	4 - Old Luss Road (West)	10	10	10	10	

Heavy Vehicle Percentages

4 - untitled

	· · · · · · · · · · · · · · · · · · ·				
			То		
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)
	1 - Ben Lomond Way (East)	0	0	0	0
From	2 - Ben Lomond Way (South)	0	0	0	0
	3 - Lomond Shores (Access Only)	0	0	0	0
	4 - Lomond Shores (Access / Egress)	0	0	0	0

Heavy Vehicle Percentages

5 - Balloch Road / Pier Road

		То		
		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)
From	A - Balloch Road (West)	10	10	10
FIOIII	B - Pier Road	10	10	10
	C - Balloch Road (East)	10	10	10

Heavy Vehicle Percentages

6 - Balloch Road / Carrochan Road

		То		
		A - Drymen Road (East)	C - Balloch Road (west)	
From	A - Drymen Road (East)	10	10	10
FIOIII	B - Carrochan Road	10	10	10
	C - Balloch Road (west)	10	10	10

Heavy Vehicle Percentages

7 - untitled

пеачу	verificie Fercentages					
		То				
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street		
From	A - A811 Lomond Road	10	10	10		
FIOIII	B - Drymen Road	10	10	10		
	C - A811 Main Street	10	10	10		

Heavy Vehicle Percentages

8 - untitled

			То		
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
	1 - Carrochan Road	10	10	10	10
From	2 - A811 Lomond Road	10	10	10	10
	3 - A813 Carrochan Road (South)	10	10	10	10
	4 - A811 (West)	0	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	1 - A82 (North)	0.37	3.00	0.6	A	652	977
1 - untitled	2 - A811 (East)	0.55	4.57	1.3		887	1331
i - untitlea	3 - A82 (South)	0.46	2.73	0.9	Α	1047	1571
	4 - Local Access (West)	0.00	0.00	0.0	A	0	0
	1 - Old Luss Road (North)	0.22	2.80	0.3	A	327	490
2 - untitled	2 - A811 (East)	0.51	5.18	1.1	Α	662	992
z - untitlea	3 - Luss Road (South)	0.35	3.16	0.6	Α	555	833
	4 - A811 (West)	0.45	3.81	0.9	A	699	1049
	1 - Ben Lomond Way (North)	0.03	2.86	0.0	A	37	55
	2 - Balloch Road (East)	0.18	3.17	0.2	A	232	348
3 - untitled	3 - Old Luss Road (South)	0.19	2.73	0.3	A	281	421
	4 - Old Luss Road (West)	0.02	2.97	0.0	Α	27	40
	1 - Ben Lomond Way (East)	0.03	2.70	0.0	A	29	44
4 - untitled	2 - Ben Lomond Way (South)	0.07	2.51	0.1	Α	90	135
a - untitlea	3 - Lomond Shores (Access Only)	0.00	2.60	0.0	A	5	7
	4 - Lomond Shores (Access / Egress)	0.00	0.00	0.0	A	0	0
	1 - Carrochan Road	0.18	3.59	0.2	A	200	300
3 - untitled 🖳	2 - A811 Lomond Road	0.41	5.30	0.8	Α	435	652
	3 - A813 Carrochan Road (South)	0.25	3.30	0.4	A	331	497
	4 - A811 (West)	0.36	4.03	0.6	A	460	690

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	B-AC	0.01	6.62	0.0	Α	7	11
	C-AB	0.03	5.66	0.0	Α	17	25
5 - Balloch Road / Pier Road	C-A					163	245
	A-B					3	4
	A-C					148	222
	B-C	0.12	7.17	0.2	Α	63	95
	B-A	0.13	10.58	0.2	В	49	73
6 - Balloch Road / Carrochan Road	C-AB	0.17	7.09	0.2	Α	7 17 163 3 148 63 49 93 46 99 102 106 66 281	140
6 - Balloch Road / Carrochan Road	C-A					46	70
	A-B					63 49 93 46 99 102 106	149
	A-C					102	153
	B-AC	0.26	10.76	0.4	В	106	158
	C-AB	0.10	5.48	0.2	Α	66	98
7 - untitled	C-A					281	422
	A-B					54	81
	A-C					271	406

Main Results for each time segment

08:00 - 08:15

00.00 - 00.13													
Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	535	134	389	2207	0.242	533	782	0.0	0.4	2.363	Α
1 - untitled	2 - A811 (East)	-	728	182	347	2020	0.360	726	575	0.0	0.6	3.054	Α
	3 - A82 (South)	-	859	215	314	2806	0.306	857	759	0.0	0.5	2.030	Α
	4 - Local Access (West)	-	0	0	1171	465	0.000	0	0	0.0	0.0	0.000	Α
	1 - Old Luss Road (North)	-	268	67	616	1975	0.136	267	231	0.0	0.2	2.317	Α
2 - untitled	2 - A811 (East)	-	543	136	488	1676	0.324	541	396	0.0	0.5	3.481	Α
2 - untitled	3 - Luss Road (South)	-	455	114	550	2073	0.220	454	479	0.0	0.3	2.445	Α
	4 - A811 (West)	-	574	143	276	1950	0.294	572	729	0.0	0.5	2.870	Α
	1 - Ben Lomond Way (North)	-	30	8	174	1479	0.020	30	74	0.0	0.0	2.731	Α
		1		1		1		I	1	1			1

3 - untitled	2 - Balloch Road (East)	-	190	48	91	1552	0.123	190	113	0.0	0.2	2.905	A
3 - unutieu	3 - Old Luss Road (South)	-	230	58	11	1793	0.129	230	269	0.0	0.2	2.532	A
	4 - Old Luss Road (West)	-	22	5	226	1431	0.015	22	15	0.0	0.0	2.809	Α
	1 - Ben Lomond Way (East)	-	24	6	4	1368	0.018	24	44	0.0	0.0	2.678	Α
4 - untitled	2 - Ben Lomond Way (South)	-	74	18	2	1540	0.048	74	26	0.0	0.1	2.455	Α
4 - unuted	3 - Lomond Shores (Access Only)	-	4	0.94	51	1406	0.003	4	24	0.0	0.0	2.566	A
	4 - Lomond Shores (Access / Egress)	-	0	0	47	699	0.000	0	8	0.0	0.0	0.000	A
	-	B-AC	6	2		630	0.010	6		0.0	0.0	6.340	Α
	-	C-AB	13	3		713	0.018	13		0.0	0.0	5.658	A
5 - Balloch Road / Pier Road	-	C-A	135	34				135					
	-	A-B	2	0.56				2					
	-	A-C	121	30				121					
	-	B-C	52	13		649	0.080	52		0.0	0.1	6.619	A
	-	B-A	40	10		458	0.087	39		0.0	0.1	9.461	A
6 - Balloch Road / Carrochan Road	-	C-AB	75	19		677	0.111	74		0.0	0.1	6.564	Α
o - Balloch Road / Gallochan Road	-	C-A	40	10				40					
	-	A-B	81	20				81					
	-	A-C	84	21				84					
	-	B-AC	87	22		545	0.159	86		0.0	0.2	8.610	Α
	-	C-AB	48	12		771	0.062	48		0.0	0.1	5.471	Α
7 - untitled	-	C-A	236	59				236					
	-	A-B	44	11				44					
	-	A-C	222	56				222					
	1 - Carrochan Road	-	164	41	377	1440	0.114	164	135	0.0	0.1	3.101	A
8 - untitled	2 - A811 Lomond Road	-	357	89	243	1329	0.268	355	298	0.0	0.4	4.059	Α
- aminou	3 - A813 Carrochan Road (South)	-	272	68	356	1700	0.160	271	242	0.0	0.2	2.769	A
	4 - A811 (West)	-	377	94	137	1556	0.242	376	490	0.0	0.3	3.307	Α

08:15 - 08:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	638	160	465	2163	0.295	638	935	0.4	0.5	2.596	A
1 - untitled	2 - A811 (East)	-	869	217	415	1983	0.438	868	688	0.6	0.9	3.550	A
i - untitled	3 - A82 (South)	-	1026	256	375	2765	0.371	1025	908	0.5	0.6	2.276	A
	4 - Local Access (West)	-	0	0	1400	399	0.000	0	0	0.0	0.0	0.000	Α
	1 - Old Luss Road (North)	-	320	80	737	1904	0.168	320	277	0.2	0.2	2.500	A
2 - untitled	2 - A811 (East)	-	648	162	584	1627	0.398	647	473	0.5	0.7	4.039	A
z - ununeu	3 - Luss Road (South)	-	544	136	658	2009	0.271	543	573	0.3	0.4	2.702	A
	4 - A811 (West)	-	685	171	330	1920	0.357	684	872	0.5	0.6	3.203	A
	1 - Ben Lomond Way (North)	-	36	9	208	1458	0.025	36	88	0.0	0.0	2.784	A
3 - untitled	2 - Balloch Road (East)	-	227	57	109	1541	0.148	227	136	0.2	0.2	3.013	A
3 - ununeu	3 - Old Luss Road (South)	-	275	69	13	1791	0.154	275	323	0.2	0.2	2.611	A
	4 - Old Luss Road (West)	-	26	7	270	1403	0.019	26	18	0.0	0.0	2.875	Α
	1 - Ben Lomond Way (East)	-	29	7	4	1368	0.021	29	52	0.0	0.0	2.688	A
4 - untitled	2 - Ben Lomond Way (South)	-	88	22	2	1539	0.057	88	31	0.1	0.1	2.480	A
	3 - Lomond Shores (Access Only)	-	4	1	61	1400	0.003	4	29	0.0	0.0	2.579	A
	4 - Lomond Shores (Access / Egress)	-	0	0	57	695	0.000	0	9	0.0	0.0	0.000	A
	-	B-AC	7	2		620	0.012	7		0.0	0.0	6.456	A
	-	C-AB	16	4		725	0.022	16		0.0	0.0	5.583	A
5 - Balloch Road / Pier Road	-	C-A	160	40				160					
	-	A-B	3	0.67				3					
	-	A-C	145	36				145					
	-	B-C	62	16		641	0.097	62		0.1	0.1	6.843	A
	-	B-A	48	12		447	0.107	48		0.1	0.1	9.910	A
6 - Balloch Road / Carrochan Road	-	C-AB	91	23		675	0.135	91		0.1	0.2	6.777	A
6 - Balloch Road / Carrochan Road	-	C-A	46	11				46					
	-	A-B	97	24				97					
	-	A-C	100	25				100					
	-	B-AC	103	26		524	0.197	103		0.2	0.3	9.407	A
	-	C-AB	63	16		793	0.079	62		0.1	0.2	5.422	A
7 - untitled	-	C-A	277	69				277					
	-	A-B	53	13				53					
	-	A-C	265	66				265					
	1 - Carrochan Road	-	196	49	452	1398	0.140	196	162	0.1	0.2	3.293	A
8 - untitled	2 - A811 Lomond Road	-	426	107	291	1304	0.327	426	357	0.4	0.5	4.506	A
o - unuted	3 - A813 Carrochan Road (South)	-	325	81	427	1657	0.196	324	290	0.2	0.3	2.972	A
	4 - A811 (West)	-	450	113	163	1541	0.292	450	587	0.3	0.4	3.581	A

08:30 - 08:45

	Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
		1 - A82 (North)	- 1	782	195	570	2102	0.372	781	1145	0.5	0.6	2.996	Α
	1 - untitled	2 - A811 (East)	-	1065	266	508	1931	0.551	1063	843	0.9	1.3	4.548	Α
	i - untitied	3 - A82 (South)	-	1256	314	459	2709	0.464	1255	1112	0.6	0.9	2.720	A
		4 - Local Access (West)	-	0	0	1714	310	0.000	0	0	0.0	0.0	0.000	Α
- 17														

	1 - Old Luss Road (North)	-	392	98	903	1806	0.217	392	339	0.2	0.3	2.799	Α
2 - untitled	2 - A811 (East)	-	794	198	715	1559	0.509	792	580	0.7	1.1	5.152	A
2 - untitlea	3 - Luss Road (South)	-	666	167	806	1921	0.347	665	701	0.4	0.6	3.153	Α
	4 - A811 (West)	-	839	210	404	1879	0.446	838	1068	0.6	0.9	3.799	A
	1 - Ben Lomond Way (North)	-	44	11	255	1429	0.031	44	108	0.0	0.0	2.858	A
3 - untitled	2 - Balloch Road (East)	-	279	70	133	1526	0.183	278	166	0.2	0.2	3.172	A
3 - untitlea	3 - Old Luss Road (South)	-	337	84	17	1789	0.188	337	395	0.2	0.3	2.725	Α
	4 - Old Luss Road (West)	-	32	8	331	1365	0.023	32	22	0.0	0.0	2.970	А
	1 - Ben Lomond Way (East)	-	35	9	6	1367	0.026	35	64	0.0	0.0	2.702	A
	2 - Ben Lomond Way (South)	-	108	27	2	1539	0.070	108	39	0.1	0.1	2.514	A
4 - untitled	3 - Lomond Shores (Access Only)	-	6	1	75	1392	0.004	6	35	0.0	0.0	2.596	A
	4 - Lomond Shores (Access / Egress)	-	0	0	69	690	0.000	0	11	0.0	0.0	0.000	A
	-	B-AC	9	2		607	0.015	9		0.0	0.0	6.623	A
5 - Balloch Road / Pier Road	-	C-AB	21	5		743	0.028	21		0.0	0.0	5.484	А
	-	C-A	195	49				195					
	-	A-B	3	0.83				3					
	-	A-C	177	44				177					
	-	B-C	76	19		628	0.121	76		0.1	0.1	7.164	A
	-	B-A	58	15		433	0.135	58		0.1	0.2	10.570	В
6 - Balloch Road / Carrochan Road	-	C-AB	113	28		672	0.169	113		0.2	0.2	7.085	A
6 - Balloch Road / Carrochan Road	-	C-A	54	13				54					
	-	A-B	119	30				119					
	-	A-C	122	31				122					
	-	B-AC	127	32		495	0.256	126		0.3	0.4	10.741	В
	-	C-AB	86	21		825	0.104	86		0.2	0.2	5.361	A
7 - untitled	-	C-A	330	83				330					
	-	A-B	65	16				65					
	-	A-C	325	81				325					
	1 - Carrochan Road	-	240	60	553	1342	0.179	240	198	0.2	0.2	3.593	A
8 - untitled	2 - A811 Lomond Road	-	522	130	356	1269	0.411	521	437	0.5	0.8	5.286	A
o - untitieu	3 - A813 Carrochan Road (South)	-	397	99	522	1597	0.249	397	355	0.3	0.4	3.299	Α
	4 - A811 (West)	-	552	138	200	1520	0.363	551	719	0.4	0.6	4.028	A

08:45 - 09:00

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	782	195	570	2101	0.372	782	1146	0.6	0.6	2.999	A
1 - untitled	2 - A811 (East)	-	1065	266	509	1931	0.551	1065	843	1.3	1.3	4.570	A
1 - untitled	3 - A82 (South)	-	1256	314	460	2709	0.464	1256	1113	0.9	0.9	2.726	A
	4 - Local Access (West)	-	0	0	1716	309	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	392	98	904	1806	0.217	392	339	0.3	0.3	2.800	A
2 - untitled	2 - A811 (East)	-	794	198	716	1559	0.509	794	580	1.1	1.1	5.175	A
2 - untitled	3 - Luss Road (South)	-	666	167	807	1920	0.347	666	702	0.6	0.6	3.157	A
	4 - A811 (West)	-	839	210	404	1879	0.446	839	1069	0.9	0.9	3.806	A
	1 - Ben Lomond Way (North)	-	44	11	255	1429	0.031	44	108	0.0	0.0	2.858	A
3 - untitled	2 - Balloch Road (East)	-	279	70	133	1526	0.183	279	166	0.2	0.2	3.173	A
3 - untitled	3 - Old Luss Road (South)	-	337	84	17	1789	0.188	337	395	0.3	0.3	2.725	A
	4 - Old Luss Road (West)	-	32	8	331	1364	0.023	32	22	0.0	0.0	2.971	A
	1 - Ben Lomond Way (East)	-	35	9	6	1367	0.026	35	64	0.0	0.0	2.702	A
4sisted	2 - Ben Lomond Way (South)	-	108	27	2	1539	0.070	108	39	0.1	0.1	2.514	A
4 - untitled	3 - Lomond Shores (Access Only)	-	6	1	75	1392	0.004	6	35	0.0	0.0	2.596	A
	4 - Lomond Shores (Access / Egress)	-	0	0	69	690	0.000	0	11	0.0	0.0	0.000	A
	-	B-AC	9	2		607	0.015	9		0.0	0.0	6.623	A
	-	C-AB	21	5		743	0.028	21		0.0	0.0	5.485	A
5 - Balloch Road / Pier Road	-	C-A	195	49				195					
	-	A-B	3	0.83				3					
	-	A-C	177	44				177					
	-	B-C	76	19		628	0.121	76		0.1	0.2	7.168	A
	-	B-A	58	15		433	0.135	58		0.2	0.2	10.580	В
6 - Balloch Road / Carrochan Road	-	C-AB	113	28		672	0.169	113		0.2	0.2	7.092	A
6 - Balloch Road / Carrochan Road	-	C-A	54	13				54					
	-	A-B	119	30				119					
	-	A-C	122	31				122					
	-	B-AC	127	32		495	0.256	127		0.4	0.4	10.763	В
	-	C-AB	86	22		825	0.104	86		0.2	0.2	5.367	A
7 - untitled	-	C-A	330	83				330					
	-	A-B	65	16				65					
	-	A-C	325	81				325					
	1 - Carrochan Road	-	240	60	554	1341	0.179	240	198	0.2	0.2	3.594	А
O constitue d	2 - A811 Lomond Road	-	522	130	357	1269	0.411	522	437	0.8	0.8	5.300	A
8 - untitled	3 - A813 Carrochan Road (South)	-	397	99	523	1597	0.249	397	356	0.4	0.4	3.301	A
	4 - A811 (West)	-	552	138	200	1520	0.363	552	720	0.6	0.6	4.033	A

09:00 - 09:15

									1				
Junction	Arm	Stream	Total Demand	Junction Arrivals	Circulating flow	Capacity (PCU/hr)	RFC	Throughput	Throughput (exit	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level

			(PCU/hr)	(PCU)	(PCU/hr)			(PCU/hr)	side) (PCU/hr)				of service
	1 - A82 (North)	-	638	160	466	2162	0.295	639	937	0.6	0.5	2.602	Α
	2 - A811 (East)	-	869	217	416	1982	0.439	871	689	1.3	0.9	3.572	Α
1 - untitled	3 - A82 (South)	-	1026	256	377	2764	0.371	1027	910	0.9	0.7	2.282	А
	4 - Local Access (West)	-	0	0	1404	399	0.000	0	0	0.0	0.0	0.000	Α
	1 - Old Luss Road (North)	-	320	80	739	1903	0.168	320	277	0.3	0.2	2.504	A
0	2 - A811 (East)	-	648	162	585	1626	0.399	650	474	1.1	0.7	4.061	Α
2 - untitled	3 - Luss Road (South)	-	544	136	660	2007	0.271	545	575	0.6	0.4	2.709	Α
	4 - A811 (West)	-	685	171	330	1920	0.357	686	874	0.9	0.6	3.215	Α
	1 - Ben Lomond Way (North)	-	36	9	209	1458	0.025	36	88	0.0	0.0	2.786	A
3 - untitled	2 - Balloch Road (East)	-	227	57	109	1541	0.148	228	136	0.2	0.2	3.017	Α
3 - untitied	3 - Old Luss Road (South)	-	275	69	13	1791	0.154	275	323	0.3	0.2	2.611	A
	4 - Old Luss Road (West)	-	26	7	271	1403	0.019	26	18	0.0	0.0	2.876	Α
	1 - Ben Lomond Way (East)	-	29	7	4	1368	0.021	29	52	0.0	0.0	2.688	Α
4 - untitled	2 - Ben Lomond Way (South)	-	88	22	2	1539	0.057	88	31	0.1	0.1	2.480	Α
4 - unitieu	3 - Lomond Shores (Access Only)	-	4	1	61	1400	0.003	4	29	0.0	0.0	2.581	Α
	4 - Lomond Shores (Access / Egress)	-	0	0	57	695	0.000	0	9	0.0	0.0	0.000	Α
	-	B-AC	7	2		620	0.012	7		0.0	0.0	6.456	Α
	-	C-AB	16	4		725	0.022	16		0.0	0.0	5.586	Α
5 - Balloch Road / Pier Road	-	C-A	160	40				160					
	-	A-B	3	0.67				3					
	-	A-C	145	36				145					
	-	B-C	62	16		640	0.097	62		0.2	0.1	6.850	Α
	-	B-A	48	12		447	0.107	48		0.2	0.1	9.926	A
6 - Balloch Road / Carrochan Road	-	C-AB	91	23		675	0.135	91		0.2	0.2	6.787	Α
o - Danoch Road / Carrochan Road	-	C-A	46	11				46					
	-	A-B	97	24				97					
	-	A-C	100	25				100					
	-	B-AC	103	26		524	0.197	104		0.4	0.3	9.438	Α
	-	C-AB	63	16		793	0.079	63		0.2	0.2	5.427	A
7 - untitled	-	C-A	277	69				277					
	-	A-B	53	13				53					
	-	A-C	265	66				265					
	1 - Carrochan Road	-	196	49	453	1398	0.140	196	162	0.2	0.2	3.298	Α
8 - untitled	2 - A811 Lomond Road	-	426	107	292	1303	0.327	427	357	8.0	0.5	4.524	A
	3 - A813 Carrochan Road (South)	-	325	81	428	1656	0.196	325	291	0.4	0.3	2.978	Α
	4 - A811 (West)	-	450	113	164	1541	0.292	451	589	0.6	0.5	3.586	A

09:15 - 09:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	535	134	390	2207	0.242	535	784	0.5	0.4	2.368	A
dut-d	2 - A811 (East)	-	728	182	348	2019	0.361	729	577	0.9	0.6	3.070	A
1 - untitled	3 - A82 (South)	-	859	215	315	2805	0.306	860	762	0.7	0.5	2.037	A
	4 - Local Access (West)	-	0	0	1175	464	0.000	0	0	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	268	67	619	1973	0.136	268	232	0.2	0.2	2.322	A
2 - untitled	2 - A811 (East)	-	543	136	490	1675	0.324	544	397	0.7	0.5	3.503	A
z - unuueu	3 - Luss Road (South)	-	455	114	553	2072	0.220	456	481	0.4	0.3	2.452	A
	4 - A811 (West)	-	574	143	277	1949	0.294	574	732	0.6	0.5	2.883	A
	1 - Ben Lomond Way (North)	-	30	8	175	1479	0.020	30	74	0.0	0.0	2.732	A
3 - untitled	2 - Balloch Road (East)	-	190	48	91	1552	0.123	191	114	0.2	0.2	2.908	A
o - ununeu	3 - Old Luss Road (South)	-	230	58	11	1793	0.129	231	270	0.2	0.2	2.534	A
	4 - Old Luss Road (West)	-	22	5	227	1431	0.015	22	15	0.0	0.0	2.812	A
	1 - Ben Lomond Way (East)	-	24	6	4	1368	0.018	24	44	0.0	0.0	2.678	A
4 - untitled	2 - Ben Lomond Way (South)	-	74	18	2	1540	0.048	74	26	0.1	0.1	2.457	A
4 - untitled	3 - Lomond Shores (Access Only)	-	4	0.94	51	1406	0.003	4	24	0.0	0.0	2.568	A
	4 - Lomond Shores (Access / Egress)	-	0	0	47	699	0.000	0	8	0.0	0.0	0.000	A
	-	B-AC	6	2		630	0.010	6		0.0	0.0	6.343	A
	-	C-AB	13	3		713	0.018	13		0.0	0.0	5.661	A
5 - Balloch Road / Pier Road	-	C-A	134	34				134					
	-	A-B	2	0.56				2					
	-	A-C	121	30				121					
	-	B-C	52	13		649	0.080	52		0.1	0.1	6.631	A
	-	B-A	40	10		457	0.087	40		0.1	0.1	9.490	A
6 - Balloch Road / Carrochan Road	-	C-AB	75	19		677	0.111	75		0.2	0.1	6.581	A
- Ballocii Koau / Carrochaii Koau	-	C-A	39	10				39					
	-	A-B	81	20				81					
	-	A-C	84	21				84					
	-	B-AC	87	22		545	0.159	87		0.3	0.2	8.653	A
	-	C-AB	48	12		771	0.063	48		0.2	0.1	5.482	A
7 - untitled	-	C-A	236	59				236					
	-	A-B	44	11				44					
	-	A-C	222	56		İ		222					
	1 - Carrochan Road	-	164	41	379	1439	0.114	164	136	0.2	0.1	3.106	A
	2 - A811 Lomond Road	-	357	89	244	1329	0.269	357	299	0.5	0.4	4.079	A

8 - untitled													
o - unitied	3 - A813 Carrochan Road (South)	-	272	68	358	1699	0.160	272	243	0.3	0.2	2.774	A
	4 - A811 (West)	-	377	94	137	1556	0.242	378	493	0.5	0.3	3.318	A

Existing Layout - 2030, Ass. Weekday PM

Data Errors and Warnings

Severity	Area Item		Description
Warning	Geometry	2 - untitled - 3 - Luss Road (South) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix	4 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout					1, 2, 3, 4	5.62	Α
2	untitled	Standard Roundabout					1, 2, 3, 4	5.19	Α
3	untitled	Standard Roundabout					1, 2, 3, 4	3.22	Α
4	untitled	Standard Roundabout					1, 2, 3, 4	3.38	Α
5	Balloch Road / Pier Road	T-Junction	Two-way	Two-way	Two-way			0.78	Α
6	Balloch Road / Carrochan Road	T-Junction	Two-way	Two-way	Two-way			4.64	Α
7	untitled	T-Junction	Two-way	Two-way	Two-way			1.87	Α
8	untitled	Standard Roundabout					1, 2, 3, 4	5.49	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	20	1 - untitled - 1 - A82 (North)	4.65	Α

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2030	Ass. Weekday PM	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
	1 - A82 (North)		ONE HOUR	✓	1447	100.000
1 - untitled	2 - A811 (East)		ONE HOUR	✓	811	100.000
1 - undited	3 - A82 (South)		ONE HOUR	✓	1070	100.000
	4 - Local Access (West)		ONE HOUR	✓	2	100.000
	1 - Old Luss Road (North)		ONE HOUR	✓	375	100.000
2 - untitled	2 - A811 (East)		ONE HOUR	✓	580	100.000
2 - ununeu	3 - Luss Road (South)		ONE HOUR	✓	756	100.000
	4 - A811 (West)		ONE HOUR	✓	1126	100.000
	1 - Ben Lomond Way (North)		ONE HOUR	✓	152	100.000
3 - untitled	2 - Balloch Road (East)		ONE HOUR	✓	193	100.000
3 - ununeu	3 - Old Luss Road (South)		ONE HOUR	✓	479	100.000
	4 - Old Luss Road (West)		ONE HOUR	✓	51	100.000
	1 - Ben Lomond Way (East)		ONE HOUR	✓	67	100.000
4 - untitled	2 - Ben Lomond Way (South)		ONE HOUR	✓	93	100.000
4 - undied	3 - Lomond Shores (Access Only)		ONE HOUR	✓	42	100.000
	4 - Lomond Shores (Access / Egress)		ONE HOUR	✓	56	100.000
	A - Balloch Road (West)		ONE HOUR	✓	277	100.000
5 - Balloch Road / Pier Road	B - Pier Road		ONE HOUR	✓	35	100.000
	C - Balloch Road (East)		ONE HOUR	✓	201	100.000
	A - Drymen Road (East)		ONE HOUR	✓	157	100.000
6 - Balloch Road / Carrochan Road	B - Carrochan Road		ONE HOUR	✓	194	100.000
	C - Balloch Road (west)		ONE HOUR	✓	283	100.000
	A - A811 Lomond Road		ONE HOUR	✓	481	100.000
7 - untitled	B - Drymen Road		ONE HOUR	✓	126	100.000
	C - A811 Main Street		ONE HOUR	✓	428	100.000
	1 - Carrochan Road		ONE HOUR	✓	300	100.000
8 - untitled	2 - A811 Lomond Road		ONE HOUR	✓	464	100.000
o - unadeu	3 - A813 Carrochan Road (South)		ONE HOUR	✓	363	100.000
	4 - A811 (West)		ONE HOUR	✓	794	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - untitled

			То		
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)
	1 - A82 (North)	8	567	870	2
From	2 - A811 (East)	378	0	431	2
	3 - A82 (South)	509	561	0	0
	4 - Local Access (West)	1	1	0	0

Demand (PCU/hr)

2 - untitled

	То						
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)		
	1 - Old Luss Road (North)	0	51	118	206		
From	2 - A811 (East)	64	3	194	319		
	3 - Luss Road (South)	155	326	0	275		
	4 - A811 (West)	282	510	333	1		

Demand (PCU/hr)

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	0	26	124	2	
From	2 - Balloch Road (East)	13	0	167	13	
	3 - Old Luss Road (South)	72	304	60	43	
	4 - Old Luss Road (West)	5	14	32	0	

Demand (PCU/hr)

4 - untitled

	То						
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)		
	1 - Ben Lomond Way (East)	1	59	1	6		
From	2 - Ben Lomond Way (South)	55	3	17	18		
	3 - Lomond Shores (Access Only)	0	42	0	0		
	4 - Lomond Shores (Access / Egress)	5	50	1	0		

Demand (PCU/hr)

5 - Balloch Road / Pier Road

	То						
From		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)			
	A - Balloch Road (West)	0	21	256			
FIOIII	B - Pier Road	14	0	21			
	C - Balloch Road (East)	180	21	0			

Demand (PCU/hr)

6 - Balloch Road / Carrochan Road

	То					
From		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)		
	A - Drymen Road (East)	0	83	74		
	B - Carrochan Road	77	0	117		
	C - Balloch Road (west)	155	128	0		

Demand (PCU/hr)

7 - untitled

	То						
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street			
From	A - A811 Lomond Road	0	89	392			
FIOIII	B - Drymen Road	67	0	59			
	C - A811 Main Street	385	43	0			

Demand (PCU/hr)

То				
	1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
1 - Carrochan Road	2	51	136	111

Fro	2 - A811 Lomond Road	30	0	120	314
	3 - A813 Carrochan Road (South)	113	101	2	147
	4 - A811 (West)	109	431	253	1

Vehicle Mix

Heavy Vehicle Percentages

1 - untitled

	То					
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)	
	1 - A82 (North)	10	10	10	10	
From	2 - A811 (East)	10	10	10	10	
	3 - A82 (South)	10	10	10	10	
	4 - Local Access (West)	10	10	10	10	

Heavy Vehicle Percentages

2 - untitled

	То					
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)	
	1 - Old Luss Road (North)	10	10	10	10	
From	2 - A811 (East)	10	10	10	10	
	3 - Luss Road (South)	10	10	10	10	
	4 - A811 (West)	10	10	10	0	

Heavy Vehicle Percentages

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	10	10	10	10	
From	2 - Balloch Road (East)	10	10	10	10	
	3 - Old Luss Road (South)	10	10	10	10	
	4 - Old Luss Road (West)	10	10	10	10	

Heavy Vehicle Percentages

4 - untitled

	То						
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)		
	1 - Ben Lomond Way (East)	0	0	0	0		
From	2 - Ben Lomond Way (South)	0	0	0	0		
	3 - Lomond Shores (Access Only)	0	0	0	0		
	4 - Lomond Shores (Access / Egress)	0	0	0	0		

Heavy Vehicle Percentages

5 - Balloch Road / Pier Road

		То		
		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)
From	A - Balloch Road (West)	10	10	10
FIOIII	B - Pier Road	10	10	10
	C - Balloch Road (East)	10	10	10

Heavy Vehicle Percentages

6 - Balloch Road / Carrochan Road

		То		
		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)
From	A - Drymen Road (East)	10	10	10
FIOIII	B - Carrochan Road	10	10	10
	C - Balloch Road (west)	10	10	10

Heavy Vehicle Percentages

7 - untitled

ileavy	vernole i ercentages			
		То		
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street
From	A - A811 Lomond Road	10	10	10
FIOIII	B - Drymen Road	10	10	10
	C - A811 Main Street	10	10	10

Heavy Vehicle Percentages

8 - untitled

			То		
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
	1 - Carrochan Road	10	10	10	10
From	2 - A811 Lomond Road	10	10	10	10
	3 - A813 Carrochan Road (South)	10	10	10	10
	4 - A811 (West)	0	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	1 - A82 (North)	0.77	8.22	3.6	A	1328	1992
1 - untitled	2 - A811 (East)	0.53	5.04	1.2	Α	744	1116
i - unititieu	3 - A82 (South)	0.43	2.55	0.8	Α	982	1473
	4 - Local Access (West)	0.00	0.00	0.0	A	0	0
	1 - Old Luss Road (North)	0.26	3.40	0.4	A	344	516
2 - untitled	2 - A811 (East)	0.41	4.32	0.8	Α	532	798
z - unulleu	3 - Luss Road (South)	0.41	3.36	0.8	Α	694	1041
	4 - A811 (West)	0.70	7.46	2.5	Α	1033	1550
	1 - Ben Lomond Way (North)	0.13	3.47	0.2	A	139	209
3 - untitled	2 - Balloch Road (East)	0.15	3.17	0.2	Α	177	266
3 - untitled	3 - Old Luss Road (South)	0.30	3.16	0.5	Α	440	659
	4 - Old Luss Road (West)	0.04	3.28	0.1	A	47	70
	1 - Ben Lomond Way (East)	0.06	2.92	0.1	A	61	92
4 - untitled	2 - Ben Lomond Way (South)	0.07	2.51	0.1	Α	85	128
4 - unititieu	3 - Lomond Shores (Access Only)	0.03	2.69	0.0	A	39	58
	4 - Lomond Shores (Access / Egress)	0.09	5.88	0.1	Α	51	77
	1 - Carrochan Road	0.28	4.74	0.4	Α	275	413
8 - untitled	2 - A811 Lomond Road	0.44	6.07	0.9	Α	426	639
o - untitleu	3 - A813 Carrochan Road (South)	0.25	3.28	0.4	Α	333	500
	4 - A811 (West)	0.59	6.46	1.6	Α	729	1093

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	B-AC	0.06	6.83	0.1	Α	32	48
	C-AB	0.04	5.87	0.1	Α	25	38
5 - Balloch Road / Pier Road	C-A					159	239
	A-B					19	29
	A-C					235	352
	B-C	0.20	7.91	0.3	Α	107	161
	B-A	0.20	11.91	0.3	В	71	106
6 - Balloch Road / Carrochan Road	C-AB	0.24	6.91	0.4	Α	146	219
6 - Balloch Road / Carrochan Road	C-A					113	170
	A-B					76	114
	A-C					68	102
	B-AC	0.29	11.93	0.5	В	116	173
	C-AB	0.12	5.47	0.3	Α	72	108
7 - untitled	C-A					320	481
	A-B					82	123
	A-C					360	540

Main Results for each time segment

16:30 - 16:45

16:30 - 16:45													
Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1089	272	421	2189	0.498	1085	672	0.0	1.1	3.576	Α
1 - untitled	2 - A811 (East)	-	611	153	660	1848	0.330	608	847	0.0	0.5	3.189	Α
i - unutieu	3 - A82 (South)	-	806	201	293	2820	0.286	804	976	0.0	0.4	1.962	Α
	4 - Local Access (West)	-	0	0	1093	487	0.000	0	3	0.0	0.0	0.000	Α
	1 - Old Luss Road (North)	-	282	71	880	1820	0.155	282	376	0.0	0.2	2.572	Α
2 - untitled	2 - A811 (East)	-	437	109	494	1673	0.261	435	668	0.0	0.4	3.193	Α
2 - untitled	3 - Luss Road (South)	-	569	142	445	2136	0.266	568	484	0.0	0.4	2.522	Α
	4 - A811 (West)	-	848	212	411	1875	0.452	844	601	0.0	0.9	3.828	Α
	1 - Ben Lomond Way (North)	- 1	114	29	308	1396	0.082	114	68	0.0	0.1	3.088	Α
		1							1	1			1

3 - untitled	2 - Balloch Road (East)	-	145	36	164	1508	0.096	145	258	0.0	0.1	2.905	Α
3 - untitled	3 - Old Luss Road (South)	-	361	90	21	1786	0.202	360	287	0.0	0.3	2.775	Α
	4 - Old Luss Road (West)	-	38	10	337	1361	0.028	38	44	0.0	0.0	2.993	Α
	1 - Ben Lomond Way (East)	-	50	13	72	1328	0.038	50	46	0.0	0.0	2.817	Α
4 - untitled	2 - Ben Lomond Way (South)	-	70	18	7	1536	0.046	70	115	0.0	0.0	2.454	Α
4 - untitled	3 - Lomond Shores (Access Only)	-	32	8	62	1399	0.023	32	14	0.0	0.0	2.631	Α
	4 - Lomond Shores (Access / Egress)	-	42	11	76	688	0.061	42	18	0.0	0.1	5.570	Α
	-	B-AC	26	7		650	0.041	26		0.0	0.0	6.349	A
	-	C-AB	20	5		695	0.028	19		0.0	0.0	5.867	Α
5 - Balloch Road / Pier Road	-	C-A	132	33				132					
	-	A-B	16	4				16					
	-	A-C	193	48				193					
	-	B-C	88	22		651	0.135	87		0.0	0.2	7.018	Α
	-	B-A	58	14		447	0.130	57		0.0	0.2	10.144	В
6 - Balloch Road / Carrochan Road	-	C-AB	115	29		734	0.156	114		0.0	0.2	6.374	Α
6 - Balloch Road / Carrochan Road	-	C-A	98	25				98					
	-	A-B	62	16				62					
	-	A-C	56	14				56					
	-	B-AC	95	24		533	0.178	94		0.0	0.2	8.995	Α
	-	C-AB	52	13		776	0.067	51		0.0	0.1	5.459	Α
7 - untitled	-	C-A	271	68				271					
	-	A-B	67	17				67					
	-	A-C	295	74				295					
	1 - Carrochan Road	-	226	56	591	1321	0.171	225	190	0.0	0.2	3.610	Α
8 - untitled	2 - A811 Lomond Road	-	349	87	379	1257	0.278	348	437	0.0	0.4	4.345	Α
o - ununeu	3 - A813 Carrochan Road (South)	-	273	68	343	1708	0.160	272	383	0.0	0.2	2.756	Α
	4 - A811 (West)	-	598	149	186	1528	0.391	595	430	0.0	0.7	4.174	A

16:45 - 17:00

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1301	325	504	2140	0.608	1298	804	1.1	1.7	4.691	A
4	2 - A811 (East)	-	729	182	790	1777	0.410	728	1013	0.5	0.8	3.773	A
1 - untitled	3 - A82 (South)	-	962	240	350	2781	0.346	961	1168	0.4	0.6	2.175	A
	4 - Local Access (West)	-	0	0	1308	426	0.000	0	4	0.0	0.0	0.000	Α
	1 - Old Luss Road (North)	-	337	84	1053	1718	0.196	337	450	0.2	0.3	2.866	A
2 - untitled	2 - A811 (East)	-	521	130	591	1623	0.321	521	799	0.4	0.5	3.590	A
2 - untitled	3 - Luss Road (South)	-	680	170	533	2084	0.326	679	579	0.4	0.5	2.819	A
	4 - A811 (West)	-	1012	253	492	1831	0.553	1010	719	0.9	1.3	4.816	A
	1 - Ben Lomond Way (North)	-	137	34	368	1359	0.101	137	81	0.1	0.1	3.239	A
3 - untitled	2 - Balloch Road (East)	-	174	43	196	1488	0.117	173	309	0.1	0.1	3.011	A
3 - unitited	3 - Old Luss Road (South)	-	431	108	25	1784	0.241	430	344	0.3	0.3	2.925	A
	4 - Old Luss Road (West)	-	46	11	403	1319	0.035	46	52	0.0	0.0	3.109	Α
	1 - Ben Lomond Way (East)	-	60	15	86	1319	0.046	60	55	0.0	0.0	2.858	A
4 - untitled	2 - Ben Lomond Way (South)	-	84	21	8	1535	0.054	84	138	0.0	0.1	2.479	A
4 - untitled	3 - Lomond Shores (Access Only)	-	38	9	75	1392	0.027	38	17	0.0	0.0	2.658	A
	4 - Lomond Shores (Access / Egress)	-	50	13	91	682	0.074	50	22	0.1	0.1	5.697	A
	-	B-AC	31	8		636	0.049	31		0.0	0.1	6.544	A
	-	C-AB	25	6		704	0.035	25		0.0	0.1	5.828	A
5 - Balloch Road / Pier Road	-	C-A	156	39				156	Ì				
	-	A-B	19	5				19					
	-	A-C	230	58				230					
	-	B-C	105	26		642	0.164	105		0.2	0.2	7.373	A
	-	B-A	69	17		434	0.159	69	Ì	0.2	0.2	10.831	В
6 - Balloch Road / Carrochan Road	-	C-AB	142	35		743	0.191	142		0.2	0.3	6.581	A
6 - Balloch Road / Carrochan Road	-	C-A	113	28				113					
	-	A-B	75	19				75					
	-	A-C	67	17				67					
	-	B-AC	113	28		507	0.223	113		0.2	0.3	10.035	В
	-	C-AB	68	17		801	0.085	68		0.1	0.2	5.409	A
7 - untitled	-	C-A	316	79				316					
	-	A-B	80	20				80					
	-	A-C	352	88				352					
	1 - Carrochan Road	-	270	67	707	1256	0.215	269	228	0.2	0.3	4.014	Α
8 - untitled	2 - A811 Lomond Road	-	417	104	453	1218	0.343	417	523	0.4	0.6	4.940	A
o - unaded	3 - A813 Carrochan Road (South)	-	326	82	411	1666	0.196	326	459	0.2	0.3	2.955	A
	4 - A811 (West)	-	714	178	223	1507	0.474	713	515	0.7	1.0	4.908	A

17:00 - 17:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1593	398	617	2074	0.768	1586	984	1.7	3.5	7.992	Α
1 - untitled	2 - A811 (East)	-	893	223	964	1681	0.531	891	1239	0.8	1.2	5.003	Α
i - untitied	3 - A82 (South)	-	1178	295	428	2730	0.432	1177	1427	0.6	0.8	2.549	A
	4 - Local Access (West)	-	0	0	1601	342	0.000	0	4	0.0	0.0	0.000	A

	1 - Old Luss Road (North)	-	413	103	1288	1580	0.261	412	550	0.3	0.4	3.388	A
2 - untitled	2 - A811 (East)	-	639	160	723	1555	0.411	638	977	0.5	0.8	4.311	A
z - untitied	3 - Luss Road (South)	-	832	208	652	2012	0.414	831	708	0.5	0.8	3.349	A
	4 - A811 (West)	-	1240	310	603	1770	0.700	1235	881	1.3	2.5	7.333	A
	1 - Ben Lomond Way (North)	-	167	42	451	1308	0.128	167	99	0.1	0.2	3.472	A
2 consisted	2 - Balloch Road (East)	-	212	53	240	1461	0.145	212	378	0.1	0.2	3.170	A
3 - untitied	3 - Old Luss Road (South)	-	527	132	31	1780	0.296	527	421	0.3	0.5	3.160	A
	4 - Old Luss Road (West)	-	56	14	494	1262	0.045	56	64	0.0	0.1	3.283	A
	1 - Ben Lomond Way (East)	-	74	18	106	1308	0.056	74	67	0.0	0.1	2.915	A
4	2 - Ben Lomond Way (South)	-	102	26	10	1534	0.067	102	169	0.1	0.1	2.513	A
4 - untitled	3 - Lomond Shores (Access Only)	-	46	12	91	1382	0.033	46	21	0.0	0.0	2.695	A
	4 - Lomond Shores (Access / Egress)	-	62	15	111	674	0.091	62	26	0.1	0.1	5.875	A
	-	B-AC	39	10		618	0.062	38		0.1	0.1	6.832	A
	-	C-AB	32	8		717	0.045	32		0.1	0.1	5.780	A
3 - untitled 2 3 4 4 - untitled 3 5 - Balloch Road / Pier Road 6 - Balloch Road / Carrochan Road 7 - untitled 1	-	C-A	189	47				189					
5 - Balloch Road / Pier Road	-	A-B	23	6				23	İ				
	-	A-C	282	70				282					
	-	B-C	129	32		629	0.205	129		0.2	0.3	7.902	A
	-	B-A	85	21		417	0.203	84		0.2	0.3	11.892	В
4 - untitled 3 4 5 - Balloch Road / Pier Road 6 - Balloch Road / Carrochan Road	-	C-AB	182	46		756	0.241	182		0.3	0.4	6.896	A
6 - Balloch Road / Carrochan Road	-	C-A	129	32				129					
	-	A-B	91	23				91					
5 - Balloch Road / Pier Road 6 - Balloch Road / Carrochan Road	-	A-C	81	20				81					
	-	B-AC	139	35		471	0.295	138		0.3	0.5	11.885	В
	-	C-AB	96	24		836	0.115	96		0.2	0.3	5.356	A
7 - untitled	-	C-A	375	94				375					
7 - untitled	-	A-B	98	24				98					
	-	A-C	432	108				432					
	1 - Carrochan Road	-	330	83	866	1168	0.283	330	279	0.3	0.4	4.724	A
8 - untitled	2 - A811 Lomond Road	-	511	128	555	1164	0.439	510	640	0.6	0.9	6.044	A
o - unititieu	3 - A813 Carrochan Road (South)	-	400	100	503	1609	0.248	399	561	0.3	0.4	3.273	A
	4 - A811 (West)	-	874	219	273	1479	0.591	872	630	1.0	1.5	6.408	A

17:15 - 17:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1593	398	618	2074	0.768	1593	985	3.5	3.6	8.222	A
4	2 - A811 (East)	-	893	223	969	1678	0.532	893	1242	1.2	1.2	5.042	A
1 - untitled	3 - A82 (South)	-	1178	295	429	2729	0.432	1178	1432	0.8	0.8	2.552	A
	4 - Local Access (West)	-	0	0	1603	342	0.000	0	4	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	413	103	1291	1578	0.262	413	552	0.4	0.4	3.397	A
2 - untitled	2 - A811 (East)	-	639	160	724	1554	0.411	639	980	0.8	0.8	4.323	A
z - untitied	3 - Luss Road (South)	-	832	208	653	2012	0.414	832	710	0.8	0.8	3.356	A
	4 - A811 (West)	-	1240	310	603	1770	0.700	1240	882	2.5	2.5	7.461	A
	1 - Ben Lomond Way (North)	-	167	42	451	1307	0.128	167	99	0.2	0.2	3.473	A
2mtitle.d	2 - Balloch Road (East)	-	212	53	240	1461	0.145	212	379	0.2	0.2	3.170	A
3 - untitled	3 - Old Luss Road (South)	-	527	132	31	1780	0.296	527	422	0.5	0.5	3.160	A
	4 - Old Luss Road (West)	-	56	14	494	1261	0.045	56	64	0.1	0.1	3.284	A
	1 - Ben Lomond Way (East)	-	74	18	106	1308	0.056	74	67	0.1	0.1	2.916	A
4 - untitled	2 - Ben Lomond Way (South)	-	102	26	10	1534	0.067	102	170	0.1	0.1	2.513	A
4 - untitied	3 - Lomond Shores (Access Only)	-	46	12	91	1382	0.033	46	21	0.0	0.0	2.695	A
	4 - Lomond Shores (Access / Egress)	-	62	15	111	674	0.091	62	26	0.1	0.1	5.875	A
	-	B-AC	39	10		618	0.062	39		0.1	0.1	6.832	A
	-	C-AB	32	8		717	0.045	32		0.1	0.1	5.779	A
5 - Balloch Road / Pier Road	-	C-A	189	47				189					
	-	A-B	23	6				23					
	-	A-C	282	70				282					
	-	B-C	129	32		629	0.205	129		0.3	0.3	7.912	A
	-	B-A	85	21		417	0.203	85		0.3	0.3	11.915	В
6 - Balloch Road / Carrochan Road	-	C-AB	182	46		756	0.241	182		0.4	0.4	6.908	A
6 - Balloch Road / Carrochan Road	-	C-A	129	32				129					
	-	A-B	91	23				91					
	-	A-C	81	20				81					
	-	B-AC	139	35		471	0.295	139		0.5	0.5	11.927	В
	-	C-AB	97	24		836	0.116	97		0.3	0.3	5.361	A
7 - untitled	-	C-A	375	94				375					
	-	A-B	98	24				98					
		A-C	432	108				432					
<u> </u>	1 - Carrochan Road	-	330	83	868	1166	0.283	330	280	0.4	0.4	4.736	A
8 - untitled	2 - A811 Lomond Road	-	511	128	556	1163	0.439	511	642	0.9	0.9	6.068	A
o - unuucu	3 - A813 Carrochan Road (South)	-	400	100	504	1608	0.249	400	563	0.4	0.4	3.275	A
	4 - A811 (West)	-	874	219	273	1479	0.591	874	631	1.5	1.6	6.457	A

1	7:30 - 17:45													
	Junction	Arm	Stream	Total Demand	Junction Arrivals	Circulating flow	Capacity (PCU/hr)	RFC	Throughput	Throughput (exit	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level

			(PCU/hr)	(PCU)	(PCU/hr)			(PCU/hr)	side) (PCU/hr)				of service
	1 - A82 (North)	-	1301	325	505	2140	0.608	1308	806	3.6	1.7	4.803	A
	2 - A811 (East)	-	729	182	796	1773	0.411	731	1017	1.2	0.8	3.807	A
1 - untitled	3 - A82 (South)	-	962	240	352	2781	0.346	963	1175	0.8	0.6	2.181	A
	4 - Local Access (West)	-	0	0	1311	425	0.000	0	4	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	337	84	1058	1715	0.197	338	452	0.4	0.3	2.875	A
	2 - A811 (East)	-	521	130	593	1622	0.321	522	803	0.8	0.5	3.606	A
2 - untitled	3 - Luss Road (South)	-	680	170	534	2083	0.326	681	582	0.8	0.5	2.827	A
	4 - A811 (West)	-	1012	253	493	1830	0.553	1017	721	2.5	1.4	4.895	A
	1 - Ben Lomond Way (North)	-	137	34	369	1358	0.101	137	81	0.2	0.1	3.241	A
o modulo d	2 - Balloch Road (East)	-	174	43	196	1488	0.117	174	310	0.2	0.1	3.015	A
3 - untitled	3 - Old Luss Road (South)	-	431	108	25	1784	0.241	431	345	0.5	0.4	2.930	A
	4 - Old Luss Road (West)	-	46	11	404	1319	0.035	46	52	0.1	0.0	3.113	A
	1 - Ben Lomond Way (East)	-	60	15	86	1319	0.046	60	55	0.1	0.0	2.858	A
4 - untitled	2 - Ben Lomond Way (South)	-	84	21	8	1535	0.054	84	139	0.1	0.1	2.479	A
4 - untitled	3 - Lomond Shores (Access Only)	-	38	9	75	1392	0.027	38	17	0.0	0.0	2.660	A
	4 - Lomond Shores (Access / Egress)	-	50	13	91	682	0.074	50	22	0.1	0.1	5.699	A
	-	B-AC	31	8		636	0.049	32		0.1	0.1	6.546	A
	-	C-AB	25	6		704	0.035	25		0.1	0.1	5.832	A
5 - Balloch Road / Pier Road	-	C-A	156	39				156					
	-	A-B	19	5				19					
	-	A-C	230	58				230					
	-	B-C	105	26		642	0.164	105		0.3	0.2	7.389	A
	-	B-A	69	17		434	0.159	69		0.3	0.2	10.864	В
6 - Balloch Road / Carrochan Road	-	C-AB	142	35		744	0.191	142		0.4	0.3	6.598	A
6 - Balloch Road / Carrochan Road	-	C-A	112	28				112					
	-	A-B	75	19				75					
	-	A-C	67	17				67					
	-	B-AC	113	28		507	0.223	114		0.5	0.3	10.081	В
	-	C-AB	69	17		801	0.086	69		0.3	0.2	5.416	A
7 - untitled	-	C-A	316	79				316					
	-	A-B	80	20				80					
	-	A-C	352	88				352					
	1 - Carrochan Road	-	270	67	710	1254	0.215	270	229	0.4	0.3	4.028	A
8 - untitled	2 - A811 Lomond Road	-	417	104	455	1217	0.343	418	526	0.9	0.6	4.965	A
o - unuueu	3 - A813 Carrochan Road (South)	-	326	82	413	1665	0.196	327	461	0.4	0.3	2.961	A
	4 - A811 (West)	-	714	178	223	1507	0.474	716	516	1.6	1.0	4.951	A

17:45 - 18:00

17:45 - 18:00			Total Demand	Junction Arrivals	Circulating flow			Throughput	Throughput (exit				Unsignalised level
Junction	Arm	Stream	(PCU/hr)	(PCU)	(PCU/hr)	Capacity (PCU/hr)	RFC	(PCU/hr)	side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	of service
	1 - A82 (North)	-	1089	272	423	2188	0.498	1092	675	1.7	1.1	3.623	A
1 - untitled	2 - A811 (East)	-	611	153	664	1846	0.331	611	851	0.8	0.5	3.210	A
i - dilitiled	3 - A82 (South)	-	806	201	294	2819	0.286	806	981	0.6	0.4	1.967	A
	4 - Local Access (West)	-	0	0	1097	486	0.000	0	3	0.0	0.0	0.000	A
	1 - Old Luss Road (North)	-	282	71	885	1817	0.155	283	378	0.3	0.2	2.582	A
2 - untitled	2 - A811 (East)	-	437	109	496	1672	0.261	437	671	0.5	0.4	3.207	A
2 - untitled	3 - Luss Road (South)	-	569	142	447	2135	0.267	570	486	0.5	0.4	2.530	A
	4 - A811 (West)	-	848	212	413	1874	0.452	850	604	1.4	0.9	3.870	A
	1 - Ben Lomond Way (North)	-	114	29	309	1396	0.082	115	68	0.1	0.1	3.092	A
3 - untitled	2 - Balloch Road (East)	-	145	36	164	1507	0.096	145	259	0.1	0.1	2.907	A
3 - unitilea	3 - Old Luss Road (South)	-	361	90	21	1786	0.202	361	289	0.4	0.3	2.780	A
	4 - Old Luss Road (West)	-	38	10	338	1360	0.028	38	44	0.0	0.0	2.997	A
	1 - Ben Lomond Way (East)	-	50	13	72	1328	0.038	50	46	0.0	0.0	2.818	A
4 - untitled	2 - Ben Lomond Way (South)	-	70	18	7	1536	0.046	70	116	0.1	0.0	2.455	A
4 - untitled	3 - Lomond Shores (Access Only)	-	32	8	63	1399	0.023	32	14	0.0	0.0	2.632	A
	4 - Lomond Shores (Access / Egress)	-	42	11	76	688	0.061	42	18	0.1	0.1	5.579	A
	-	B-AC	26	7		650	0.041	26		0.1	0.0	6.353	A
	-	C-AB	20	5		695	0.028	20		0.1	0.0	5.870	A
5 - Balloch Road / Pier Road	-	C-A	132	33				132					
	-	A-B	16	4				16					
	-	A-C	193	48				193					
	-	B-C	88	22		651	0.135	88		0.2	0.2	7.043	A
	-	B-A	58	14		447	0.130	58		0.2	0.2	10.196	В
6 - Balloch Road / Carrochan Road	-	C-AB	115	29		734	0.156	115		0.3	0.2	6.401	A
0 - Ballocii Koau / Carrociian Koau	-	C-A	98	25				98					
	-	A-B	62	16				62					
	-	A-C	56	14				56					
	-	B-AC	95	24		533	0.178	95		0.3	0.2	9.049	A
	-	C-AB	52	13		777	0.067	52		0.2	0.1	5.470	A
7 - untitled	-	C-A	270	68				270					
-	-	A-B	67	17				67					
	-	A-C	295	74				295					
	1 - Carrochan Road	-	226	56	594	1319	0.171	226	191	0.3	0.2	3.624	A
	2 - A811 Lomond Road	-	349	87	381	1256	0.278	350	440	0.6	0.4	4.373	A

8 - untitled													
o - ununou	3 - A813 Carrochan Road (South)	-	273	68	345	1707	0.160	274	385	0.3	0.2	2.764	Α
	4 - A811 (West)	-	598	149	187	1528	0.391	599	432	1.0	0.7	4.211	Α

Existing Layout - 2030, Ass. Saturday Peak Hour

Data Errors and Warnings

Severity	Area	Item	Description
Warning	arning Geometry 2 - untitled - 3 - Luss Road (South) - Roundabout Geometry		Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix	1 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	2 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	3 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	4 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	5 - Balloch Road / Pier Road	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	6 - Balloch Road / Carrochan Road	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	7 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	8 - untitled	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout					1, 2, 3, 4	4.72	Α
2	untitled	Standard Roundabout					1, 2, 3, 4	4.70	Α
3	untitled	Standard Roundabout					1, 2, 3, 4	4.29	Α
4	untitled	Standard Roundabout					1, 2, 3, 4	3.97	Α
5	Balloch Road / Pier Road	T-Junction	Two-way	Two-way	Two-way			0.91	Α
6	Balloch Road / Carrochan Road	T-Junction	Two-way	Two-way	Two-way			6.27	Α
7	untitled	T-Junction	Two-way	Two-way	Two-way			1.96	Α
8	untitled	Standard Roundabout					1, 2, 3, 4	4.58	Α

Junction Network

Driving side	de Lighting Network residual capacity (%)		First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	13	1 - untitled - 4 - Local Access (West)	4.27	Α

Traffic Demand

Demand Set Details

1	D	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
C	96	2030	Ass. Saturday Peak Hour	ONE HOUR	15:00	16:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
	1 - A82 (North)		ONE HOUR	✓	1192	100.000
1 - untitled	2 - A811 (East)		ONE HOUR	✓	1079	100.000
i - untitied	3 - A82 (South)		ONE HOUR	✓	1436	100.000
	4 - Local Access (West)		ONE HOUR	✓	8	100.000
	1 - Old Luss Road (North)		ONE HOUR	✓	851	100.000
2 - untitled	2 - A811 (East)		ONE HOUR	✓	646	100.000
2 - ununeu	3 - Luss Road (South)		ONE HOUR	✓	556	100.000
	4 - A811 (West)		ONE HOUR	✓	1032	100.000
	1 - Ben Lomond Way (North)		ONE HOUR	✓	469	100.000
3 - untitled	2 - Balloch Road (East)		ONE HOUR	✓	349	100.000
3 - untitled	3 - Old Luss Road (South)		ONE HOUR	✓	755	100.000
	4 - Old Luss Road (West)		ONE HOUR	✓	106	100.000
	1 - Ben Lomond Way (East)		ONE HOUR	✓	104	100.000
4 - untitled	2 - Ben Lomond Way (South)		ONE HOUR	✓	303	100.000
4 - ununeu	3 - Lomond Shores (Access Only)		ONE HOUR	✓	292	100.000
	4 - Lomond Shores (Access / Egress)		ONE HOUR	✓	99	100.000
	A - Balloch Road (West)		ONE HOUR	✓	392	100.000
5 - Balloch Road / Pier Road	B - Pier Road		ONE HOUR	✓	68	100.000
	C - Balloch Road (East)		ONE HOUR	✓	348	100.000
	A - Drymen Road (East)		ONE HOUR	✓	175	100.000
6 - Balloch Road / Carrochan Road	B - Carrochan Road		ONE HOUR	✓	266	100.000
	C - Balloch Road (west)		ONE HOUR	✓	370	100.000
	A - A811 Lomond Road		ONE HOUR		395	100.000

			✓		
7 - untitled	B - Drymen Road	ONE HOUR	✓	131	100.000
	C - A811 Main Street	ONE HOUR	✓	461	100.000
	1 - Carrochan Road	ONE HOUR	✓	368	100.000
O constitue d	2 - A811 Lomond Road	ONE HOUR	✓	496	100.000
8 - untitled	3 - A813 Carrochan Road (South)	ONE HOUR	✓	346	100.000
	4 - A811 (West)	ONE HOUR	✓	657	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - untitled

			То			
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)	
	1 - A82 (North)	5	462	723	2	
From	2 - A811 (East)	483	2	589	5	
	3 - A82 (South)	841	587	7	1	
	4 - Local Access (West)	5	1	2	0	

Demand (PCU/hr)

2 - untitled

	То						
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)		
	1 - Old Luss Road (North)	1	103	183	564		
From	2 - A811 (East)	126	18	184	318		
	3 - Luss Road (South)	175	193	0	188		
	4 - A811 (West)	429	375	217	11		

Demand (PCU/hr)

3 - untitled

		То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)		
	1 - Ben Lomond Way (North)	1	87	378	3		
From	2 - Balloch Road (East)	46	0	281	22		
	3 - Old Luss Road (South)	245	300	116	94		
	4 - Old Luss Road (West)	6	24	76	0		

Demand (PCU/hr)

4 - untitled

	(· · · · · · · · · · · · · · · · · · ·							
		То						
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)			
	1 - Ben Lomond Way (East)	1	88	8	7			
From	2 - Ben Lomond Way (South)	87	6	95	115			
	3 - Lomond Shores (Access Only)	1	289	1	1			
	4 - Lomond Shores (Access / Egress)	1	96	1	1			

Demand (PCU/hr)

5 - Balloch Road / Pier Road

	То					
		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)		
From	A - Balloch Road (West)	0	23	369		
From	B - Pier Road	28	0	40		
	C - Balloch Road (East)	319	29	0		

Demand (PCU/hr)

6 - Balloch Road / Carrochan Road

	То					
From		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)		
	A - Drymen Road (East)	0	74	101		
	B - Carrochan Road	79	0	187		
	C - Balloch Road (west)	136	234	0		

Demand (PCU/hr)

7 - untitled

	То					
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street		
Erom	A - A811 Lomond Road	0	61	334		
From	B - Drymen Road	60	0	71		

C - A811 Main Street	395	66	0

Demand (PCU/hr)

8 - untitled

	······································							
		То						
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)			
	1 - Carrochan Road	1	44	199	124			
From	2 - A811 Lomond Road	63	1	85	347			
	3 - A813 Carrochan Road (South)	130	63	0	153			
	4 - A811 (West)	134	362	161	0			

Vehicle Mix

Heavy Vehicle Percentages

1 - untitled

	То					
		1 - A82 (North)	2 - A811 (East)	3 - A82 (South)	4 - Local Access (West)	
	1 - A82 (North)	0	0	0	0	
From	2 - A811 (East)	0	0	0	0	
	3 - A82 (South)	0	0	0	0	
	4 - Local Access (West)	0	0	0	0	

Heavy Vehicle Percentages

2 - untitled

	То					
		1 - Old Luss Road (North)	2 - A811 (East)	3 - Luss Road (South)	4 - A811 (West)	
	1 - Old Luss Road (North)	0	0	0	0	
From	2 - A811 (East)	0	0	0	0	
	3 - Luss Road (South)	0	0	0	0	
	4 - A811 (West)	0	0	0	0	

Heavy Vehicle Percentages

3 - untitled

	То					
		1 - Ben Lomond Way (North)	2 - Balloch Road (East)	3 - Old Luss Road (South)	4 - Old Luss Road (West)	
	1 - Ben Lomond Way (North)	0	0	0	0	
From	2 - Balloch Road (East)	0	0	0	0	
	3 - Old Luss Road (South)	0	0	0	0	
	4 - Old Luss Road (West)	0	0	0	0	

Heavy Vehicle Percentages

4 - untitled

	То					
		1 - Ben Lomond Way (East)	2 - Ben Lomond Way (South)	3 - Lomond Shores (Access Only)	4 - Lomond Shores (Access / Egress)	
	1 - Ben Lomond Way (East)	0	0	0	0	
From	2 - Ben Lomond Way (South)	0	0	0	0	
	3 - Lomond Shores (Access Only)	0	0	0	0	
	4 - Lomond Shores (Access / Egress)	0	0	0	0	

Heavy Vehicle Percentages

5 - Balloch Road / Pier Road

		То		
		A - Balloch Road (West)	B - Pier Road	C - Balloch Road (East)
From	A - Balloch Road (West)	0	0	0
FIOIII	B - Pier Road	0	0	0
	C - Balloch Road (East)	0	0	0

Heavy Vehicle Percentages

6 - Balloch Road / Carrochan Road

		То		
		A - Drymen Road (East)	B - Carrochan Road	C - Balloch Road (west)
From	A - Drymen Road (East)	0	0	0
FIOIII	B - Carrochan Road	0	0	0
	C - Balloch Road (west)	0	0	0

Heavy Vehicle Percentages

7 - untitled

		То		
		A - A811 Lomond Road	B - Drymen Road	C - A811 Main Street
From	A - A811 Lomond Road	0	0	0
FIOIII	B - Drymen Road	0	0	0
	C - A811 Main Street	0	0	0

Heavy Vehicle Percentages

8 - untitled

			То		
		1 - Carrochan Road	2 - A811 Lomond Road	3 - A813 Carrochan Road (South)	4 - A811 (West)
	1 - Carrochan Road	0	0	0	0
From	2 - A811 Lomond Road	0	0	0	0
	3 - A813 Carrochan Road (South)	0	0	0	0
	4 - A811 (West)	0	0	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	1 - A82 (North)	0.64	4.88	1.8	Α	1094	1641
1 - untitled	2 - A811 (East)	0.67	6.25	2.0	Α	990	1485
i - untitied	3 - A82 (South)	0.60	3.36	1.5	Α	1318	1977
	4 - Local Access (West)	0.05	19.46	0.0	С	7	11
	1 - Old Luss Road (North)	0.52	4.12	1.1	Α	781	1171
2 - untitled	2 - A811 (East)	0.52	5.43	1.1	Α	593	889
z - untitied	3 - Luss Road (South)	0.36	3.25	0.6	Α	510	765
	4 - A811 (West)	0.63	5.50	1.7	Α	947	1420
	1 - Ben Lomond Way (North)	0.42	5.01	0.7	Α	430	646
3 - untitled	2 - Balloch Road (East)	0.31	4.29	0.5	Α	320	480
s - untitied	3 - Old Luss Road (South)	0.48	3.92	0.9	Α	693	1039
	4 - Old Luss Road (West)	0.11	3.73	0.1	Α	97	146
	1 - Ben Lomond Way (East)	0.10	3.60	0.1	Α	95	143
4 - untitled	2 - Ben Lomond Way (South)	0.22	3.01	0.3	Α	278	417
4 - untitied	3 - Lomond Shores (Access Only)	0.25	3.71	0.3	Α	268	402
	4 - Lomond Shores (Access / Egress)	0.20	8.07	0.2	Α	91	136
	1 - Carrochan Road	0.31	4.07	0.5	Α	338	507
0	2 - A811 Lomond Road	0.46	5.72	0.9	Α	455	683
8 - untitled	3 - A813 Carrochan Road (South)	0.24	3.07	0.3	Α	317	476
	4 - A811 (West)	0.49	4.80	1.0	Α	603	904

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
	B-AC	0.13	7.34	0.2	Α	62	94
	C-AB	0.07	5.03	0.1	Α	44	66
5 - Balloch Road / Pier Road	C-A					276	413
	A-B					21	32
	A-C					339	508
	B-C	0.33	8.72	0.5	Α	172	257
	B-A	0.23	12.40	0.3	В	72	109
6 - Balloch Road / Carrochan Road	C-AB	0.44	8.70	0.9	Α	261	391
6 - Balloch Road / Carrochan Road	C-A					79	118
	A-B					68	102
	A-C					93	139
	B-AC	0.29	10.09	0.4	В	120	180
	C-AB	0.17	5.05	0.4	Α	111	166
7 - untitled	C-A					312	469
	A-B					56	84
	A-C					306	460

Main Results for each time segment

15:00 - 15:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	897	224	450	2172	0.413	895	1001	0.0	0.7	2.812	A

1 - untitled	2 - A811 (East)	-	812	203	555	1906	0.426	809	790	0.0	0.7	3.275	A
i - unitieu	3 - A82 (South)	-	1081	270	373	2766	0.391	1079	991	0.0	0.6	2.130	Α
	4 - Local Access (West)	-	6	2	1445	387	0.016	6	6	0.0	0.0	9.456	Α
	1 - Old Luss Road (North)	-	641	160	611	1978	0.324	639	548	0.0	0.5	2.685	A
2 - untitled	2 - A811 (East)	-	486	122	732	1550	0.314	485	517	0.0	0.5	3.372	Α
2 - unitieu	3 - Luss Road (South)	-	419	105	779	1937	0.216	417	438	0.0	0.3	2.369	A
	4 - A811 (West)	-	777	194	385	1890	0.411	774	811	0.0	0.7	3.219	Α
	1 - Ben Lomond Way (North)	-	353	88	387	1347	0.262	352	224	0.0	0.4	3.612	Α
3 - untitled	2 - Balloch Road (East)	-	263	66	430	1345	0.195	262	308	0.0	0.2	3.319	A
3 - unitieu	3 - Old Luss Road (South)	-	568	142	54	1765	0.322	567	638	0.0	0.5	2.995	A
	4 - Old Luss Road (West)	-	80	20	531	1238	0.064	80	89	0.0	0.1	3.107	A
	1 - Ben Lomond Way (East)	-	78	20	295	1197	0.065	78	68	0.0	0.1	3.218	A
4 - untitled	2 - Ben Lomond Way (South)	-	228	57	14	1531	0.149	227	359	0.0	0.2	2.759	A
4 - unitiou	3 - Lomond Shores (Access Only)	-	220	55	163	1338	0.164	219	79	0.0	0.2	3.214	A
	4 - Lomond Shores (Access / Egress)	-	75	19	289	606	0.123	74	93	0.0	0.1	6.753	Α
	-	B-AC	51	13		614	0.083	51		0.0	0.1	6.391	Α
	-	C-AB	32	8		747	0.043	32		0.0	0.1	5.030	A
5 - Balloch Road / Pier Road	-	C-A	230	57				230					
5 - Balloch Road / Pier Road	-	A-B	17	4				17					
	-	A-C	278	69				278					
	-	B-C	141	35		645	0.218	140		0.0	0.3	7.112	Α
	-	B-A	59	15		420	0.142	59		0.0	0.2	9.943	Α
6 - Balloch Road / Carrochan Road	-	C-AB	205	51		722	0.284	204		0.0	0.4	6.925	A
0 - Ballocii Road / Carlocilari Road	-	C-A	73	18				73					
	-	A-B	56	14				56					
	-	A-C	76	19				76					
	-	B-AC	99	25		558	0.177	98		0.0	0.2	7.803	A
	-	C-AB	79	20		795	0.100	79		0.0	0.2	5.025	A
7 - untitled	-	C-A	268	67				268					
	-	A-B	46	11				46					
	-	A-C	251	63				251					
	1 - Carrochan Road	-	277	69	440	1405	0.197	276	246	0.0	0.2	3.186	A
8 - untitled	2 - A811 Lomond Road	-	373	93	364	1265	0.295	372	353	0.0	0.4	4.022	A
	3 - A813 Carrochan Road (South)	-	260	65	402	1672	0.156	260	334	0.0	0.2	2.548	A
	4 - A811 (West)	-	495	124	194	1524	0.325	493	468	0.0	0.5	3.486	A

15:15 - 15:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1072	268	538	2120	0.505	1070	1198	0.7	1.0	3.423	A
4 constitue d	2 - A811 (East)	-	970	242	664	1846	0.525	969	945	0.7	1.1	4.096	A
1 - untitled	3 - A82 (South)	-	1291	323	446	2718	0.475	1290	1186	0.6	0.9	2.520	A
	4 - Local Access (West)	-	7	2	1729	306	0.024	7	7	0.0	0.0	12.063	В
	1 - Old Luss Road (North)	-	765	191	731	1907	0.401	764	656	0.5	0.7	3.148	Α
O constitue d	2 - A811 (East)	-	581	145	876	1476	0.393	580	619	0.5	0.6	4.014	A
2 - untitled	3 - Luss Road (South)	-	500	125	932	1845	0.271	499	524	0.3	0.4	2.675	A
	4 - A811 (West)	-	928	232	461	1848	0.502	927	971	0.7	1.0	3.902	A
	1 - Ben Lomond Way (North)	-	422	105	463	1300	0.324	421	268	0.4	0.5	4.095	Α
O constitue d	2 - Balloch Road (East)	-	314	78	515	1294	0.243	313	369	0.2	0.3	3.673	A
3 - untitled	3 - Old Luss Road (South)	-	679	170	65	1758	0.386	678	764	0.5	0.6	3.332	A
	4 - Old Luss Road (West)	-	95	24	636	1172	0.081	95	107	0.1	0.1	3.342	A
	1 - Ben Lomond Way (East)	-	93	23	354	1162	0.080	93	81	0.1	0.1	3.368	A
	2 - Ben Lomond Way (South)	-	272	68	17	1530	0.178	272	430	0.2	0.2	2.862	A
4 - untitled	3 - Lomond Shores (Access Only)	-	263	66	195	1319	0.199	262	94	0.2	0.2	3.406	A
	4 - Lomond Shores (Access / Egress)	-	89	22	346	585	0.152	89	111	0.1	0.2	7.258	A
	-	B-AC	61	15		594	0.103	61		0.1	0.1	6.760	A
	-	C-AB	42	10		768	0.054	42		0.1	0.1	4.955	A
5 - Balloch Road / Pier Road	-	C-A	271	68				271					
	-	A-B	21	5				21					
	-	A-C	332	83				332					
	-	B-C	168	42		634	0.265	168		0.3	0.4	7.716	A
	-	B-A	71	18		402	0.177	71		0.2	0.2	10.859	В
	-	C-AB	253	63		729	0.347	252		0.4	0.6	7.556	A
6 - Balloch Road / Carrochan Road	-	C-A	80	20				80					
	-	A-B	67	17				67					
	-	A-C	91	23				91					
	-	B-AC	118	29		535	0.220	117		0.2	0.3	8.626	A
	-	C-AB	105	26		822	0.127	105		0.2	0.2	5.021	A
7 - untitled	-	C-A	310	77				310					
	-	A-B	55	14				55					
	-	A-C	300	75				300					1
	1 - Carrochan Road	-	331	83	527	1356	0.244	331	295	0.2	0.3	3.510	A
	2 - A811 Lomond Road	-	446	111	436	1227	0.363	445	422	0.4	0.6	4.604	A
8 - untitled	3 - A813 Carrochan Road (South)	-	311	78	481	1623	0.192	311	400	0.2	0.2	2.744	A
	4 - A811 (West)	-	591	148	232	1502	0.393	590	560	0.5	0.6	3.943	A

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1312	328	659	2050	0.640	1309	1466	1.0	1.8	4.842	A
1 - untitled	2 - A811 (East)	-	1188	297	812	1764	0.673	1184	1156	1.1	2.0	6.165	A
1 - untitled	3 - A82 (South)	-	1581	395	546	2652	0.596	1579	1451	0.9	1.5	3.347	A
	4 - Local Access (West)	-	9	2	2116	195	0.045	9	9	0.0	0.0	19.328	С
	1 - Old Luss Road (North)	-	937	234	894	1811	0.517	935	803	0.7	1.1	4.102	A
O constitue d	2 - A811 (East)	-	711	178	1073	1375	0.517	710	757	0.6	1.1	5.399	A
2 - untitled	3 - Luss Road (South)	-	612	153	1141	1721	0.356	611	642	0.4	0.5	3.244	A
	4 - A811 (West)	-	1136	284	564	1792	0.634	1133	1188	1.0	1.7	5.446	A
	1 - Ben Lomond Way (North)	-	516	129	567	1235	0.418	515	328	0.5	0.7	4.995	Α
O constitue d	2 - Balloch Road (East)	-	384	96	631	1223	0.314	384	452	0.3	0.5	4.285	A
3 - untitled	3 - Old Luss Road (South)	-	831	208	79	1748	0.475	830	936	0.6	0.9	3.915	A
	4 - Old Luss Road (West)	-	117	29	778	1082	0.108	117	131	0.1	0.1	3.728	A
	1 - Ben Lomond Way (East)	-	115	29	433	1115	0.103	114	99	0.1	0.1	3.595	Α
4 constitute d	2 - Ben Lomond Way (South)	-	334	83	21	1527	0.218	333	527	0.2	0.3	3.015	A
4 - untitled	3 - Lomond Shores (Access Only)	-	321	80	239	1293	0.249	321	116	0.2	0.3	3.706	A
	4 - Lomond Shores (Access / Egress)	-	109	27	423	555	0.196	109	136	0.2	0.2	8.062	A
	-	B-AC	75	19		565	0.132	75		0.1	0.2	7.335	A
	-	C-AB	57	14		798	0.072	57		0.1	0.1	4.859	A
5 - Balloch Road / Pier Road	-	C-A	326	81				326					
	-	A-B	25	6				25					
	-	A-C	406	102				406					
	-	B-C	206	51		619	0.333	205		0.4	0.5	8.696	A
	-	B-A	87	22		378	0.230	87		0.2	0.3	12.359	В
C. Bellech Beed (Commenter Beed	-	C-AB	324	81		738	0.438	323		0.6	0.9	8.651	A
6 - Balloch Road / Carrochan Road	-	C-A	84	21				84					
	-	A-B	81	20				81					
	-	A-C	111	28				111			İ		1
	-	B-AC	144	36		501	0.288	144		0.3	0.4	10.059	В
	-	C-AB	147	37		861	0.171	147		0.2	0.4	5.043	A
7 - untitled	-	C-A	360	90				360					
	-	A-B	67	17				67					
	-	A-C	368	92				368					
	1 - Carrochan Road	-	405	101	645	1290	0.314	405	361	0.3	0.5	4.062	A
8 - untitled	2 - A811 Lomond Road	-	546	137	533	1175	0.465	545	517	0.6	0.9	5.699	A
o - untitieu	3 - A813 Carrochan Road (South)	-	381	95	589	1556	0.245	381	489	0.2	0.3	3.063	A
	4 - A811 (West)	-	723	181	284	1473	0.491	722	686	0.6	1.0	4.786	A

15:45 - 16:00

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
	1 - A82 (North)	-	1312	328	659	2049	0.640	1312	1469	1.8	1.8	4.884	A
4dula-d	2 - A811 (East)	-	1188	297	814	1764	0.674	1188	1158	2.0	2.0	6.252	A
1 - untitled	3 - A82 (South)	-	1581	395	547	2651	0.596	1581	1454	1.5	1.5	3.364	A
	4 - Local Access (West)	-	9	2	2119	194	0.045	9	9	0.0	0.0	19.459	С
	1 - Old Luss Road (North)	-	937	234	896	1810	0.518	937	805	1.1	1.1	4.122	A
2 - untitled	2 - A811 (East)	-	711	178	1075	1374	0.518	711	759	1.1	1.1	5.433	A
2 - untitlea	3 - Luss Road (South)	-	612	153	1143	1719	0.356	612	643	0.5	0.6	3.251	A
	4 - A811 (West)	-	1136	284	565	1791	0.634	1136	1190	1.7	1.7	5.497	A
	1 - Ben Lomond Way (North)	-	516	129	568	1235	0.418	516	328	0.7	0.7	5.010	A
9	2 - Balloch Road (East)	-	384	96	632	1223	0.314	384	453	0.5	0.5	4.293	A
3 - untitled	3 - Old Luss Road (South)	-	831	208	79	1748	0.475	831	937	0.9	0.9	3.924	A
	4 - Old Luss Road (West)	-	117	29	780	1081	0.108	117	131	0.1	0.1	3.731	A
	1 - Ben Lomond Way (East)	-	115	29	434	1115	0.103	115	99	0.1	0.1	3.596	A
4	2 - Ben Lomond Way (South)	-	334	83	21	1527	0.218	334	527	0.3	0.3	3.015	A
4 - untitled	3 - Lomond Shores (Access Only)	-	321	80	239	1293	0.249	321	116	0.3	0.3	3.706	A
_	4 - Lomond Shores (Access / Egress)	-	109	27	424	555	0.196	109	137	0.2	0.2	8.072	A
	-	B-AC	75	19		565	0.132	75		0.2	0.2	7.338	A
	-	C-AB	57	14		798	0.072	57		0.1	0.1	4.861	A
5 - Balloch Road / Pier Road	-	C-A	326	81				326					
	-	A-B	25	6				25					
	-	A-C	406	102				406					
	-	B-C	206	51		619	0.333	206		0.5	0.5	8.722	Α
	-	B-A	87	22		377	0.231	87		0.3	0.3	12.399	В
6 - Balloch Road / Carrochan Road	-	C-AB	324	81		739	0.439	324		0.9	0.9	8.697	A
6 - Balloch Road / Carrochan Road	-	C-A	83	21				83					
	-	A-B	81	20				81					
	-	A-C	111	28				111					
	-	B-AC	144	36		501	0.288	144		0.4	0.4	10.087	В
	-	C-AB	148	37		862	0.171	148		0.4	0.4	5.052	A
7 - untitled	-	C-A	360	90				360					
	-	A-B	67	17				67					

	-	A-C	368	92				368					
	1 - Carrochan Road	-	405	101	646	1290	0.314	405	361	0.5	0.5	4.069	Α
8 - untitled	2 - A811 Lomond Road	-	546	137	534	1175	0.465	546	517	0.9	0.9	5.723	Α
o - unutieu	3 - A813 Carrochan Road (South)	-	381	95	590	1555	0.245	381	490	0.3	0.3	3.065	A
	4 - A811 (West)	-	723	181	284	1473	0.491	723	687	1.0	1.0	4.803	Α

16:00 - 16:15

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - untitled	1 - A82 (North)	-	1072	268	539	2120	0.506	1075	1202	1.8	1.0	3.456	A
	2 - A811 (East)	-	970	242	666	1845	0.526	974	948	2.0	1.1	4.152	A
	3 - A82 (South)	-	1291	323	448	2716	0.475	1293	1191	1.5	0.9	2.533	A
	4 - Local Access (West)	-	7	2	1734	304	0.024	7	7	0.0	0.0	12.138	В
-	1 - Old Luss Road (North)	-	765	191	734	1906	0.401	767	659	1.1	0.7	3.166	A
	2 - A811 (East)	-	581	145	879	1474	0.394	582	621	1.1	0.7	4.044	A
2 - untitled	3 - Luss Road (South)	-	500	125	935	1843	0.271	501	526	0.6	0.4	2.682	A
	4 - A811 (West)	-	928	232	462	1847	0.502	931	974	1.7	1.0		A
	1 - Ben Lomond Way (North)	-	422	105	465	1299	0.325	423	268	0.7	0.5	4.111	A
o modulo d	2 - Balloch Road (East)	-	314	78	517	1293	0.243	314	370	0.5	0.3	3.683	A
3 - untitled	3 - Old Luss Road (South)	-	679	170	65	1758	0.386	680	766	0.9	0.6	3.341	A
	4 - Old Luss Road (West)	-	95	24	637	1171	0.081	95	107	0.1	0.1	3.349	A
	1 - Ben Lomond Way (East)	-	93	23	355	1162	0.080	94	81	0.1	0.1	3.373	A
4 - untitled	2 - Ben Lomond Way (South)	-	272	68	17	1530	0.178	273	431	0.3	0.2	2.863	A
4 - untitied	3 - Lomond Shores (Access Only)	-	263	66	195	1319	0.199	263	94	0.3	0.2	3.409	A
	4 - Lomond Shores (Access / Egress)	-	89	22	347	584	0.152	89	112	0.2	0.2	7.271	A
5 - Balloch Road / Pier Road	-	B-AC	61	15		594	0.103	61		0.2	0.1	6.767	A
	-	C-AB	42	10		769	0.054	42		0.1	0.1	4.958	A
	-	C-A	271	68				271					
	-	A-B	21	5				21					
	-	A-C	332	83				332					
	-	B-C	168	42		634	0.265	169		0.5	0.4	7.748	A
	-	B-A	71	18		402	0.177	71		0.3	0.2	10.909	В
6 - Balloch Road / Carrochan Road	-	C-AB	253	63		729	0.347	254		0.9	0.6	7.613	A
0 - Ballocii Road / Carrochan Road	-	C-A	79	20				79					
	-	A-B	67	17				67					
	-	A-C	91	23				91					
	-	B-AC	118	29		534	0.220	118		0.4	0.3	8.660	A
	-	C-AB	105	26		823	0.128	106		0.4	0.3	5.031	A
7 - untitled	-	C-A	309	77				309					
	-	A-B	55	14				55					
	-	A-C	300	75				300			İ		
	1 - Carrochan Road	-	331	83	529	1355	0.244	331	295	0.5	0.3	3.519	A
المالئلسي و	2 - A811 Lomond Road	-	446	111	437	1227	0.364	447	423	0.9	0.6	4.624	A
8 - untitled	3 - A813 Carrochan Road (South)	-	311	78	483	1622	0.192	311	401	0.3	0.2	2.750	A
	4 - A811 (West)	-	591	148	232	1502	0.393	592	562	1.0	0.7	3.961	A

16:15 - 16:30

Junction	Arm	Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - untitled	1 - A82 (North)	-	897	224	451	2171	0.413	899	1006	1.0	0.7	2.831	A
	2 - A811 (East)	-	812	203	557	1904	0.427	814	793	1.1	0.7	3.304	A
	3 - A82 (South)	-	1081	270	375	2765	0.391	1082	996	0.9	0.6	2.140	A
	4 - Local Access (West)	-	6	2	1451	385	0.016	6	6	0.0	0.0	9.501	A
	1 - Old Luss Road (North)	-	641	160	614	1976	0.324	641	551	0.7	0.5	2.698	A
	2 - A811 (East)	-	486	122	736	1549	0.314	487	519	0.7	0.5	3.393	A
z - untitied	3 - Luss Road (South)	-	419	105	783	1934	0.216	419	440	0.4	0.3	2.377	A
	4 - A811 (West)	-	777	194	387	1889	0.411	778	815	1.0	0.7	3.247	A
3 - untitled	1 - Ben Lomond Way (North)	-	353	88	389	1346	0.262	354	225	0.5	0.4	3.628	A
	2 - Balloch Road (East)	-	263	66	433	1344	0.196	263	310	0.3	0.2	3.330	A
	3 - Old Luss Road (South)	-	568	142	54	1765	0.322	569	641	0.6	0.5	3.014	A
	4 - Old Luss Road (West)	-	80	20	534	1237	0.065	80	90	0.1	0.1	3.113	A
4 - untitled	1 - Ben Lomond Way (East)	-	78	20	297	1196	0.065	78	68	0.1	0.1	3.221	A
	2 - Ben Lomond Way (South)	-	228	57	14	1531	0.149	228	361	0.2	0.2	2.762	A
4 - untitlea	3 - Lomond Shores (Access Only)	-	220	55	163	1338	0.164	220	79	0.2	0.2	3.222	A
	4 - Lomond Shores (Access / Egress)	-	75	19	290	606	0.123	75	93	0.2	0.1	6.779	A
	-	B-AC	51	13		614	0.083	51		0.1	0.1	6.404	A
	-	C-AB	32	8		748	0.043	32		0.1	0.1	5.034	Α
5 - Balloch Road / Pier Road	-	C-A	230	57				230					
	-	A-B	17	4				17					
	-	A-C	278	69				278					
	-	B-C	141	35		644	0.219	141		0.4	0.3	7.161	Α
	-	B-A	59	15		420	0.142	60		0.2	0.2	10.011	В
6 - Balloch Road / Carrochan Road	-	C-AB	206	51		722	0.285	206		0.6	0.5	6.992	A
o - Dallocii Road / Carrochan Road	-	C-A	73	18				73					
	-	A-B	56	14				56					

	I - I	A-C	76	19				76	1 1		I	I	I
7 - untitled	_	B-AC	99	25		558	0.177	99		0.3	0.2	7.843	A
	-	C-AB	80	20		795	0.100	80		0.3	0.2	5.042	A
	-	C-A	267	67				267					
	-	A-B	46	11				46					
	-	A-C	251	63				251					
8 - untitled	1 - Carrochan Road	-	277	69	443	1403	0.197	277	247	0.3	0.2	3.199	A
	2 - A811 Lomond Road	-	373	93	366	1264	0.295	374	354	0.6	0.4	4.046	A
	3 - A813 Carrochan Road (South)	-	260	65	404	1670	0.156	261	335	0.2	0.2	2.553	Α
	4 - A811 (West)	-	495	124	194	1523	0.325	495	470	0.7	0.5	3.505	A