The Trustees of the Chatsworth Settlement

High Shann, Keighley

Transport Assessment

Issue For Planning | 16 November 2012

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1 Introduction

1.1 Background

Ove Arup and Partners Ltd (Arup) has been commissioned by the Trustees of the Chatsworth Settlement to prepare a Transport Assessment (TA) to support an outline planning application for a residential development at High Shann, off Shann Lane, Keighley (the site), around 1.2km to the north west of Keighley town centre.

1.2 Development Proposal

The outline planning application for the site will be a housing development consisting of up to 135 new homes immediately to the east of Shann Lane to the north west of Keighley). Further detail relating to the development proposals is presented at Chapter 4.

1.3 TA Methodology

A TA is a comprehensive and systematic process which identifies what measures will be required to deal with the anticipated transport impacts of a proposed development and to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport. The assessment considers the anticipated transport impacts of the development on the local transport network and identifies mitigation measures

This TA has been prepared in accordance with *Guidance on Transport Assessment* (GTA)[1] to assist stakeholders in determining whether an assessment may be required, and, if so, what the level and scope of that assessment should be. It also provides guidance on the content and preparation of TAs.

A TA prepared in accordance with GTA will help Local Planning Authorities (LPAs) assess the compatibility of a development with the planning policy framework and relevant transport strategy. It will allow the transport implications of proposed developments to be properly considered and, where appropriate, will help identify suitable measures to achieve a more sustainable and environmentally sound outcome. A TA can also address issues likely to be of concern to the Local Highway Authority (LHA) in performing their network management duties.

This TA therefore identifies the transport impacts of the development proposals and provides the necessary information to assist the local planning and highway authority, City of Bradford Metropolitan District Council (CBMDC) in determining the planning application.

[1] Department for Transport / Department for Communities and Local Government, 2007.

1.4 Scoping

GTA states that pre-application discussions should be held with the LPA, LHA or where applicable the Local Transport Authority (LTA). These discussions will identify the key transport issues associated with the development and determine the scope and level of assessment required.

In accordance with GTA, a Scoping Study (SS) was prepared to define the study area and input parameters for this TA, and issued to CBMDC on 11 October 2012. CBMDC provided comments in relation to the SS on 30 October 2012. This TA has been produced in accordance with the SS and subsequent discussion and correspondence to date with CBMDC.

1.5 Structure of this Report

Following on from this introduction:

- Chapter 2 describes the existing site and surrounding transport networks;
- Chapter 3 sets out the planning and transport policy context;
- Chapter 4 describes the development proposals;
- Chapter 5 provides the predicted person trip generation and traffic flows associated with the proposed development;
- Chapter 6 presents the results of the transport assessment;
- Chapter 7 provides a summary and conclusions to the report.

2 Existing Situation

2.1 Location

The site is located on the western edge of Keighley, approximately 2km north west of the town centre. The site is bounded by Shann Lane to the west, by residential properties on Greenacres Drive to the north and residential properties on Westway to the south, as shown on Figure 1.

2.2 Existing Land Uses

The site was formerly identified for housing development in CBMDC's Replacement Unitary Development Plan. It is, however, currently undeveloped and comprises of open grassland for grazing.

The site is surrounded by residential areas to the north, east and south with open countryside and farmland to the west.

2.3 Strategic Highway Network

The strategic highway network serving the site is also shown on Figure 1. The A629 Skipton Road / North Street, approximately 1.5km east of the site, runs from north to south through the town centre connecting Keighley with Skipton to the north and Halifax to the south. The A650 Hardings Road meets the A629 in the north of Keighley approximately 1.5km east of the site. This connects Keighley with Bingley and Shipley to the south east and beyond this to Bradford and the wider motorway network.

2.4 Local Highway Network

The local highway network in the vicinity of the site is shown on Figure 1 and comprises a number of key links and junctions that are discussed in detail below.

2.4.1 Key Links

2.4.1.1 Shann Lane

Shann Lane runs adjacent to the site and is a two-way single carriageway, with one lane in both directions. It runs from the junction with Spring Gardens Lane to the north to the junction with West Lane to the south. It varies in width from 5.8m to 6.3m. It was noted on site that the existing centre line is located slightly off centre so that the northbound carriageway, in particular, appears narrow. An overgrown verge on this side adds to this narrowing effect.

Shann Lane is subject to a 30mph speed limit throughout, however as it is a relatively straight road, vehicle speeds are generally higher than this, particularly in the northbound direction for vehicles travelling downhill. Speed survey data indicates the average speeds as around 37mph and 35.5mph in the north and southbound directions respectively. Historical accident data for Shann Lane has been examined as set out in section 2.9 below.

For the majority of the route a pedestrian footway is provided on just the eastern side of the carriageway with a grass verge on the opposite side. The footpath in the vicinity of the site is narrow and in a poor state of repair. Towards its northern end, the road narrows and footways are provided on both sides. There are a number of residential accesses at this end. Shann Lane slopes downhill from south to north.

There is one bus stop at the southern end of Shann Lane, close to its junction with West Lane. No parking restrictions apply and street lighting is provided along the entire length.

2.4.1.2 Westway / Broadlands

Westway and Broadlands form a wide two-way single carriageway route connecting Shann Lane to the west with Springfield Road and Highfield Lane to the east. There are no centre line markings and residential on-street parking is prevalent along the entire route. Footways are provided on both sides and three sets of bus stops are located along the route. Adequate street lighting is provided. No parking restrictions apply and the road is subject to a 30mph speed limit throughout.

2.4.1.3 West Lane

West Lane runs from the southern end of Shann Lane to the A629 North Street in a south easterly direction from the site. It is a two-way single carriageway, with one lane in both directions. Single yellow line parking restrictions apply at some points along the route but for the majority on-street parking is prevalent. Footways are provided on both sides and informal pedestrian crossing islands can be found in several locations. Street lighting is provided along the entire length. There are a number of side roads at frequent intervals, some of which have right-turn filters from West Lane. The road is subject to a 30mph speed limit throughout.

2.4.1.4 Spring Gardens Lane

Spring Gardens Lane runs from the northern end of Shann Lane to the A629 Skipton Road to the east of the site. It is a two-way single carriageway, with one lane in both directions. Parking is prohibited along large sections of the route through the use of double yellow lines. Where parking is permitted, marked bays are provided, including opposite a school. A short section of cycle lane is also marked in the northbound direction and traffic calming measures are in place around the school. Footways are provided on both sides of the road along with adequate street lighting. The road is subject to a 30mph speed limit.

2.4.1.5 Highfield Lane

Highfield Lane is a two-way single carriageway, with one lane in both directions. It runs from a junction with Springfield Road in the west to a junction with the A629 North Street in the east. The road is subject to a 20mph speed limit with traffic calming measures provided at some locations. It is a residential street with no parking restrictions and so on-street parking is prevalent. Footways are

provided on both sides of the street and street lighting is provided along the entire length.

2.4.1.6 Skipton Road

Skipton Road runs parallel to the A629 and passes approximately 500m from the northern edge of the site. It is a two-way single carriageway, with one lane in both directions. Single yellow line parking restrictions apply along large sections of the route meaning on-street parking is limited. The road is subject to a 30mph speed limit with adequate street lighting along the length of the route.

2.4.1.7 Green Head Lane / Green Head Road

Green Head Lane and Green Head Road connect Spring Gardens Lane with Skipton Road. It is a two-way single carriageway, with one lane in both directions. It is a residential road with on-street parking prevalent. Some single and double yellow line parking restrictions apply at its eastern end approaching Skipton Road. The road is subject to a 30mph speed limit with traffic calming measures provided at some locations. Footways are provided on both sides of the street and street lighting is provided along the entire length.

2.4.2 Key Junctions

2.4.2.1 Shann Lane / Spring Gardens Lane

The Shann Lane / Spring Gardens Lane junction is a three arm priority controlled junction with Shann Lane as the minor arm. Shann Lane joins Spring Gardens Lane at an acute angle with poor visibility and a difficult left turning manoeuvre. A narrow right-turn filter is provided on Spring Gardens Lane to allow ahead traffic to pass while right-turning traffic is waiting. A small island is located close to the junction on the southern arm of Spring Gardens Lane assisting with visibility over the crest of the junction and providing some refuge for pedestrians crossing Spring Gardens Lane. Although the junction has a difficult geometry on site observations noted that the majority of drivers are familiar with the layout and adjust their driving accordingly (drivers were observed to swing wide on the Shann Lane approach to Spring Gardens Lane). It is not a heavily trafficked junction and limited queuing was observed during peak periods. Historical accident data for the junction has been examined as set out in section 2.9 below.

2.4.2.2 Shann Lane / West Lane / Black Hill Lane

The Shann Lane / West Lane / Black Hill Lane junction is a three arm priority controlled junction with Shann Lane as the minor arm. Visibility is good in all directions and the junction is well lit.

2.4.2.3 Broadlands / Springfield Road / Highfield Lane

The junctions of Broadlands / Springfield Road and Springfield Road / Highfield Lane / Whinn Knoll Avenue comprise three arm and four arm priority controlled junctions respectively. The carriageways are wide, visibility is good in all directions and the junctions are well lit.

2.4.2.4 West Lane / Oakworth Road / High Street

The West Lane / Oakworth Road / High Street junction is a three arm priority controlled junction with West Lane as the minor arm. There is a dedicated right turn filter lane on High Street which commences at the previous roundabout junction. Traffic from West Lane may only turn left with the right turn movement not permitted. An uncontrolled pedestrian crossing is provided on the West Lane arm as well as another approximately 10m from the junction on Oakworth Road. There is a yellow hatched area on the eastbound carriageway of Oakworth Road to prevent blocking of the junction.

2.4.2.5 A629 High Street / Bridge Street / Chapel Lane

The A629 High Street / Bridge Street / Chapel Lane junction is a priority controlled roundabout junction with four arms and two circulating lanes. The A629 Bridge Street approach from the south has two lanes, one for turning left onto High Street and one for turning right onto the A629. The High Street approach also has two lanes, one for each of the A629 exits. Chapel Lane is one-way exit only from the roundabout. The A629 approach from the east has two lanes, one for ahead to High Street and one for turning left onto the A629. An uncontrolled pedestrian crossing facility is located on the southern A629 arm. The roundabout has good visibility on all approaches and is well lit. Keep Clear road markings are provided to help prevent blocking of the junction.

2.4.2.6 A629 North Street / Albert Street / Cavendish Street

The A629 North Street / Albert Street / Cavendish Street junction is a staggered junction with the A629 / Cavendish Street section being signalised and the A629 / Albert Street section being priority controlled. All movements are permitted with the exception of the right turn out of Albert Street to prevent vehicles turning into the signalised section of the junction. There is a right turn filter lane for right turning traffic into Albert Street from the A629. There are two lanes on the approach to the signals on the A629 southbound, one for straight ahead traffic and one for the left turn into Cavendish Street. There are also two lanes on the approach to the signals on the A629 northbound, one for straight ahead traffic and one for the right turn into Cavendish Street. The southbound approach also has a cycle setback area. Signalised pedestrian crossings are provided on all arms and the junction is well lit with good visibility.

2.4.2.7 A629 Skipton Road / Spring Gardens Lane

The A629 Skipton Road / Spring Gardens Lane junction is a three arm priority controlled junction with Spring Gardens Lane as the minor arm. Visibility is good in all directions and the junction is well lit. The A629 Skipton Road has yellow hatching in both directions to prevent blocking of the junction.

2.4.2.8 A629 Skipton Road / A629 Hardings Road / B6265 Skipton Road

The A629 Skipton Road / A629 Hardings Road / B6265 Skipton Road is a priority controlled roundabout junction with three arms and two circulating lanes. All

three arms have two lane approaches with each lane designated for different exits in each instance. No pedestrian crossing facilities are provided but the roundabout is well lit with good visibility on all approaches.

2.4.2.9 A629 / A629 Hardings Road / A650 Hardings Road

The A629 / A629 Hardings Road / A650 Hardings Road junction is a priority controlled roundabout junction with three arms and two circulating lanes. The A629 has two approach lanes, one for left turning traffic to the A650 and one for right turning traffic to the A629. The A629 Hardings Road has two approach lanes, one for left turning traffic to the A629 and one for straight ahead traffic to the A650. The A650 has three approach lanes, one for straight ahead traffic to the A629 Hardings Road and two for right turning traffic to the A629. No pedestrian crossing facilities are provided but the roundabout is well lit with good visibility on all approaches.

2.4.2.10 B6265 Skipton Road / Green Head Road / Clock View Street

The B6265 Skipton Road / Green Head Road / Clock View Street junction is a priority controlled four arm junction with the B6265 Skipton Road as the major arm. There is a small filter lane for traffic turning right from the B6265 Skipton Road into Green Head Road. This could also be used for right turning traffic into Clock View Street but is not marked this way. Clock View Street operates in a one-way operation away from the junction. All other movements are permitted. The approach from Green Head Road is marked as a stop line rather than give way due to restricted visibility.

2.5 2012 Base Year Traffic Flows and Highway Capacity Assessment

2.5.1 Traffic Surveys

Traffic surveys conducted in January 2011 were obtained from CBMDC for the following junctions:

- West Lane/Suresnes Road priority junction.
- West Lane/High Street priority junction.
- High Street/Bridge Street/Chapel Lane roundabout.
- North Street/Albert Street priority junction.
- North Street/Spring Gardens Lane priority junction.
- North Street/Cavendish Street traffic signal controlled junction.
- Skipton Road/Hardings Road roundabout.
- A629/Hardings Road roundabout.

Additional surveys were undertaken at the following junctions on Thursday 18 October 2012:

- Shann Lane/Spring Gardens Lane priority junction.

- Shann Lane/West Lane priority junction.
- Skipton Road/Green Head Road priority junction.

The specification for the surveys was as follows:

- **Time periods:** Thursday 07:00 to 10:00 hrs and 16:00 to 19:00 hrs
- **Survey type:** all movements fully classified turning count survey undertaken
- **Data collection intervals:** 15 minutes

2.5.2 Base Year Traffic Flows

The base traffic survey data has reviewed to identify the peak hours on the local highway network. These are as follows:

- AM highway peak hour: 07:45 to 08:45.
- PM highway peak hour: 16:45 to 17:45.

Traffic flows for AM and PM highway peak hours in the 2012 base year scenario are presented on Figure 2 and Figure 3 respectively.

For the purposes of this assessment, traffic flows have been converted to passenger car units (pcu), on the basis of cars, motorcycles and light vans being equivalent to 1 pcu, with HGVs and buses equivalent to 2 pcu.

2.5.3 Junction Assessment

ARCADY 8 models have been developed to assess the current operation of the following junctions:

- Shann Lane/Spring Gardens Lane priority junction.
- Shann Lane/West Lane priority junction.
- West Lane/High Street.
- High Street/Bridge Street/Chapel Lane.
- North Street/Albert Street.
- North Street/Spring Gardens Lane.
- Skipton Road/Hardings Road.
- A629/Hardings Road.
- Skipton Road/Green Head Road priority junction.

The ARCADY 8 program calculates the Ratio of Flow to Capacity (RFC) and maximum queue experienced by all vehicles on each arm. The RFC is a key indicator of the likely performance of a turning movement at a junction under a given set of traffic flows. Due to site to site variation, there may be a standard error in the prediction of the entry capacity of ±15% for any site. It is therefore normal practice to consider junctions with RFC values greater than 0.85 to operate in excess of practical capacity, although RFCs greater than this can also be considered acceptable. Junctions with an RFC value greater than 1.0 are considered to operate in excess of absolute capacity.

2.5.3.1 Shann Lane / Spring Gardens Lane

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 1**.

Table 1 2012 Base Year ARCADY Assessment Shann Lane / Spring Gardens Lane

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
Shann Lane	0.20	0.24	0.12	0.13
Spring Gardens Lane RT	0.02	0.03	0.05	0.07

For each movement, the calculated RFCs are below the normal threshold value of 0.85, with average queues of less than 1pcu modelled on all approaches.

2.5.3.2 Shann Lane / West Lane / Black Hill Lane

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 2**.

Table 2 2012 Base Year ARCADY Assessment Shann Lane / West Lane / Black Hill Lane

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
Shann Lane	0.09	0.10	0.03	0.03
West Lane RT	0.07	0.10	0.08	0.11

For each movement, the calculated RFCs are below the normal threshold value of 0.85, with average queues of less than 1pcu modelled on all approaches.

2.5.3.3 West Lane / Oakworth Road / High Street

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 3**.

Table 3 2012 Base Year ARCADY Assessment West Lane / Oakworth Road / High Street

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
West Lane LT	0.76	3.35	0.86	5.90
High Street RT	0.66	2.04	0.83	4.60

The assessment indicates that the West Lane approach to the junction operates close to, or slightly in excess of, practical capacity at times during the AM and PM peak hours respectively. A maximum average queue of up to 6pcu is modelled during the PM peak hour.

The modelled RFC associated with the right turn from High Street to West Lane is also close to the normal threshold value of 0.85 during the PM peak hour, with a queue of around 5pcu modelled. On the basis that 1pcu is equivalent to 5.75m, such a queue would be accommodated without impacts on the operation of the

High Street / Bridge Street / Chapel Lane roundabout junction (located approximately 85m to the east).

2.5.3.4 A629 High Street / Bridge Street / Chapel Lane

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 4**.

Table 4 2012 Base Year ARCADY Assessment West Lane / Oakworth Road / High Street

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
A629 High Street	0.89	7.13	0.83	4.62
North Lane	0.62	1.60	0.90	7.61
Bridge Street	0.63	1.66	0.81	3.99

The assessment indicates that the A629 High Street approach to the junction operates in excess of practical capacity during the AM peak hour with a maximum queue of 7pcu. The North Lane approach also operates in excess of practical capacity during the PM peak hour with a maximum queue of 8pcu.

2.5.3.5 A629 North Street / Albert Street

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 5**.

Table 5 2012 Base Year ARCADY Assessment A629 North Street / Albert Street

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
Albert Street LT	0.42	0.70	0.38	0.60
North Lane RT	0.10	0.11	0.30	0.43

For each movement, the calculated RFCs are below the normal threshold value of 0.85, with average queues of less than 1pcu modelled on all approaches.

2.5.3.6 A629 Skipton Road / Spring Gardens Lane

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 6**.

Table 6 2012 Base Year ARCADY Assessment A629 Skipton Road / Spring Gardens Lane

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
Spring Gardens Road	0.72	2.33	0.34	0.50
A629 Skipton Road RT	0.15	0.40	0.07	0.11

For each movement, the calculated RFCs are below the normal threshold value of 0.85, with a maximum queue of around 2 pcus modelled on the Spring Gardens Road approach in the AM peak.

2.5.3.7 A629 Skipton Road / A629 Hardings Road / B6265 Skipton Road

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 7**.

Table 7 2012 Base Year ARCADY Assessment A629 Skipton Road / A629 Hardings Road / A629 Skipton Road

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
B6265 Hardings Road	0.62	1.62	0.49	0.96
A629 Skipton Road (S)	0.76	3.08	0.59	1.43
B6265 Skipton Road (N)	0.46	0.86	0.35	0.53

For each movement, the calculated RFCs are below the normal threshold value of 0.85, with a queue of up to 3 pcus modelled on the northbound A629 Skipton Road approach during the AM peak hour.

2.5.3.8 A629 / A629 Hardings Road / A650 Hardings Road

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 8**.

Table 8 2012 Base Year ARCADY Assessment A629 Skipton Road / A629 Hardings Road / A650 Hardings Road

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
A650 Hardings Road	0.72	2.58	0.70	2.34
A629 Hardings Road	0.98	16.76	0.73	2.69
A629 Skipton Road	0.86	5.84	0.82	4.36

The assessment indicates that all approaches operate either approaching, or in excess of practical capacity during the peak hours. The A629 Hardings Road approach in particular operates close to absolute capacity during the AM peak hour; an average queue of up to 17 pcus is modelled.

2.5.3.9 B6265 Skipton Road / Green Head Road / Clock View Street

The full results from the 2012 base year ARCADY model are presented at Appendix A and summarised in **Table 9**.

Table 9 2012 Base Year ARCADY Assessment A629 Skipton Road / A629 Hardings Road / A650 Hardings Road

	2012 AM Peak (07:45-08:45)		2012 PM Peak (16:45-17:45)	
	Max RFC	Max Queue	Max RFC	Max Queue
Green Head Road LT	0.15	0.17	0.08	0.09
Green Head Road RT	0.71	2.25	0.59	1.41
Skipton Road (S) RT	0.00	0.00	0.00	0.00
Skipton Road (N) RT	0.09	0.09	0.12	0.13

For each movement, the calculated RFCs are below the normal threshold value of 0.85, with an average queue of up to around 2 pcus modelled turning right from Green Head Road in the AM peak.

2.5.4 Conclusions to the Base Junction Assessment

The junction assessment has shown that there are currently no issues with junction capacity in the immediate vicinity of the development on Shann Lane. A small number of approaches to junctions away from the development in Keighley town centre operate close to, or slightly in excess of, practical capacity at times during the peak periods; however, the associated queues are generally localised, and do not result in significant impacts on the wider highway network.

2.6 Public Transport

2.6.1 Bus Services

The bus routes that pass close to the site are as follows:

- The 716 Keighley to Black Hill service run by TLC Travel runs along the southern end of Shann Lane before turning right onto Westway and Broadlands towards Keighley town centre. It is an hourly service that runs between 10am and 5pm approximately, from Monday to Saturday with no service on Sundays. Bus stops are located on Westway / Broadlands approximately 150m walking distance from the site.
- The 710 Keighley to Braithwaite and Laycock service runs along Highfield Road and Whin Knoll Avenue to the south of the site. There are two services per hour in each direction running from approximately 6.30am to 6.30pm. Bus stops are located on Whin Knoll Avenue approximately 400m walking distance from the site.
- In addition, there are occasional services between Keighley, Silsden and Addingham running along Spring Gardens Lane (service 903) to the north of the site. Bus stops are located on Spring Gardens Lane approximately 400m walking distance from the site.

Existing bus stops and routes are shown in Figure 4.

2.6.2 Rail Services

Keighley railway station is located approximately 2km from the proposed site. It lies on the Airedale Line and is served by regional services operated by Northern Rail between Skipton/Carlisle/Morecambe and Leeds/Bradford Foster Square. These services combine to provide the following connections:

- Two services per hour during the daytime on weekdays and Saturdays to Leeds, in the weekday peak there are five services to Leeds.
- Two services per hour during the daytime on weekdays and Saturdays Bradford.
- Three services per hour during the daytime on weekdays and Saturdays to Skipton and one per hour to Carlisle via Skipton.
- One morning service to London via Leeds and a return service in the evening.

2.7 Pedestrian and Cycle Infrastructure

The only cycle-specific infrastructure in the area is a short section of cycle lane on Spring Gardens Lane. However, most roads in the area are wide and well lit, providing safe conditions for cyclists. Existing cycle infrastructure is demonstrated on Figure 5.

In close proximity to the site there is a public footpath (Keighley Public Footpath 17) that runs from Shann Lane to Springfield Road for connections into Keighley town centre. It passes along the southern site boundary, parallel to Westway, crosses the south east corner of the site and passes along part of the eastern boundary of the site to connect with the access track connecting with Hawkstone Drive / Springfield Road. Alternative walking routes are provided along all local roads with footways provided on routes including on the near side of Shann Lane.

2.8 Road Safety

Accident data for Shann Lane in the vicinity of the site over a five year period between 2007 and 2012 has been obtained from CBMDC. Detailed locations of accidents are presented in Appendix B.

A total of three accidents were recorded on Shann Lane, as follows:

- One accident was recorded at the Spring Gardens Lane / Shann Lane junction in the last five years. The accident resulted in slight injuries, and involved a left-turning taxi arriving via Shann Lane failing to give way at the junction resulting in a collision with a vehicle travelling on Spring Gardens Lane. The accident report identifies the existing layout of the junction as a possible contributory factor for this accident; however, failure of the driver to look properly is also identified.
- An accident occurred on Shann Lane approximately 50m northwest of the Spring Gardens Lane junction involving a westbound vehicle moving onto the wrong side of the road colliding with a vehicle travelling in the opposite

direction. The accident report identifies careless or reckless driving as a contributory factor.

- A further accident was recorded on Shann Lane in the vicinity of the site as a result of the driver skidding in snowy conditions. The accident resulted in slight injuries to the driver.

The road layout at the Spring Gardens Lane / Shann Lane junction is identified as a possible contributory factor for the recorded accident. However, this accident appears to be an isolated event, with other possible driver error-related contributory factors also identified. On this basis, and since no other accidents were recorded at the junction during the five year period, it is considered that there are no specific road safety issues at the junction.

The other recorded accidents on Shann Lane also appear to be isolated events with driver-related contributory factors. As such, it is considered unlikely that there are any common site-related causal factors that would be significantly exacerbated by increases in traffic associated with the development.

3 Planning and Transport Policy

3.1 Introduction

This Chapter identifies national, regional and local planning and transport policy that is relevant to the development proposals.

3.2 National Policy

The National Planning Policy Framework (NPPF) was published by the Department for Communities and Local Government (DCLG) on 27 March 2012. It sets out national planning policy for England, and effectively supersedes the Planning Policy Guidance (PPG) and Planning Policy Statement (PPS) Notes. The Framework seeks to contribute to achieving sustainable development, and therefore performs three roles:

- An economic role, by building a strong, responsive and competitive economy.
- A social role, supporting strong, vibrant and healthy communities.
- An environmental role, protecting and enhancing the natural, built and historic environment.

To this end, the NPPF sets out a presumption in favour of sustainable development. This effectively means that development proposals that accord with the development plan should be approved without delay. Where the development plan is out-of-date or absent, proposals should be approved unless the adverse impacts would significantly and demonstrably outweigh the benefits when assessed against the NPPF, or specific policies in the NPPF indicate development should be restricted (for example, if the site is subject to certain environmental designations). The NPPF sets out 12 core land-use planning principles that should be taken into account when making planning decisions, including:

"planning should....actively manage patterns of growth to make fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable"

The guidance advises that all developments that generate significant movement should be supported by a Transport Statement or Transport Assessment, demonstrating:

- "the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- safe and suitable access to the site can be achieved for all people; and
- improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."

The NPPF also states that a Travel Plan should be required for all developments that generate significant amount of movement.

The proposed development is consistent with NPPF since a Residential Travel Plan has been prepared to maximise the use of sustainable transport modes to access the site. This TA demonstrates the extent to which access can be achieved by all people. Based on the impacts of the development identified by this TA (considered in detail at chapter 6), the residual cumulative impacts are considered unlikely to be severe.

3.3 Regional Policy

The Regional Spatial Strategy for Yorkshire and Humber[2] was issued in May 2008, forming g part of the Statutory Development Plan for the Region. In July 2010, the coalition government stated their intention to abolish the Regional Strategies through the Localism Act. The Localism Act was given Royal Assent on 15 November 2011.

The provisions of the Act are not currently fully in effect; consequently, decision makers in local planning authorities will, in their determination of planning applications, need to consider whether the Government's stated intent to abolish the RSS affects the weight to be afforded to the policies contained therein.

It is therefore considered that, at the time of writing, the policies of the RSS remain relevant to the TA.

3.3.1 Regional Spatial Strategy

The Regional Spatial Strategy for Yorkshire and Humber sets out the broad development strategy for the region, setting out regional priorities in terms of location and scale development to 2026, including:

- Economic development;
- Housing;
- Transport and communications;
- The environment (including water, minerals and waste, energy generation and use);
- Tourism and leisure; and
- Urban and rural regeneration.

The overarching objectives for the plan relating to transport as follows:

- Tackling traffic congestion and reducing transport related emissions;
- Making the best use of existing infrastructure and services; and
- Minimising travel needs and maximising use of energy efficient modes.

The development responds to the RSS policies by virtue of its location in relation to existing transport infrastructure, including the highway and the public transport network.

[2] Government Office for Yorkshire and the Humber (2008) *Yorkshire and Humber Plan 2008: the Regional Spatial Strategy*

3.3.2 Regional Transport Strategy

The Regional Transport Strategy sits within the RSS to provide strategic direction on transport for the region. Policy T1 (Personal Travel Reduction and Modal Shift) states the broad aims of the Plan in terms of reducing travel demand, traffic growth and congestion, and improving public transport and accessibility by non-car modes.

A Travel Plan has been prepared that will support reducing travel demand, particularly single-occupancy car journeys, in accordance with Policy T1 of the Regional Transport Strategy.

3.4 Local Policy

3.4.1 Bradford Replacement Unitary Development Plan

The Bradford Replacement Unitary Development Plan (RUDP) was adopted by CBMDC in October 2005. The RUDP will eventually be replaced by the emerging Local Development Framework (LDF). However, the saved policies within the RUDP currently form the statutory development plan for the Bradford District.

The development responds to the relevant policies set out in the Bradford RUDP as follows:

- In addition to this Transport Assessment, a Residential Travel Plan has been prepared to demonstrate the extent to which the development can be satisfactorily accommodated by the transport network, and set out measures to promote access to the site by sustainable modes (Policy TM1 and Policy TM2).
- The access road to be provided through the development site will be designed in order to accommodate bus vehicles such that buses could be diverted through the site in the future (Policy TM6).
- The internal layout will be considered as part of planning application for reserved matters; however, it will provide new pedestrian and cycle links through the site, as well as links to existing routes, including the existing Keighley Public Footpath Route 17 (Policy TM8 and Policy TM9).
- Vehicle and cycle parking will be determined by the planning application for reserved matters; however, an appropriate level of parking will be provided in accordance with CBMDC guidance and the LCC *Street Design Guide* (Policy TM12 and Policy TM19).

3.4.2 Bradford Local Development Framework

As part of the emerging LDF, a Further Engagement draft of the Core Strategy was published for consultation in October 2011.

The development responds to the relevant policies in the draft Core Strategy as follows:

- A Residential Travel Plan has been prepared to promote access to the site by sustainable modes (Policy TR1).
- Vehicle and cycle parking will be determined by the planning application for reserved matters; however, an appropriate level of parking will be provided in accordance with CBMDC guidance and the LCC *Street Design Guide* (Policy TR2).
- The development is considered to meet the identified accessibility criteria in relation to proximity of public transport criteria (Policy TR3 and Policy TR5), as follows:
    - Although the immediate vicinity of the site is predominantly residential, a variety of local services (including schools) are located within a 10 minute walk of the site. Keighley town centre is located within a walk of around 15 minutes from the site, providing a significant range of local services.
    - A number of bus stops are located within a 5 minute walk of the site, providing connections to Keighley town centre for connections to the wider public transport network.
    - In terms of primary health facilities, Airedale General Hospital is accessible via the 903 bus service, which stops on Spring Gardens Lane within a walk of 5 minutes from the site.

3.4.3 West Yorkshire Local Transport Plan

The LTP3 replaced the LTP2 at the end of April 2011. LTP3 is a 15 year plan with three year Implementation Plans produced through this period.

Entitled "*MyJourney*", the Local Transport Plan for West Yorkshire sets out a strategy for improving local bus, road, rail, walking and cycling networks to 2026. *MyJourney's* vision is for a people-focused, low-carbon transport system that supports economic activity and growth and enhances people's quality of life, and has been designed to put the needs of all transport users at its heart.

The Plan sets out to tackle congestion and a lack of transport investment which are key contributory factors to lower than average economic performance in West Yorkshire. It also aims to prepare for the predicted, post-recession growth in employment, population and housing and their impact on the reliability of the transport network.

Four themes run through the Plan to help ensure it achieves its aims.

- Transport Assets - focusing on the existing components of the transport network such as roads, bus stations / stops and traffic lights to ensure we are getting the most value out of them;

- Travel Choices - enabling customers to make the most sustainable choices about when and how they travel;
- Connectivity - ensuring people can make integrated and safe journeys using transport networks on which they can rely; and
- Enhancements - improving the overall network to make it more fit for journeys in the future.

Priorities include schemes suggested by local communities, as well as the provision of bus priority schemes on main roads into town and city centres, major maintenance of roads across West Yorkshire, cycling and walking schemes, and the development larger schemes such as new rail stations and the NGT trolleybus network.

The proposed development will contribute to the LTP objectives given the proximity to existing public transport services. Travel planning will be implemented at the development, ensuring that people can make an informed choice for all their journeys and can travel in a responsible manner. As such, the development proposals will encourage behavioural change to maximise use of more sustainable modes of transport to access the development.

4 Development Proposal

4.1 Proposed Land Use

The proposed development will be a residential development consisting of:

"The erection of up to 135 dwellings, details of the provision of two new vehicular accesses from Shann Lane and Broadway and the laying out of open space, with all other matters reserved."

An indicative masterplan layout for the site has been prepared and is provided at Appendix C. It should be noted that, as the application is outline, the layout shown is indicative only, demonstrating how the site *could* be laid out to achieve up to 135 dwellings and suitable access, open space etc. The exact mix of housing will be confirmed through future reserved matters applications.

4.2 Vehicular Access

4.2.1 Access from External Highway Network

Vehicular access to the site would be taken from a new priority junction on Shann Lane, accommodating all movements to and from the development. In order to accommodate larger vehicles efficiently, radii of 8.0m are proposed. Such an arrangement would be consistent with other junctions on Shann Lane in the vicinity of the site.

The results of a speed survey on Shann Lane undertaken as part of a previous access study associated with the site[3] have been reviewed to identify an appropriate level of visibility. The survey identified 85th percentile speeds in wet weather conditions of around 64kmh and 61kmh in the north and south directions. Since these speeds effectively preclude the use of *Manual for Streets* to determine visibility[4], a 2.4m x 120m visibility splay has been provided at the Shann Lane junction in accordance with DMRB guidance[5],

In addition, a new connection will be provided to the existing Broadlands / Westway junction to the south of the site. The access road will join Broadlands immediately to the north of the existing junction with Westway, and will effectively continue the alignment of Broadlands into the development site. The existing layout and priorities at the Broadlands / Westway junction will be retained.

The general arrangement of the proposed access junctions and associated works on Shann Lane is shown on Arup Drawing CH-001, which is appended to this report.

[3] Sanderson Associates, *Proposed Residential Development Shann Lane, Keighley: Access Appraisal*
[4] At section 7.5.1, the document states that where 85th percentile speeds are in excess of 60kmh DMRB visibility standards may be more appropriate.
[5] TD 42/95, *Geometric Design of Major / Minor Priority Junctions*

4.2.2 Internal Site Layout

It is proposed that a new link road through the site will be provided as part of the development, connecting the proposed access points on Shann Lane with Westway / Broadlands. This link road and the residential streets within the site will be designed in accordance with *Manual for Streets 1 & 2* and further reference to the Leeds City Council's (LCC's) *Street Design Guide* Supplementary Planning Document (SPD), which is also effectively used as a reference by CBMDC for the purposes of highway design principles and guidance.

A series of new internal routes will be provided within the development site. The new link road through the site connecting Shann Lane with Westway / Broadlands will provide the principal link to the internal street network from the external highway network. As such, it would effectively form a 'Connector Street', as defined by LCC's *Street Design Guide*, linking to the internal residential access streets. On this basis, highway geometry (including carriageway widths, junction layouts, visibility, etc) and traffic calming treatments will be identified having regard to LCC's *Street Design Guide* SPD. Such details will be fully considered as part of subsequent planning applications for reserved matters.

4.2.3 Shann Lane

As part of the development improvements are proposed to Shann Lane along the site boundary, as shown on Arup Drawing CH-001. The following works are proposed:

- The existing grass verge on the western side of the carriageway will be cut back and tidied up to widen the effective carriageway width of Shann Lane.
- An edge of carriageway white line would be provided, with the centre line markings relocated to the centre of the carriageway to clearly define the carriageway lanes.
- The existing wall on the site boundary adjacent Shann Lane will be relocated to enable provision of a 1.8m footway along the eastern side of Shann Lane adjacent to the site.

The above proposals are subject to further discussion and agreement with CBMDC as well as detailed design work required as part of an agreement under Section 278 of the Highways Act 1980 (under which the works would be delivered).

4.2.4 Car Parking

The maximum number of parking spaces to be permitted on the development is contained within the Bradford RUDP, which specifies a maximum of 1.5 spaces per dwelling. In discussions with the Council we have indicated that we will refer to the maximum spaces suggested in LCC's *Street Design Guide* SPD[6] which is more up to date. The methodology set out in the document derives a recommended number of allocated (provided either in a garage or on a driveway),

[6] Paras 3.191 – 3.196

unallocated and communal spaces having regard to tenure, plus the number of habitable rooms per dwelling.

The recommended parking provision per dwelling is set out at **Table 10**.

Table 10 Parking Requirements (Source: LCC *Street Design Guide* SPD)

Number of Rooms Per Dwelling		Recommended Total Number of Spaces to be Provided per Dwelling		
		0 Allocated Spaces per Dwelling	1 Allocated Space per Dwelling	2 Allocated Spaces per Dwelling
Owned Houses	5 rooms	1.4	1.7	2.3
	6 rooms	1.6	1.9	2.3
	7 rooms	1.9	2.1	2.4
	8 rooms	2.3	2.3	2.6
Rented Houses	5 rooms	0.6	1.3	2.2
	5 rooms	0.8	1.4	2.2
	6 rooms	1.1	1.5	2.2
	7 rooms	1.4	1.7	2.3

The exact mix of housing (and therefore the level of parking to be provided on the site) will be confirmed through a future planning application for reserved matters.

4.3 Public Transport Access

The proposed new link road through the site will designed to accommodate potential bus services through the site. It would include the provision of bus stops within the site. The detailed layout and potential diversion of services through the site would be discussed and agreed with CBMDC, Metro and local bus operators and dealt with during the reserved matters application.

4.4 Pedestrian and Cycle Access

4.4.1 Connectivity

Connections to the development for pedestrians will be provided as follows:

- From Shann Lane, via the proposed access road to be provided. A 2.0m wide footway will be provided on both sides of the main access road through the site, linking to the internal street network. The details of the internal site layout will be fully considered as part of subsequent planning applications for reserved matters.
- The footway adjacent Shann Lane will be widened to a minimum of 1.8m along the western boundary of the development. This will require the relocation of the existing stone wall at certain locations, as identified at section 4.2.3 and demonstrated on Arup Drawing CH-001.
- Further pedestrian / cycle links from Shann Lane will be provided for connections to the internal street network. The detail of these will depend on the detailed layout brought forward in the reserved matters application.

- From Westway / Broadlands, via the proposed access road to be provided. A 2.0m wide footway will be provided on both sides of the main access road through the site, linking to the internal street network.
- A pedestrian footway will be provided from the site via the existing footpath connecting with Hawkstone Drive / Springfield Road to the east of the site.
- In addition, the existing right of way through the site (Keighley Public Footpath 17) will be retained and enhanced to provide further pedestrian connectivity with neighbouring areas.

Pedestrians will generally be catered for throughout the development by the provision of footways alongside the new access streets to be provided within the development that will be a minimum of 2.0m in width in accordance with LCC's *Street Design Guide* SPD. Pedestrian crossing points within the development will be informal and marked by dropped kerbs and tactile paving. Corner radii at internal junctions will be minimised (where possible to 1.0m to 2.0m) in order to reduce vehicle speeds, maintain pedestrian desire lines and limit the distance that pedestrians are required to look behind when crossing.

Cycle access to the site will be on the local highway network.

4.4.2 Cycle Parking

Based on cycle parking standards presented in Appendix C4 of the Bradford RUDP and guidance set out in LCC's *Street Design Guide* SPD, one secure cycle parking space will be provided per dwelling. Covered, conveniently located and secure cycle parking would be provided within the curtilage of individual houses.

The quantity and exact locations for cycle parking will be determined as part of subsequent planning applications for reserved matters. However, cycle parking infrastructure will, in all cases, be provided in accordance with the Bradford RUDP and Leeds *Street Design Guide* SPD, plus best practice guidelines in *Manual for Streets*[7] and Local Transport Note 2/08.

4.5 Travel Plan

A full Residential Travel Plan has been prepared for the development. The Residential Travel Plan will set out how travel to and from the site will be encouraged by sustainable mode of transport rather than by private car. The Residential Travel Plan has been prepared in accordance with best practice guidance.

[7] DfT, 2007.

5 Trip Generation and Mode Share

5.1 Introduction

This section of the report sets out the trip generation and mode share associated with the development proposals.

5.2 Person Trip Generation

Person trip generation associated with the proposed uses on the site has been estimated using the latest version of the TRICS Database[8] (currently 2012(a) v6.9.1). The TRICS Database has been interrogated for sites which meet the criteria set out in **Table 11**.

Table 11: Person Trip Rate Site Selection Criteria

TRICS Land Use	TRICS Sub Land Use	Parameter	Location
03 - Residential	A - Houses Privately Owned	Number of Dwellings	Edge of Town Centre Suburban Area Edge of Town Neighbourhood Centres

Sites in Greater London and Ireland have been removed from the site selection. Given the relatively limited public transport accessibility to the site, peak hour 85th percentile trips have been used rather than average trip rates as these are slightly higher. The full output from the TRICS database is presented at Appendix D.

For the purposes of this assessment, peak hour person trip generation will be considered to represent the worst-case scenario in terms of the impact of the development. Consequently person trip rates and resulting person trip generation are summarised for the AM and PM peak periods at **Table 12**.

Table 12: Peak Period Person Trip Generation

Hour Start		**Person Trip Rate** *per dwelling*		**Person Trip Generation** ***based on 135 dwellings***		
		Arr	Dep	Arr	Dep	Total
AM Peak Hour	**08:00**	0.367	1.152	50	156	206
PM Peak Hour	**17:00**	1.000	0.222	135	30	165

Source: Arup analysis of TRICS data

[8] 2012(a) v6.9.1 at the time of writing.

5.3 Mode Share

2001 Census data has been used to estimate the mode share for residents of the development site on the basis of the travel to work mode used by the resident population. The mode share for the Bradford 007D Lower Super Output Area is assumed to be representative of the mode share for the proposed development.

The resulting mode shares have then been adjusted slightly to account for the impact of the green travel plan being prepared for the site, on the basis of the following assumptions:

- The respective mode shares for individual sustainable modes (i.e. walking, cycling and public transport) are increased by a total of 5 percentage points. This is based on research presented in TAG Unit 3.10.6d[9], indicating that targeted marketing (including provision of information and promotional campaigns, that would typically be included as part of a Residential Travel Plan) would be expected to increase the overall non-car mode share by 5 percentage points.
- Correspondingly, the car driver mode share has been reduced by 5 percentage points.

Both the mode share for the Bradford 007D Lower Super Output Area from the 2001 Census, and the adjusted mode share considered for the purposes of the TA are presented in **Table 13**. The detailed calculations are presented at Appendix D.

Table 13: Mode Share

Output Area	Mode Share (% of journeys)							
	Car Driver	Car Pax	M-cycle	Taxi	Walk	Cycle	Bus	Rail
Lower Super Output Area Bradford 007D	56%	8%	1%	2%	20%	1%	5%	8%
Adjusted Mode Share	**51%**	**8%**	**1%**	**2%**	**23%**	**1%**	**5%**	**9%**

Note, there are rounding errors in the mode share proportions as shown

[9] Table 1 and Paragraph 1.4.12, TAG Unit 3.10.6, *Modelling Smarter Choices,* August 2012.

5.4 Trip Generation by Mode

Trip generation by mode has been estimated by applying the adjusted mode share to the total person trip generation, and is summarised in **Table 14** for the AM and PM peak hours.

Table 14: Trip Generation by Mode

Mode		AM Peak 0800-0900	PM Peak 1700-1800
Car Driver	Arrivals	25	69
	Departures	80	15
Car Passenger	Arrivals	4	11
	Departures	13	2
Motor-cycle	Arrivals	0	1
	Departures	1	0
Taxi	Arrivals	1	3
	Departures	3	1
Walk	Arrivals	11	31
	Departures	35	7
Cycle	Arrivals	1	2
	Departures	2	0
Bus	Arrivals	3	7
	Departures	8	2
Rail	Arrivals	4	12
	Departures	13	3
Total	Arrivals	50	135
	Departures	156	30

5.5 Vehicle Trip Distribution and Assignment

Trip distribution associated with the proposed site has been estimated using 2001 Census Journey to Work data for trips from the Keighley West ward. Journey planning software has been used to identify likely routes for each journey from the development site. A range of routes are possible for some journeys; where this is the case the number of trips is assumed to be split equally between the route options.

Based on the Journey to Work data, a significant proportion of trips (around 50% of the total) are to destinations that would be accessed via the A650 corridor, including Bradford city centre, Leeds and Shipley as well as north to Skipton and Craven. For the purposes of estimating trip distribution, it is assumed that these journeys are assigned towards the A650 via Green Head Road, Spring Gardens Lane and the Broadway / Highfield Lane route (via the A629 North Street).

The resulting trip distribution is summarised in **Table 15**, with the full calculations presented at Appendix E.

Table 15: Trip Distribution

Route	% of Vehicle Trips
Hollins Lane	3%
Green Head Lane / Road	23%
Spring Gardens Lane	23%
West Lane	17%
Braithwaite Road	1%
Black Hill Lane	1%
Highfield Lane	33%
Total	**100%**

The resulting development traffic flows are presented on Figure 6 and Figure 7 for the AM and PM highway peak hours.

5.6 Future Traffic Flows

5.6.1 Assessment Years

GTA states that:

"For the local transport network, a development should be assessed with regard to LDF and for a period of no less than five years after the date of registration of a planning application."

Consequently, in accordance with GTA, a 2017 Future Assessment Year, representing five years following submission of the planning application (2012) is assessed. This assessment year is also considered to represent a realistic timescale for the build-out of the development.

5.6.2 Background Traffic Growth

Following discussion with CBMDC, it is understood that there are no live or expected planning applications or committed developments that are likely to impact on the local highway in the vicinity of the development.

However, an allowance has been made to represent future traffic growth on the basis of locally adjusted traffic growth factors derived from the National Transport Model and Tempro (NTEM). The traffic growth factors derived from NTEM 6.2 are demonstrated in Table 16.

Table 16: Assumed Background Traffic Growth Factors (Keighley)

Peak Period	2012 Base Year to 2017 Assessment Year
AM Peak Period	1.0771
PM Peak Period	1.0769

5.6.3 2017 Do Minimum Traffic Flows

Do minimum traffic flows for the 2017 Assessment Year scenario reflect the base traffic flows uplifted based on locally adjusted traffic growth factors derived from NTEM for the respective assessment period.

The traffic flows for the 2017 Do Minimum scenario are presented on Figure 8 and Figure 9 for the AM and PM peak hours respectively.

5.6.4 2017 With Development

The 2017 with development traffic flows represent the 2017 Do Minimum traffic flows plus traffic flows associated with 135 dwellings on the site.

The traffic flows for the 2017 With Development scenario are presented on Figure 10 and Figure 11 and for the AM and PM peak hours respectively.

6 Transport Assessment: Public Transport and Sustainable Modes

6.1 Pedestrians

Although the catchment for walking is substantially lower than for motorised modes of transport, walking is the most important mode for short journeys. The NPPF at paragraph 38, that "*Particularly within large-scale developments, key facilities such as primary schools and local shops should be located within walking distance of most properties*".

Although PPG13 has been effectively superseded by NPPF, the Department of Communities and Local Government has confirmed that *PPG13: A Guide to Better Practice* remains valid guidance. This document indicates the distance considered to be appropriate for various trips on foot. However, at paragraph 7.5, the document states that "*motorised modes are rarely used for trips of around half a mile (0.8km) or less*". The guidance also identified that "*walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 kilometres*".

Accordingly, Figure 12 demonstrates 0.8km and 2.0km walking distance isochrones from the centre of the site. The isochrones analysis indicates that most of the areas accessible within a 0.8km walking distance of the site are surrounding residential areas. The centre of Keighley (including the bus station) is accessible within a 2.0km walk of the site. A number of schools are also within the identified catchments, including Merlin Top Primary School, Braithwaite School, Holy Family Catholic School and Greenhead High School.

Existing pedestrian infrastructure in the vicinity of the site provides pedestrian links between the development site and Keighley town centre with footways generally provided on most links between the site and the town centre, including on Spring Gardens Lane, Broadway/ Albert Street and West Lane.

Using the total people trip generation presented in section 5.2, **Table 17** identifies the pedestrian trips generated by the development based on the target mode share.

Table 17: Pedestrian Trip Generation

AM Peak		PM Peak	
Arr	Dep	Arr	Dep
11	35	31	7

Mitigation

As part of the development proposals the existing footway on the eastern side of Shann Lane will be improved. The existing wall will be relocated to enable provision of a minimum 1.8m width footway along the site boundary on Shann Lane.

Other existing pedestrian facilities in the vicinity of the site (in terms of footways and street lighting) are considered to be adequate for the number of pedestrian movements likely to be generated by the development towards Keighley town

centre. Access to the existing pedestrian route through the site (Keighley Public Footpath 17) will be improved as part of the development.

Consequently, it is considered that no further improvements to the existing pedestrian infrastructure above those proposed as part of the development are required to accommodate the additional pedestrian trips generated as a result of the development.

6.2 Cyclists

Cycling England's "*Integrating Cycling into Development Proposals*" (2009) notes that *"Most cycle journeys for non-work purposes and those to rail stations are between 0.5 miles [0.8 km] and 2 miles [3.2 km], but many cyclists are willing to cycle much further. For work, a distance of 5 miles [8 km] should be assumed"*.

Based on these distances, Figure 13demonstrates that a substantial proportion of the Keighley area is within convenient cycling distance, making cycle an attractive mode of transport for accessing the development. Recommended roads for cycling connect the development with Keighley Town Centre and the Ingrow area of the town. Cycling infrastructure provided in the vicinity of the site is shown in Figure 5.

Using the total people trip generation presented in section 5.2, **Table 18** identifies the cycle trips generated by the development.

Table 18: Cyclist Trip Generation

AM Peak		PM Peak	
Arr	Dep	Arr	Dep
1	2	2	0

Mitigation

No further improvements to the existing cycle infrastructure are considered necessary to accommodate the number of cycling trips likely to be generated by the development.

6.3 Public Transport

The chartered Institution of Highways and Transportation's (CIHT's) "*Planning for Public Transport in Developments*" states, at paragraph 6.20, that *"the maximum walking distance to a bus stop should not exceed 400m and preferably be no more than 300m"*. This guidance is also recommended in the LCC *Street Design Guidance* SPD.

Figure 4 shows public transport accessibility close to the development. Four bus routes pass within 400 metres of the development, all providing connections to Keighley town centre, as well as other local destinations. These services are shown in **Table 19**.

Table 19: Bus Routes and Weekday Frequency (services per hour) Passing within 400m of the Development

Service	AM Frequency	IP Frequency	PM Frequency
703	2	2	2
710	2	2	2
716	-	1	-
917	No Service (Evening Only)		

Using the total people trip generation presented in section 5.2 **Table 20** identifies the bus trips generated by the development based on the target mode share.

Table 20: Bus Trip Generation

AM Peak		PM Peak	
Arr	Dep	Arr	Dep
3	8	7	2

Mitigation

Given the scale and nature of the development, the public transport demand potentially generated is unlikely to support service improvements. As such, it is considered that the development is adequately served by existing public transport services.

Notwithstanding this, the access road to be provided through the development site will be designed such that it can accommodate bus vehicles. New bus stops could be provided as part of the detailed design of the development to ensure that all of the development is well within 400m walk of a stop. The detailed layout of the access road and location of the bus stops will be considered fully as part of subsequent planning applications for reserved matters and subject to discussions with Metro on future bus provision.

In addition, the Residential Travel Plan seeks to encourage travel to the site by public transport and generate public transport demand to potentially sustain improvements to services on a commercial basis in the medium to long term.

Given the above, it is considered that no further measures beyond those proposed as part of the development of the Residential Travel Plan are required.

7 Transport Assessment: Highway Network

As in the base year, future year junction assessments have been undertaken using the ARCADY8 program. The results for each junction are presented in the following sections.

7.1 Shann Lane / Spring Gardens Lane

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 21**.

Table 21 2017 Future Year ARCADY Assessment Shann Lane / Spring Gardens Lane

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	Shann Lane	0.21	0.27	0.31	0.44	0.10	0.17
	Spring Gardens Lane RT	0.02	0.03	0.04	0.06	0.02	0.03
PM Peak Hour 16.45-17.45	Shann Lane	0.13	0.14	0.15	0.17	0.02	0.03
	Spring Gardens Lane RT	0.05	0.08	0.10	0.20	0.05	0.12

This junction operates well within capacity across all time periods in both development scenarios[10]. The impact of traffic associated with the development on the operation of the junction is likely to be relatively small.

Mitigation

The limited visibility towards the left from the Shann Lane approach is known to be an issue at this junction. As identified at section 2.9, one accident was recorded at the junction during a period of five years; this was caused by a vehicle failing to give way at the junction. As such, the accident data does not suggest evidence of an existing accident problem at the junction that would be exacerbated by traffic associated with the development. Furthermore, the capacity assessment indicates that the impact of the development will be relatively limited.

Notwithstanding this, a number of minor works are proposed to improve visibility at the junction for traffic approaching on Shann Lane, as follows:

- Minor amendments to kerbline alignment and white lining (including replacement of the existing give way markings on the Shann Lane approach with a stop line).
- Removal of approximately 4m of the existing wall adjacent to the Shann Lane approach and replacement with visi-rail.

[10] As identified at section 2.5, it is normal practice to consider junctions with RFC values greater than 0.85 to operate in excess of practical capacity. Junctions with an RFC value greater than 1.0 are considered to operate in excess of absolute capacity.

- Relocation of an existing lighting column immediately adjacent to the junction.

These works would increase visibility to the left from Shann Lane to approximately 37m. This represents a substantial improvement on the visibility available at the existing layout.

The proposed works have been discussed initially with CBMDC Highway Development Control officers during site visits and through preparation of this report. The proposed works are considered to be achievable, and an indicative layout is presented on Arup Drawing CH-003, which is appended to this report. Swept path analysis for cars turning left from Shann Lane and large rigid vehicles turning left into Shann Lane is demonstrated on Arup Drawings CH-004 and CH-005 respectively. The analysis demonstrates that vehicles are likely to require the use of the full carriageway width on Shann Lane; however, it is considered that this is acceptable given the limited frequency of such larger vehicles through the junction.

The proposals are subject to further discussion and agreement with CBMDC, as well as detailed design work required as part of an agreement under Section 278 of the Highways Act 1980, under which the works would be delivered.

7.2 Shann Lane / West Lane / Black Hill Lane

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 22**.

Table 22 2017 Future Year ARCADY Assessment Shann Lane / West Lane / Black Hill Lane

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	Shann Lane	0.10	0.11	0.10	0.12	0.00	0.01
	West Lane RT	0.08	0.11	0.08	0.11	0.00	0.00
PM Peak Hour 16.45-17.45	Shann Lane	0.03	0.04	0.03	0.04	0.00	0.00
	West Lane RT	0.08	0.12	0.08	0.12	0.00	0.00

This junction operates well within capacity across all time periods in both development scenarios.

Mitigation

The impact of traffic associated with the development on the operation of the junction is likely to be relatively small. Consequently, no mitigation is considered to be necessary.

7.3 West Lane / Oakworth Road / High Street

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 23**.

Table 23 2017 Future Year ARCADY Assessment West Lane / Oakworth Road / High Street

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	West Lane LT	0.84	5.22	0.87	6.24	0.03	1.02
	High Street RT	0.74	2.87	0.75	3.07	0.01	0.20
PM Peak Hour 16.45-17.45	West Lane LT	0.93	10.56	0.94	11.01	0.01	0.45
	High Street RT	0.90	7.59	0.93	9.30	0.03	1.71

Although there are capacity constraints at this junction these exist in the do minimum period (i.e. without the addition of development traffic). The modelled RFCs indicate that all approaches to the junction would operate approaching, or slightly in excess of, practical capacity in the do minimum scenario. The modelled RFCs would be slightly worsened by traffic associated with the development. All approaches would continue to operate within absolute theoretical capacity in both peak hour scenarios. Modelled queue lengths are increased by around 1 pcu on the West Lane approach in the AM peak period and by less than 2 pcus on the right turn to West Lane in the PM peak period.

Mitigation

Given the relatively small impact of traffic associated with the development relative to the do minimum scenario, no mitigation is considered to be necessary. Effective implementation of the Residential Travel Plan will be required to minimise the impacts of the development on the junction.

7.4 A629 High Street / Bridge Street / Chapel Lane

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 24**.

Table 24 2017 Future Year ARCADY Assessment West Lane / Oakworth Road / High Street

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	A629 High Street	0.97	16.80	0.99	20.63	0.02	3.83
	North Lane	0.67	2.00	0.68	2.08	0.01	0.08
	Bridge Street	0.68	2.12	0.69	2.20	0.01	0.08
PM Peak Hour 16.45-17.45	A629 High Street	0.90	8.09	0.91	8.96	0.01	0.87
	North Lane	0.98	19.10	0.98	19.59	0.00	0.49
	Bridge Street	0.89	7.17	0.92	9.33	0.03	2.16

Although there are capacity constraints at this junction, these exist in the do-minimum period. The modelled RFCs indicate that all approaches to the junction would operate in excess of practical capacity at times during the PM peak hour. In addition, the A629 High Street approach would operate in excess of practical capacity during the AM peak hour. The modelled RFCs would be slightly exacerbated by traffic associated with the development; however, the increases in queue lengths are relatively small (around 4 pcus on the A629 High Street approach in the AM peak hour and 2 pcus on the Bridge Street approach in the PM peak period) and are considered unlikely to materially worsen the operation of the highway network.

Mitigation

Given the relatively small impact of traffic associated with the development relative to the do minimum scenario, no mitigation is considered to be necessary. Effective implementation of the Residential Travel Plan will be required to minimise the impacts of the development on the junction.

7.5 A629 North Street / Albert Street

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 25**.

Table 25 2017 Future Year ARCADY Assessment A629 North Street / Albert Street

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	Albert Street LT	0.46	0.84	0.54	1.13	0.08	0.29
	North Lane RT	0.11	0.13	0.12	0.13	0.01	0.00
PM Peak Hour 16.45-17.45	Albert Street LT	0.42	0.71	0.43	0.75	0.01	0.04
	North Lane RT	0.33	0.50	0.35	0.54	0.02	0.04

This junction operates well within capacity across all time periods in both development scenarios.

Mitigation

The impact of traffic associated with the development on the operation of the junction is likely to be relatively small. Consequently, no mitigation is considered to be necessary.

7.6 A629 Skipton Road / Spring Gardens Lane

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 26**.

Table 26 2017 Future Year ARCADY Assessment A629 Skipton Road / Spring Gardens Lane

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	Spring Gardens Road	0.93	6.02	1.07	11.78	0.14	5.76
	A629 Skipton Road RT	0.18	0.57	0.22	0.83	0.04	0.26
PM Peak Hour 16.45-17.45	Spring Gardens Road	0.41	0.67	0.44	0.76	0.03	0.09
	A629 Skipton Road RT	0.08	0.14	0.16	0.46	0.08	0.32

The modelling indicates that the Spring Gardens Road approach to the junction will operate in excess of practical capacity during the AM peak hour. Traffic associated with the development is likely to worsen the operation of this approach slightly, such that it is predicted to operate in excess of absolute capacity for a proportion of the peak hour. However, the resulting increase in the average modelled queue (around 6pcu) would be accommodated without significant impacts on the wider highway network.

Mitigation

Given the impact of the development relative to the do minimum scenario, no mitigation is considered to be necessary. Effective implementation of the Residential Travel Plan will be required to minimise the impacts of the development on the junction.

7.7 A629 Skipton Road / A629 Hardings Road / B6265 Skipton Road

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 26**.

Table 27 2017 Future Year ARCADY Assessment A629 Skipton Road / A629 Hardings Road / B6265 Skipton Road

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	A629 Hardings Road	0.67	2.01	0.68	2.11	0.01	0.10
	A629 Skipton Road (S)	0.82	4.38	0.85	5.52	0.03	1.14
	B6265 Skipton Road (N)	0.51	1.02	0.53	1.14	0.02	0.12
PM Peak Hour 16.45-17.45	A629 Hardings Road	0.68	2.10	0.70	2.33	0.02	0.23
	A629 Skipton Road (S)	0.69	2.16	0.70	2.27	0.01	0.11
	B6265 Skipton Road (N)	0.38	0.60	0.38	0.61	0.00	0.01

The assessment indicates that the A629 Skipton Road approach (from the south) operates close to practical capacity during the AM peak hour. Traffic associated with the development is likely to worsen the operation of this approach, such that it operates at practical capacity. However, the associated increase in queues (1 pcu) is relatively small, and unlikely to represent a significant impact on the wider highway network.

The modelled RFCs on all other approaches are within the normal practical capacity threshold of 0.85 and, as such, the junction is considered to accommodate traffic associated with the development satisfactorily.

Mitigation

Given the impact of the development relative to the do minimum scenario, no mitigation is considered to be necessary. Effective implementation of the Residential Travel Plan will be required to minimise the impacts of the development on the junction.

7.8 A629 / A629 Hardings Road / A650 Hardings Road

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 26**.

Table 28 2017 Future Year ARCADY Assessment A629 Skipton Road / A629 Hardings Road / A650 Hardings Road

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	A650 Hardings Road (E)	0.78	3.57	0.79	3.69	0.01	0.12
	A629 Hardings Road (W)	1.10	56.45	1.16	85.82	0.06	29.37
	A629 Skipton Road (N)	0.92	10.35	0.93	11.23	0.01	0.88
PM Peak Hour 16.45-17.45	A650 Hardings Road (E)	0.76	3.12	0.78	3.38	0.02	0.26
	A629 Hardings Road (W)	0.82	4.27	0.83	4.59	0.01	0.32
	A629 Skipton Road (N)	0.89	7.51	0.90	7.91	0.01	0.40

The assessment indicates that the A629 Hardings Road and A629 Skipton Road approaches are likely to operate in excess of practical capacity during both peak hours in the do minimum scenario. In particular, the eastbound A629 Hardings Road approach is likely to operate in excess of absolute capacity in the do minimum scenario. The associated queues are likely to extend back through and affect the operation of the A629 Hardings Road / Skipton Road roundabout located to the west of the junction.

Traffic associated with the development will worsen the performance of the junction; however, the impacts are considered to be relatively limited compared to the operation of the junction in the do minimum scenario.

Mitigation

Given the impact of the development relative to the do minimum scenario, no mitigation is considered to be necessary. Potential works to resolve the existing capacity issues at the junction cannot be achieved within the scope of the development, given the relatively small scale and nature of the proposals. In the medium to longer term, it is understood that CBMDC are considering capacity improvements as part of the identified A650 Hardings Road scheme, to potentially be funded as part of the proposed West Yorkshire Plus Transport Fund.

Consequently, it is considered that effective implementation of the Residential Travel Plan is a more appropriate means of minimising the impacts of the development on the junction.

7.9 B6265 Skipton Road / Green Head Road / Clock View Street

The full results from the 2017 Do Minimum and With Development ARCADY models are presented at Appendix F and summarised in **Table 26**.

Table 29 2017 Future Year ARCADY Assessment Green Head Road / B6265 Skipton Road / Clock View Street

		2017 Do Minimum		2017 With Development		Net Impact	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	Green Head Road LT	0.22	0.27	0.37	0.56	0.15	0.29
	Green Head Road RT	0.80	3.44	0.86	4.81	0.06	1.37
	Skipton Road (S) RT	0.00	0.00	0.00	0.00	0.00	0.00
	Skipton Road (N) RT	0.10	0.10	0.10	0.11	0.00	0.01
PM Peak Hour 16.45-17.45	Green Head Road LT	0.11	0.12	0.11	0.12	0.00	0.00
	Green Head Road RT	0.68	1.97	0.70	2.15	0.02	0.18
	Skipton Road (S) RT	0.00	0.00	0.00	0.00	0.00	0.00
	Skipton Road (N) RT	0.13	0.15	0.14	0.17	0.01	0.02

The assessment indicates that the Green Head Road approach is likely to operate approaching during the AM peak hour in the do minimum scenario. Traffic associated with the development will worsen the performance of the junction such that the modelled RFC indicates the approach will operate in excess of practical capacity. However, the increase in the modelled queue (around 1pcu) is considered to be relatively small, and is unlikely to represent a significant impact on the operation of the wider highway network.

Mitigation

Given the impact of the development relative to the do minimum scenario, no mitigation is considered to be necessary. Effective implementation of the Residential Travel Plan will be required to minimise the impacts of the development on the junction.

7.10 Shann Lane Access Junction

As described at section 4.2, a new priority junction will provide access to the development from Shann Lane. A preliminary layout for the junction has been identified and is shown on Arup Drawing CH-001. An assessment of the capacity of the junction has been undertaken using ARCADY 8. The results are presented in full at Appendix F and summarised in **Table 30**.

Table 30 2017 Future Year ARCADY Assessment Shann Lane Access Junction

		2017 With Development	
		Max RFC	Max Queue
AM Peak Hour 07.45-08.45	Site Access	0.080	0.1
	Shann Lane (SW) RT	0.001	0.0
PM Peak Hour 16.45-17.45	Site Access	0.017	0.1
	Shann Lane (SW) RT	0.002	0.0

The assessment indicates that the junction will operate satisfactorily during all assessment scenarios. The modelled RFC on each approach is substantially below the normal practical capacity threshold of 0.85, with minimal queuing modelled.

7.11 Broadlands Access Junction

As part of the development, a new connection to the existing Broadlands / Westway junction will be provided, such that the site would also be accessed from Broadlands. As described at section 4.2, the access will effectively continue the alignment of Broadlands into the development site. The existing layout and priorities at the Broadlands / Westway junction will be retained. The impact of the proposed changes on the operation of the existing Broadlands / Westway junction has been undertaken using ARCADY 8.

It is assumed that traffic towards Keighley town centre, as well as a proportion of traffic to the A650 corridor would use Broadlands; these assumptions effectively result in no traffic associated with the development turning right to Westway (or arriving via Westway). Consequently, a separate sensitivity test has been undertaken to consider the impacts on the junction if additional traffic towards the south of Keighley town centre uses the junction towards Westway (rather than the Shann Lane access junction). For the purposes of this sensitivity test, an additional 60pcus per hour are assigned to Westway arriving and departing the site (i.e. a total of 120pcus in both directions). Consequently, the sensitivity test is considered to represent an extremely robust assessment of the operation of the junction in practice.

The results are presented in full at Appendix F and summarised in **Table 31**.

Table 31 2017 Future Year ARCADY Assessment Broadlands Access Junction

		2017 With Development		2017 With Development *Sensitivity Test*	
		Max RFC	Max Queue	Max RFC	Max Queue
AM Peak Hour 07.45-08.45	Westway	0.106	0.1	0.222	0.3
	Broadlands (N) RT	0.000	0.0	0.115	0.1
PM Peak Hour 16.45-17.45	Westway	0.123	0.1	0.127	0.1
	Broadlands (N) RT	0.000	0.0	0.097	0.1

The assessment indicates that the junction will operate satisfactorily during all assessment scenarios. The modelled RFC on each approach is substantially below the normal practical capacity threshold of 0.85, with minimal queuing modelled.

7.12 Road Safety

A detailed analysis of the personal-injury accident record within the TA study area for the most recently available five year period has been undertaken.

The road safety record within the vicinity of the site was analysed in detail in section 2.8 of this report. Although there is no evidence of an accident problem due to excessive speeds on Shann Lane it is anticipated that there will be positive impacts as a result of the new access junction on Shann Lane and the psychological impact of more dwellings close to the highway slowing traffic on this link.

Minor improvement works are proposed on the tight bend on Shann Lane to the north of the site, as shown on Arup Drawing CH-002. The radius of the bend will be improved and the road widened slightly to enable vehicles to pass each other more easily. Although there is not an historical accident problem at this location, it is anticipated that these works will reduce any potential conflicts.

The works proposed at the Spring Gardens Lane / Shann Lane junction (as shown on Arup Drawing CH-003) will improve visibility for traffic approaching the junction on Shann Lane and reduce the risk of accidents. Furthermore, the proposed access junctions on Shann Lane and Broadway will be designed in accordance with relevant design guidance.

As a result of the development, increases in traffic flows are likely on all key links in the vicinity of the development site. However, analysis of accident data did not identify any common site-related causes. It is therefore considered that the proposed development will not give rise to a material impact on road safety.

No further specific mitigation is considered necessary in terms of the impact on road safety of the proposed development, although road safety could be further improved through targeted measures as part of the Travel Plan.

8 Summary and Conclusions

8.1 Development Proposal

The development proposal is for a housing development consisting of up to 135 new homes on land to the east of Shann Lane, Keighley. Two new vehicle accesses junctions will be provided, one onto High Shann Lane and one to the Westway/Broadlands junction. The internal layout and exact mix of housing will be considered as part of a future planning application for reserved matters.

A Residential Travel Plan has been prepared for the development, which sets out how travel to and from the site will be encouraged by sustainable modes of transport rather than by private car.

8.2 Pedestrians and Cyclists

Accessibility to the site for pedestrians and cyclists has been assessed. Within the development, pedestrians will be catered for by footways alongside the new access streets to be provided that will be a minimum width of 2.0m. These will connect with existing pedestrian infrastructure surrounding the site. Covered, conveniently located and secure cycle parking would be provided within the curtilage of individual houses. The quantity and exact locations for cycle parking will be determined as part of reserved matters planning applications for the development.

8.3 Public Transport

Existing local bus and rail networks provide local connections to Keighley town centre and wider destinations such as Leeds, Bradford and Skipton. The proposed new site link road will be designed to allow future diversion of bus services into the site, if appropriate. This will be dealt with during reserved matters application and agreed with CBMDC and Metro.

As part of the Residential Travel Plan, the Travel Plan Co-ordinator[11] will be responsible for liaising with Metro and local bus operators in order to maximise opportunities to access the site by public transport. The Residential Travel Plan will also provide incentives to encourage travel to the site by public transport, generating public transport demand to sustain potential improvements to services on a commercial basis in the medium and long term.

8.4 Highway Network

The impact of traffic generated by the development on the local highway network has been assessed in detail. The assessment demonstrates that traffic associated with the development will not materially worsen the operation of the highway network relative to the do minimum scenario. As such, development traffic is not predicted to result in significant impacts on air quality in the local area. Effective implementation of the Residential Travel Plan will further minimise the impacts of the development on the highway network.

[11] The responsibilities of the Travel Plan Co-ordinator are detailed in the Residential Travel Plan.

The personal injury accident record for the study area has been studied in detail and it is concluded that the proposed development will not result in material impacts on road safety.

Notwithstanding this, minor highway works are proposed to improve visibility from Shann Lane at the junction with Spring Gardens Lane. Additional minor works are proposed to the kerbline at the bend on Shann Lane north of the site to reduce possible conflicts between passing vehicles. These works have been discussed initially with CBMDC Highways Development Control officers during site visits and through preparation of this report, and are considered to be achievable. They are, however, subject to further discussion and agreement with CBMDC, as well as detailed design work required for the purposes of an agreement in accordance with Section 278 of the Highways Act 1980, under which the works would be delivered.

8.5 Summary

On the basis of this TA, it is considered that the proposed development on the High Shann site can be satisfactorily accommodated on the transport network. Given the relatively small scale and nature of the development, the transport impacts are not considered to be significant.

Rather than physical changes to the wider highway network, effective implementation of the Residential Travel Plan is considered to represent the most appropriate means of mitigating the predicted impacts of the development proposals.

Figures

Figure 1 Site Location and Highway Network
Figure 2 2012 AM Traffic Flows
Figure 3 2012 PM Traffic Flows
Figure 4 Public Transport Facilities
Figure 5 Pedestrian and Cycling Facilities
Figure 6 AM Development Flows
Figure 7 PM Development Flows
Figure 8 2017 AM Do Minimum Flows
Figure 9 2017 PM Do Minimum Do Flows
Figure 10 2017 AM With Development Flows
Figure 11 2017 PM With Development Flows
Figure 12 Walking Catchment
Figure 13 Cycling Catchment

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Key:

- Site Location
- Primary Road
- Secondary Road
- Local Road

Issue:	Date:	Originator:	Checked:	Approved:
P1	15.11.12	SM		

The Trustees of the Chatsworth Settlement

HIGH SHANN, KEIGHLEY

Site Location and Study Area

Scale @ A3:
Not to Scale

Drawing Status:
For Planning

Job Number:
225836-00

Drawing Number:
Figure 01

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Notes:

Traffic flows presented in PCUs

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Project Title:
High Shann, Keighley

Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Title:
2012 Surveyed Base AM Highway Peak Traffic Flows

07:45 to 08:45

Drawing Status
Rev A

Scale @ A3
Not to Scale

Job Number:
225836-00

Drawing number:
Figure 2

Notes:

Traffic flows presented in PCUs

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Project Title:
High Shann, Keighley

Drawing Title:
2012 Surveyed Base AM Highway Peak Traffic Flows

16:45 to 17:45

Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Status: Rev A

Scale @ A3: Not to Scale

Job Number: 225836-00

Drawing number: Figure 3

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Service	AM Frequency	IP Frequency	PM Frequency
703	2	2	2
710	2	2	2
716	-	1	-
917	No Service (Evening Only)		

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Key:

Site Location

Bus Stop (B)

Issue:	Date:	Originator:	Checked:	Approved:
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HIGH SHANN, KEIGHLEY

Public Transport Infrastructure

Scale @ A3:
Not to Scale

Drawing Status:
For Planning

Job Number:
225836-00

Drawing Number:
Figure 04

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HIGH SHANN, KEIGHLEY
Cycle Map

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Drawing Status:
For Planning

Job Number:
225836-00

Drawing Number:
Figure 05

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Notes:

Traffic flows presented in PCUs

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Project Title:
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Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Title:
2017 AM Peak Development Traffic Flows
07:45 to 08:45

Drawing Status
Rev A

Scale @ A3
Not to Scale

Job Number:
225836-00

Drawing number:
Figure 6

Notes:

Traffic flows presented in PCUs

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Project Title:
High Shann, Keighley

Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Title:
2017 PM Peak Development Traffic Flows

16:45 to 17:45

Drawing Status
Rev A

Scale @ A3
Not to Scale

Job Number:
225836-00

Drawing number:
Figure 7

Notes:

Traffic flows presented in PCUs

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Project Title:
High Shann, Keighley

Drawing Title:
2017 Do Minimum AM Highway Peak Traffic Flows

07:45 to 08:45

Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Status	Scale @ A3
Rev A	Not to Scale
Job Number:	**Drawing number:**
225836-00	Figure 8

Notes:

Traffic flows presented in PCUs

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Client:
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Project Title:
High Shann, Keighley

Drawing Title:
2017 Do Minimum PM Highway Peak Traffic Flows

16:45 to 17:45

Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Status
Rev A

Scale @ A3
Not to Scale

Job Number:
225836-00

Drawing number:
Figure 9

Notes:

Traffic flows presented in PCUs

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Project Title:
High Shann, Keighley

Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Title:
2017 With Development AM Highway Peak Traffic Flows

07:45 to 08:45

Drawing Status
Rev A

Scale @ A3
Not to Scale

Job Number:
225836-00

Drawing number:
Figure 10

Notes:

Traffic flows presented in PCUs

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Client:
The Trustees of the Chatworth Settlement

Project Title:
High Shann, Keighley

Drawing Title:
2017 With Development PM Highway Peak Traffic Flows

16:45 to 17:45

Issue:	Date:	Originator:	Checked:	Approved:
	01/11/2012	JB	SB	AG

Drawing Status
Rev A

Scale @ A3
Not to Scale

Job Number:
225836-00

Drawing number:
Figure 11

A3

Legend

High Shann Site

800m Catchment

2000m Catchment

Issue	Date	By	Chkd	Appd
P0	2012-11-07	JB	AS	AG

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Job Title

High Shann, Keighley

Drawing Title

800m and 2km Pedestrian Walking Distance Isochrones

Scale at A3

1:11,155

Drawing Status

ISSUE

Job No	Drawing No	Issue
225836-00	**Figure 12**	**P0**

20/07/2012

\\globaleuropeLeeds\Jobs\220000\225836-00\0 Arup\0-11 Transportation\0-11-05 Drawings\Keighley - Figure Walking Distance Isochrone.mxd

Template A3: Version 2

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Key:

Centre of Site

Issue:	Date:	Originator:	Checked:	Approved:
P1	15.11.12	SM		

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HIGH SHANN, KEIGHLEY

5km Cycling Isochrone

Scale @ A3:
Not to Scale

Drawing Status:
For Planning

Job Number:
225836-00

Drawing Number:
Figure 13

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Drawings

Arup Drawing CH-001: Proposed Access Junctions and Shann Lane Works
Arup Drawing CH-002: Proposed Improvements at Bend on Shann Lane
Arup Drawing CH-003: Proposed Junction Improvements at Shann Lane / Spring Gardens Lane
Arup Drawing CH-004: Proposed Junction Improvements at Shann Lane / Spring Gardens Lane – Large Car Swept Path
Arup Drawing CH-005: Proposed Junction Improvements at Shann Lane / Spring Gardens Lane – HG Rigid Swept Path

A1

N

2.4m x 120m visibility splay

Footway and grassed area to be resurfaced up to relocated stone wall, providing minimum footway width of 1.8m

Centre line to be relocated to centre of carriageway

Tie into existing highway (Shann Lane)

150mm edge of carriageway line (Diag. 1012.1)

Existing verge to be retained and trimmed

Existing kerbs to be retained

Footway and grassed area to be resurfaced up to relocated stone wall, providing minimum footway width of 1.8m

2.4m x 120m visibility splay

Existing wall to be removed

1.8m

Shann Lane

R 8.000

R 8.000

2m

6.75m

2m

Existing wall to be removed

Existing wall to be removed

1.8m

Existing wall to be removed

Existing wall to be removed

Existing wall to be removed

Through route provided within site linking the two junctions. Route to be determined as part of Reserved Matters Application.

Tie into existing highway (Broadlands)

2m

6.75m

2m

Do not scale

Notes:

1. Indicative layout subject to detailed design and S278 agreement.

Key:

- Existing wall to be removed and rebuilt to provide min. 1.8m footway
- Existing wall to be retained
- Existing edge of carriageway / verge (Indicative)
- Visibilty Splay (2.4m x 120m)

Issue	Date	By	Chkd	Appd
01	14/11/12	SM		
First Issue				

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Job Title
High Shann, Keighley

Proposed Access Junctions and Shann Lane Works Parameter Plan 8

Scale at A1 1:500

Discipline Civil

Job No **225836-00**

Drawing Status **For Planning**

Drawing No **CH-001**

Issue **01**

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A3

Notes:

1. Indicative layout subject to detailed design and S278 agreement.

Vehicle Specification:

Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	5.900m

Vehicle speed: 30kph

Issue	Date	By	Chkd	Appd
01	07/11/12	SM		

Draft

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Client
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Job Title
High Shann, Keighley

Proposed Improvements at Bend on Shann Lane

Scale at A3 1:200

Discipline Civil

Job No **225836-00**

Drawing Status **For Planning**

Drawing No **CH-002**

Issue **01**

Do not scale

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A3

Notes:

1. Indicative layout subject to detailed design and S278 agreement.

2. Highway boundary and ownership of wall structure to be confirmed.

Issue	Date	By	Chkd	Appd
01	07/11/12	SM		
Draft				

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Client
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Job Title
High Shann, Keighley

Proposed Junction Improvements at Shann Lane / Spring Gardens Lane

Scale at A3 1:200

Discipline Civil

Job No **225836-00**

Drawing Status **For Planning**

Drawing No **CH-003**

Issue **01**

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Do not scale

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A3

Notes:

1. Indicative layout subject to detailed design and S278 agreement.

Vehicle Specification:

Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	5.900m

Vehicle speed: 30kph

Issue	Date	By	Chkd	Appd
01	07/11/12	SM		

Draft

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Client
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Job Title
High Shann, Keighley

Proposed Junction Improvements at Shann Lane / Spring Gardens Lane
Large Car Swept Path

Scale at A3 1:200

Discipline Civil

Job No **225836-00**

Drawing Status **For Planning**

Drawing No **CH-004**

Issue **01**

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Do not scale

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A3

Notes:

1. Indicative layout subject to detailed design and S278 agreement.

Vehicle Specification:

FTA Design HG Rigid Vehicle (1998)	
Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to Lock Time	3.00 sec
Kerb to Kerb Turning Radius	11.000m

Vehicle speed: 30kph

Issue	Date	By	Chkd	Appd
01	07/11/12	SM		

Draft

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Client
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Job Title
High Shann, Keighley

Proposed Junction Improvements at Shann Lane / Spring Gardens Lane
HG Rigid Swept Path

Scale at A3 1:200

Discipline Civil

Job No **225836-00**

Drawing Status **For Planning**

Drawing No **CH-005**

Issue **01**

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Appendix A

2012 Base Year Capacity Assessment

A1 Shann Lane / Spring Gardens Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Shann Lane-Spring Gardens Lane_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:48:50

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.24	9.87	0.20	A
Stream C-AB	0.03	5.32	0.02	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 14:48:50

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	9.20	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Spring Gardens Lane (East)	Spring Gardens Lane (East)		Major
Shann Lane	Shann Lane		Minor
Spring Gardens Lane (West)	Spring Gardens Lane (West)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Spring Gardens Lane (West)	6.40		0.00		2.20	55.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	2.90								✓		0	30

Pedestrian Crossings

Name	Crossing Type
Spring Gardens Lane (East)	None
Shann Lane	None
Spring Gardens Lane (West)	None

Slope / Intercept / Capacity

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
1	B-A	487.387	0.087	0.220	0.139	0.315
1	B-C	636.387	0.096	0.242	-	-
1	C-B	605.814	0.231	0.231	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Spring Gardens Lane (East)	ONE HOUR	✓	175.00	100.000
Shann Lane	ONE HOUR	✓	81.00	100.000
Spring Gardens Lane (West)	ONE HOUR	✓	229.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	7.000	168.000
	B	55.000	0.000	26.000
	C	219.000	10.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.04	0.96
	B	0.68	0.00	0.32
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.20	9.87	0.24	A
C-AB	0.02	5.32	0.03	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	60.98	60.40	0.00	477.19	0.128	0.14	8.624	A
C-AB	9.81	9.74	0.00	686.74	0.014	0.02	5.317	A
C-A	162.60	162.60	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	126.48	126.48	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	72.82	72.67	0.00	467.40	0.156	0.18	9.113	A

C-AB	12.32	12.31	0.00	702.69	0.018	0.02	5.214	A
C-A	193.54	193.54	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	151.03	151.03	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	89.18	88.95	0.00	453.83	0.197	0.24	9.860	A
C-AB	16.15	16.12	0.00	724.73	0.022	0.03	5.080	A
C-A	235.99	235.99	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	184.97	184.97	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	89.18	89.18	0.00	453.83	0.197	0.24	9.872	A
C-AB	16.15	16.15	0.00	724.74	0.022	0.03	5.080	A
C-A	235.98	235.98	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	184.97	184.97	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	72.82	73.04	0.00	467.40	0.156	0.19	9.133	A
C-AB	12.33	12.36	0.00	702.70	0.018	0.02	5.216	A
C-A	193.53	193.53	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	151.03	151.03	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	60.98	61.14	0.00	477.17	0.128	0.15	8.656	A
C-AB	9.83	9.84	0.00	686.75	0.014	0.02	5.320	A
C-A	162.58	162.58	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	126.48	126.48	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Shann Lane-Spring Gardens Lane_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:49:38

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.13	9.70	0.12	A
Stream C-AB	0.07	5.57	0.05	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 14:49:38

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	8.07	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Spring Gardens Lane (East)	Spring Gardens Lane (East)		Major
Shann Lane	Shann Lane		Minor
Spring Gardens Lane (West)	Spring Gardens Lane (West)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Spring Gardens Lane (West)	6.40		0.00		2.20	55.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	2.90								✓		0	30

Pedestrian Crossings

Name	Crossing Type
Spring Gardens Lane (East)	None
Shann Lane	None
Spring Gardens Lane (West)	None

Slope / Intercept / Capacity

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
1	B-A	487.387	0.087	0.220	0.139	0.315
1	B-C	636.387	0.096	0.242	-	-
1	C-B	605.814	0.231	0.231	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Spring Gardens Lane (East)	ONE HOUR	✓	340.00	100.000
Shann Lane	ONE HOUR	✓	44.00	100.000
Spring Gardens Lane (West)	ONE HOUR	✓	250.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	64.000	276.000
	B	29.000	0.000	15.000
	C	230.000	20.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.66	0.00	0.34
	C	0.92	0.08	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.12	9.70	0.13	A
C-AB	0.05	5.57	0.07	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	33.13	32.81	0.00	454.68	0.073	0.08	8.527	A
C-AB	20.11	19.96	0.00	666.33	0.030	0.04	5.570	A
C-A	168.10	168.10	0.00	-	-	-	-	-
A-B	48.18	48.18	0.00	-	-	-	-	-
A-C	207.79	207.79	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56	39.48	0.00	439.91	0.090	0.10	8.988	A

C-AB	25.47	25.42	0.00	678.92	0.038	0.05	5.508	A
C-A	199.28	199.28	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	248.12	248.12	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44	48.32	0.00	419.41	0.116	0.13	9.698	A
C-AB	33.76	33.68	0.00	696.60	0.048	0.07	5.430	A
C-A	241.50	241.50	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	303.88	303.88	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44	48.44	0.00	419.40	0.116	0.13	9.704	A
C-AB	33.78	33.78	0.00	696.62	0.048	0.07	5.434	A
C-A	241.47	241.47	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	303.88	303.88	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56	39.67	0.00	439.89	0.090	0.10	8.997	A
C-AB	25.50	25.58	0.00	678.96	0.038	0.05	5.512	A
C-A	199.25	199.25	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	248.12	248.12	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	33.13	33.21	0.00	454.64	0.073	0.08	8.543	A
C-AB	20.16	20.22	0.00	666.37	0.030	0.04	5.574	A
C-A	168.05	168.05	0.00	-	-	-	-	-
A-B	48.18	48.18	0.00	-	-	-	-	-
A-C	207.79	207.79	0.00	-	-	-	-	-

A2 Shann Lane / West Lane / Black Hill Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Shann Lane_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:50:25

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.10	7.94	0.09	A
Stream C-AB	0.10	5.63	0.07	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 14:50:24

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	6.78	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Black Hill Lane	Black Hill Lane		Major
Shann Lane	Shann Lane		Minor
West Lane	West Lane		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
West Lane	7.10		0.00		2.20	110.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	3.40								✓		34	40

Pedestrian Crossings

Name	Crossing Type
Black Hill Lane	None
Shann Lane	None
West Lane	None

Slope / Intercept / Capacity

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
1	B-A	528.637	0.092	0.232	0.146	0.331
1	B-C	675.113	0.099	0.249	-	-
1	C-B	637.665	0.235	0.235	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Black Hill Lane	ONE HOUR	✓	148.00	100.000
Shann Lane	ONE HOUR	✓	43.00	100.000
West Lane	ONE HOUR	✓	158.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	5.000	143.000
	B	30.000	0.000	13.000
	C	122.000	36.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.03	0.97
	B	0.70	0.00	0.30
	C	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.09	7.94	0.10	A
C-AB	0.07	5.63	0.10	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	32.37	32.11	0.00	521.62	0.062	0.07	7.351	A
C-AB	31.30	31.06	0.00	671.95	0.047	0.06	5.616	A
C-A	87.65	87.65	0.00	-	-	-	-	-
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	107.66	107.66	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	38.66	38.60	0.00	512.92	0.075	0.08	7.589	A

C-AB	38.48	38.42	0.00	678.86	0.057	0.08	5.621	A
C-A	103.56	103.56	0.00	-	-	-	-	-
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	128.55	128.55	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	47.34	47.25	0.00	500.93	0.095	0.10	7.932	A
C-AB	48.99	48.89	0.00	688.50	0.071	0.10	5.628	A
C-A	124.97	124.97	0.00	-	-	-	-	-
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	157.45	157.45	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	47.34	47.34	0.00	500.90	0.095	0.10	7.936	A
C-AB	49.01	49.00	0.00	688.52	0.071	0.10	5.630	A
C-A	124.96	124.96	0.00	-	-	-	-	-
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	157.45	157.45	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	38.66	38.74	0.00	512.88	0.075	0.08	7.596	A
C-AB	38.50	38.59	0.00	678.89	0.057	0.08	5.623	A
C-A	103.54	103.54	0.00	-	-	-	-	-
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	128.55	128.55	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	32.37	32.43	0.00	521.54	0.062	0.07	7.363	A
C-AB	31.34	31.41	0.00	671.98	0.047	0.06	5.622	A
C-A	87.61	87.61	0.00	-	-	-	-	-
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	107.66	107.66	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Shann Lane_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:07:51

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.03	6.48	0.03	A
Stream C-AB	0.11	5.57	0.08	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:07:50

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	5.82	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Black Hill Lane	Black Hill Lane		Major
Shann Lane	Shann Lane		Minor
West Lane	West Lane		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
West Lane	7.10		0.00		2.20	110.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	3.40								✓		34	40

Pedestrian Crossings

Name	Crossing Type
Black Hill Lane	None
Shann Lane	None
West Lane	None

Slope / Intercept / Capacity

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
1	B-A	528.637	0.092	0.232	0.146	0.331
1	B-C	675.113	0.099	0.249	-	-
1	C-B	637.665	0.235	0.235	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Black Hill Lane	ONE HOUR	✓	135.00	100.000
Shann Lane	ONE HOUR	✓	17.00	100.000
West Lane	ONE HOUR	✓	171.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	10.000	125.000
	B	5.000	0.000	12.000
	C	133.000	38.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.07	0.93
	B	0.29	0.00	0.71
	C	0.78	0.22	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	6.48	0.03	A
C-AB	0.08	5.57	0.11	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.80	12.71	0.00	590.14	0.022	0.02	6.234	A
C-AB	33.44	33.18	0.00	679.55	0.049	0.06	5.569	A
C-A	95.30	95.30	0.00	-	-	-	-	-
A-B	7.53	7.53	0.00	-	-	-	-	-
A-C	94.11	94.11	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	15.28	15.26	0.00	583.38	0.026	0.03	6.336	A

C-AB	41.19	41.12	0.00	687.92	0.060	0.08	5.565	A
C-A	112.54	112.54	0.00	-	-	-	-	-
A-B	8.99	8.99	0.00	-	-	-	-	-
A-C	112.37	112.37	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	18.72	18.69	0.00	574.01	0.033	0.03	6.482	A
C-AB	52.58	52.48	0.00	699.55	0.075	0.11	5.563	A
C-A	135.70	135.70	0.00	-	-	-	-	-
A-B	11.01	11.01	0.00	-	-	-	-	-
A-C	137.63	137.63	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	18.72	18.72	0.00	573.99	0.033	0.03	6.482	A
C-AB	52.60	52.60	0.00	699.57	0.075	0.11	5.565	A
C-A	135.68	135.68	0.00	-	-	-	-	-
A-B	11.01	11.01	0.00	-	-	-	-	-
A-C	137.63	137.63	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	15.28	15.31	0.00	583.35	0.026	0.03	6.339	A
C-AB	41.21	41.31	0.00	687.95	0.060	0.08	5.568	A
C-A	112.51	112.51	0.00	-	-	-	-	-
A-B	8.99	8.99	0.00	-	-	-	-	-
A-C	112.37	112.37	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	12.80	12.82	0.00	590.09	0.022	0.02	6.238	A
C-AB	33.48	33.55	0.00	679.59	0.049	0.07	5.573	A
C-A	95.25	95.25	0.00	-	-	-	-	-
A-B	7.53	7.53	0.00	-	-	-	-	-
A-C	94.11	94.11	0.00	-	-	-	-	-

A3 West Lane / Oakworth Road / High Street

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Oakworth Road_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:53:38

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	3.35	26.50	0.76	D
Stream C-A	-	-	-	-
Stream C-B	2.04	29.10	0.66	D
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using ARCADY 8.0.0.296 at 09/11/2012 14:53:37

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	27.43	D

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Oakworth Road	Oakworth Road		Major
West Lane	West Lane		Minor
High Steet	High Steet		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
High Steet	7.60	✓	1.30	✓	2.54	90.00		

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
West Lane	One lane	4.50										33	250

Pedestrian Crossings

Name	Crossing Type
Oakworth Road	None
West Lane	None
High Steet	None

Slope / Intercept / Capacity

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
1	B-A	723.637	0.119	0.301	0.190	0.430
1	B-C	898.655	0.128	0.324	-	-
1	C-B	649.251	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Oakworth Road	ONE HOUR	✓	979.00	100.000
West Lane	ONE HOUR	✓	431.00	100.000
High Steet	ONE HOUR	✓	723.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	335.000	644.000
	B	0.000	0.000	431.000
	C	485.000	238.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.34	0.66
	B	0.00	0.00	1.00
	C	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	10.000	10.000	10.000
	B	10.000	10.000	10.000
	C	10.000	10.000	10.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.76	26.50	3.35	D
C-A	-	-	-	-
C-B	0.66	29.10	2.04	D
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	324.48	320.84	0.00	709.27	0.457	0.91	10.103	B
C-A	365.13	365.13	0.00	-	-	-	-	-
C-B	179.18	176.59	0.00	476.75	0.376	0.65	13.085	B
A-B	252.21	252.21	0.00	-	-	-	-	-
A-C	484.84	484.84	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	387.46	385.31	0.00	672.51	0.576	1.45	13.682	B

C-A	436.01	436.01	0.00	-	-	-	-	-
C-B	213.96	212.58	0.00	443.27	0.483	0.99	17.059	C
A-B	301.16	301.16	0.00	-	-	-	-	-
A-C	578.94	578.94	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	474.54	467.55	0.00	621.69	0.763	3.19	24.627	C
C-A	533.99	533.99	0.00	-	-	-	-	-
C-B	262.04	258.14	0.00	396.98	0.660	1.97	27.753	D
A-B	368.84	368.84	0.00	-	-	-	-	-
A-C	709.06	709.06	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	474.54	473.91	0.00	621.69	0.763	3.35	26.500	D
C-A	533.99	533.99	0.00	-	-	-	-	-
C-B	262.04	261.74	0.00	396.98	0.660	2.04	29.103	D
A-B	368.84	368.84	0.00	-	-	-	-	-
A-C	709.06	709.06	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	387.46	394.67	0.00	672.51	0.576	1.55	14.599	B
C-A	436.01	436.01	0.00	-	-	-	-	-
C-B	213.96	217.88	0.00	443.27	0.483	1.06	17.858	C
A-B	301.16	301.16	0.00	-	-	-	-	-
A-C	578.94	578.94	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	324.48	326.88	0.00	709.27	0.457	0.95	10.421	B
C-A	365.13	365.13	0.00	-	-	-	-	-
C-B	179.18	180.72	0.00	476.75	0.376	0.68	13.447	B
A-B	252.21	252.21	0.00	-	-	-	-	-
A-C	484.84	484.84	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Oakworth Road_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:08:49

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	5.90	36.52	0.86	E
Stream C-A	-	-	-	-
Stream C-B	4.60	43.58	0.83	E
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:08:49

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	39.32	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Oakworth Road	Oakworth Road		Major
West Lane	West Lane		Minor
High Steet	High Steet		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
High Steet	7.60	✓	1.30	✓	2.54	90.00		

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
West Lane	One lane	4.50										33	250

Pedestrian Crossings

Name	Crossing Type
Oakworth Road	None
West Lane	None
High Steet	None

Slope / Intercept / Capacity

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
1	B-A	723.637	0.119	0.301	0.190	0.430
1	B-C	898.655	0.128	0.324	-	-
1	C-B	649.251	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Oakworth Road	ONE HOUR	✓	614.00	100.000
West Lane	ONE HOUR	✓	562.00	100.000
High Steet	ONE HOUR	✓	1110.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	190.000	424.000
	B	0.000	0.000	562.000
	C	742.000	368.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.00	0.00	1.00
	C	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	10.000	10.000	10.000
	B	10.000	10.000	10.000
	C	10.000	10.000	10.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.86	36.52	5.90	E
C-A	-	-	-	-
C-B	0.83	43.58	4.60	E
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	423.10	417.98	0.00	776.92	0.545	1.28	10.885	B
C-A	558.62	558.62	0.00	-	-	-	-	-
C-B	277.05	272.58	0.00	541.06	0.512	1.12	14.523	B
A-B	143.04	143.04	0.00	-	-	-	-	-
A-C	319.21	319.21	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	505.23	501.81	0.00	753.29	0.671	2.13	15.528	C

C-A	667.04	667.04	0.00	-	-	-	-	-
C-B	330.82	328.02	0.00	520.06	0.636	1.82	20.310	C
A-B	170.81	170.81	0.00	-	-	-	-	-
A-C	381.17	381.17	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	618.77	605.76	0.00	720.62	0.859	5.39	31.376	D
C-A	816.96	816.96	0.00	-	-	-	-	-
C-B	405.18	395.58	0.00	491.03	0.825	4.22	38.060	E
A-B	209.19	209.19	0.00	-	-	-	-	-
A-C	466.83	466.83	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	618.77	616.74	0.00	720.62	0.859	5.90	36.523	E
C-A	816.96	816.96	0.00	-	-	-	-	-
C-B	405.18	403.64	0.00	491.03	0.825	4.60	43.580	E
A-B	209.19	209.19	0.00	-	-	-	-	-
A-C	466.83	466.83	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	505.23	519.39	0.00	753.29	0.671	2.36	17.842	C
C-A	667.04	667.04	0.00	-	-	-	-	-
C-B	330.82	341.08	0.00	520.06	0.636	2.04	23.228	C
A-B	170.81	170.81	0.00	-	-	-	-	-
A-C	381.17	381.17	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	423.10	427.13	0.00	776.92	0.545	1.35	11.446	B
C-A	558.62	558.62	0.00	-	-	-	-	-
C-B	277.05	280.44	0.00	541.06	0.512	1.19	15.385	C
A-B	143.04	143.04	0.00	-	-	-	-	-
A-C	319.21	319.21	0.00	-	-	-	-	-

A4 A629 High Street / Bridge Street / Chapel Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: High Street-Oakworth Road_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:56:11

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
High Street West	7.13	24.43	0.89	C
High Steet East	1.60	6.63	0.62	A
Bridge Street	1.66	6.51	0.63	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 14:56:10

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	High Street West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	High Steet East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			13.38	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
High Street West	High Street West	
Chapel Lane	Chapel Lane	
High Steet East	High Steet East	
Bridge Street	Bridge Street	

Roundabout Geometry

Name	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)	Exit Only

High Street West	4.50	6.10	55.00	6.80	47.00	27.00	
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	✓
High Steet East	4.60	6.30	48.00	13.00	43.00	35.00	
Bridge Street	4.70	6.80	12.00	46.00	43.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
High Street West	None
Chapel Lane	None
High Steet East	None
Bridge Street	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
High Street West		(calculated)	(calculated)	0.587	1654.296
Chapel Lane		(calculated)	(calculated)	Exit-only	Exit-only
High Steet East		(calculated)	(calculated)	0.636	1775.373
Bridge Street		(calculated)	(calculated)	0.678	1882.619

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
High Street West	ONE HOUR	✓	1011.00	100.000
Chapel Lane	Exit-only	✓	Exit-only	Exit-only
High Steet East	ONE HOUR	✓	796.00	100.000
Bridge Street	ONE HOUR	✓	843.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
	1	138.000	7.000	502.000	364.000

From	**2**	Exit-only	Exit-only	Exit-only	Exit-only
	3	391.000	1.000	8.000	396.000
	4	231.000	61.000	543.000	8.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.14	0.01	0.50	0.36
	2	0.25	0.25	0.25	0.25
	3	0.49	0.00	0.01	0.50
	4	0.27	0.07	0.64	0.01

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
High Street West	0.89	24.43	7.13	C
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	0.62	6.63	1.60	A
Bridge Street	0.63	6.51	1.66	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	761.13	756.29	465.61	0.00	1380.89	0.551	1.21	5.721	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	599.27	596.72	381.53	0.00	1532.78	0.391	0.64	3.836	A
Bridge Street	634.65	632.07	403.09	0.00	1609.19	0.394	0.65	3.675	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	908.87	905.26	557.40	0.00	1326.99	0.685	2.11	8.463	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	715.59	714.45	456.68	0.00	1484.99	0.482	0.92	4.665	A
Bridge Street	757.84	756.66	482.59	0.00	1555.27	0.487	0.94	4.501	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1113.13	1095.41	681.67	0.00	1254.02	0.888	6.54	20.723	C
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	876.41	873.81	552.69	0.00	1423.94	0.615	1.57	6.512	A
Bridge Street	928.16	925.36	588.62	0.00	1483.35	0.626	1.64	6.420	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1113.13	1110.77	683.67	0.00	1252.84	0.888	7.13	24.428	C
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	876.41	876.31	560.35	0.00	1419.07	0.618	1.60	6.630	A
Bridge Street	928.16	928.08	591.98	0.00	1481.07	0.627	1.66	6.507	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	908.87	928.41	560.32	0.00	1325.28	0.686	2.25	9.490	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	715.59	718.18	468.21	0.00	1477.66	0.484	0.95	4.755	A
Bridge Street	757.84	760.63	487.62	0.00	1551.86	0.488	0.96	4.565	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	761.13	765.13	468.43	0.00	1379.24	0.552	1.25	5.899	A

Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	599.27	600.47	385.95	0.00	1529.96	0.392	0.65	3.877	A
Bridge Street	634.65	635.88	406.18	0.00	1607.10	0.395	0.66	3.710	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: High Street-Oakworth Road_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:56:58

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
High Street West	4.62	16.13	0.83	C
High Steet East	7.61	24.40	0.90	C
Bridge Street	3.99	15.16	0.81	C

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 14:56:57

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	High Street West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	High Steet East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			18.88	C

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
High Street West	High Street West	
Chapel Lane	Chapel Lane	
High Steet East	High Steet East	
Bridge Street	Bridge Street	

Roundabout Geometry

Name	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)	Exit Only

High Street West	4.50	6.10	55.00	6.80	47.00	27.00	
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	✓
High Steet East	4.60	6.30	48.00	13.00	43.00	35.00	
Bridge Street	4.70	6.80	12.00	46.00	43.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
High Street West	None
Chapel Lane	None
High Steet East	None
Bridge Street	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
High Street West		(calculated)	(calculated)	0.587	1654.296
Chapel Lane		(calculated)	(calculated)	Exit-only	Exit-only
High Steet East		(calculated)	(calculated)	0.636	1775.373
Bridge Street		(calculated)	(calculated)	0.678	1882.619

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
High Street West	ONE HOUR	✓	973.00	100.000
Chapel Lane	Exit-only	✓	Exit-only	Exit-only
High Steet East	ONE HOUR	✓	1082.00	100.000
Bridge Street	ONE HOUR	✓	891.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
	1	252.000	10.000	336.000	375.000

From	**2**	Exit-only	Exit-only	Exit-only	Exit-only
	3	621.000	3.000	19.000	439.000
	4	351.000	33.000	497.000	10.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.26	0.01	0.35	0.39
	2	0.25	0.25	0.25	0.25
	3	0.57	0.00	0.02	0.41
	4	0.39	0.04	0.56	0.01

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
High Street West	0.83	16.13	4.62	C
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	0.90	24.40	7.61	C
Bridge Street	0.81	15.16	3.99	C

Main Results for each time segment

Main results: (16:30-16:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	732.53	728.23	420.88	0.00	1407.16	0.521	1.07	5.271	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	814.59	809.70	476.76	0.00	1472.22	0.553	1.22	5.394	A
Bridge Street	670.79	667.28	669.79	0.00	1428.29	0.470	0.88	4.709	A

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	874.71	871.92	503.73	0.00	1358.51	0.644	1.77	7.355	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	972.70	968.98	570.83	0.00	1412.40	0.689	2.15	8.051	A
Bridge Street	800.99	798.65	801.66	0.00	1338.84	0.598	1.46	6.635	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1071.29	1060.81	612.83	0.00	1294.44	0.828	4.39	14.783	B
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1191.30	1172.38	694.49	0.00	1333.77	0.893	6.88	20.293	C
Bridge Street	981.01	971.84	971.45	0.00	1223.66	0.802	3.76	13.817	B

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1071.29	1070.37	618.16	0.00	1291.31	0.830	4.62	16.130	C
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1191.30	1188.39	700.74	0.00	1329.80	0.896	7.61	24.401	C
Bridge Street	981.01	980.09	983.44	0.00	1215.53	0.807	3.99	15.163	C

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	874.71	885.72	511.55	0.00	1353.91	0.646	1.87	7.863	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	972.70	993.91	579.85	0.00	1406.67	0.691	2.31	9.144	A
Bridge Street	800.99	810.72	820.05	0.00	1326.37	0.604	1.55	7.110	A

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	732.53	735.58	424.77	0.00	1404.87	0.521	1.10	5.402	A

Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	814.59	818.77	481.57	0.00	1469.16	0.554	1.26	5.569	A
Bridge Street	670.79	673.40	677.08	0.00	1423.34	0.471	0.90	4.816	A

A5 A629 North Street / Albert Street

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Albert Steet-North Street_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:57:47

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.70	14.18	0.42	B
Stream C-AB	0.11	9.57	0.10	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 14:57:47

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	13.32	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street (S)	North Street (S)		Major
Albert Street	Albert Street		Minor
North Steet (N)	North Steet (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Steet (N)	9.65		0.00	✓	2.20	90.00	✓	4.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Albert Street	One lane	3.10										25	19

Pedestrian Crossings

Name	Crossing Type
North Street (S)	None
Albert Street	None
North Steet (N)	None

Slope / Intercept / Capacity

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
1	B-A	499.749	0.077	0.194	0.122	0.276
1	B-C	641.946	0.083	0.209	-	-
1	C-B	626.083	0.204	0.204	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street (S)	ONE HOUR	✓	927.00	100.000
Albert Street	ONE HOUR	✓	164.00	100.000
North Steet (N)	ONE HOUR	✓	790.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	42.000	885.000
	B	0.000	0.000	164.000
	C	752.000	38.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.00	0.00	1.00
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.42	14.18	0.70	B
C-AB	0.10	9.57	0.11	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	123.47	122.17	0.00	499.93	0.247	0.32	9.498	A
C-AB	28.61	28.36	0.00	483.68	0.059	0.06	7.902	A
C-A	566.14	566.14	0.00	-	-	-	-	-
A-B	31.62	31.62	0.00	-	-	-	-	-
A-C	666.27	666.27	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	147.43	146.94	0.00	472.36	0.312	0.45	11.046	B

C-AB	34.16	34.09	0.00	456.05	0.075	0.08	8.531	A
C-A	676.03	676.03	0.00	-	-	-	-	-
A-B	37.76	37.76	0.00	-	-	-	-	-
A-C	795.60	795.60	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	180.57	179.58	0.00	434.25	0.416	0.69	14.079	B
C-AB	41.85	41.73	0.00	417.88	0.100	0.11	9.567	A
C-A	827.96	827.96	0.00	-	-	-	-	-
A-B	46.24	46.24	0.00	-	-	-	-	-
A-C	974.40	974.40	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	180.57	180.53	0.00	434.25	0.416	0.70	14.184	B
C-AB	41.85	41.84	0.00	417.88	0.100	0.11	9.573	A
C-A	827.96	827.96	0.00	-	-	-	-	-
A-B	46.24	46.24	0.00	-	-	-	-	-
A-C	974.40	974.40	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	147.43	148.40	0.00	472.36	0.312	0.46	11.146	B
C-AB	34.16	34.28	0.00	456.05	0.075	0.08	8.539	A
C-A	676.03	676.03	0.00	-	-	-	-	-
A-B	37.76	37.76	0.00	-	-	-	-	-
A-C	795.60	795.60	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	123.47	123.98	0.00	499.93	0.247	0.33	9.590	A
C-AB	28.61	28.68	0.00	483.68	0.059	0.06	7.913	A
C-A	566.14	566.14	0.00	-	-	-	-	-
A-B	31.62	31.62	0.00	-	-	-	-	-
A-C	666.27	666.27	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Albert Steet-North Street_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 14:58:21

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.60	13.00	0.38	B
Stream C-AB	0.43	12.13	0.30	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 14:58:20

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	12.63	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street (S)	North Street (S)		Major
Albert Street	Albert Street		Minor
North Steet (N)	North Steet (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Steet (N)	9.65		0.00	✓	2.20	90.00	✓	4.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Albert Street	One lane	3.10										25	19

Pedestrian Crossings

Name	Crossing Type
North Street (S)	None
Albert Street	None
North Steet (N)	None

Slope / Intercept / Capacity

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
1	B-A	499.749	0.077	0.194	0.122	0.276
1	B-C	641.946	0.083	0.209	-	-
1	C-B	626.083	0.204	0.204	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street (S)	ONE HOUR	✓	917.00	100.000
Albert Street	ONE HOUR	✓	152.00	100.000
North Steet (N)	ONE HOUR	✓	662.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	97.000	820.000
	B	0.000	0.000	152.000
	C	548.000	114.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.00	0.00	1.00
	C	0.83	0.17	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.38	13.00	0.60	B
C-AB	0.30	12.13	0.43	B
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	114.43	113.28	0.00	506.74	0.226	0.29	9.124	A
C-AB	85.90	85.05	0.00	485.50	0.177	0.21	8.971	A
C-A	412.49	412.49	0.00	-	-	-	-	-
A-B	73.03	73.03	0.00	-	-	-	-	-
A-C	617.34	617.34	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	136.64	136.23	0.00	480.49	0.284	0.39	10.444	B

C-AB	102.76	102.47	0.00	458.79	0.224	0.29	10.095	B
C-A	492.36	492.36	0.00	-	-	-	-	-
A-B	87.20	87.20	0.00	-	-	-	-	-
A-C	737.16	737.16	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	167.36	166.55	0.00	444.21	0.377	0.59	12.930	B
C-AB	126.95	126.40	0.00	423.74	0.300	0.42	12.086	B
C-A	601.92	601.92	0.00	-	-	-	-	-
A-B	106.80	106.80	0.00	-	-	-	-	-
A-C	902.84	902.84	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	167.36	167.33	0.00	444.21	0.377	0.60	12.999	B
C-AB	126.95	126.94	0.00	423.74	0.300	0.43	12.129	B
C-A	601.92	601.92	0.00	-	-	-	-	-
A-B	106.80	106.80	0.00	-	-	-	-	-
A-C	902.84	902.84	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	136.64	137.42	0.00	480.49	0.284	0.40	10.516	B
C-AB	102.76	103.29	0.00	458.79	0.224	0.29	10.141	B
C-A	492.36	492.36	0.00	-	-	-	-	-
A-B	87.20	87.20	0.00	-	-	-	-	-
A-C	737.16	737.16	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	114.43	114.87	0.00	506.74	0.226	0.30	9.196	A
C-AB	85.90	86.20	0.00	485.50	0.177	0.22	9.024	A
C-A	412.49	412.49	0.00	-	-	-	-	-
A-B	73.03	73.03	0.00	-	-	-	-	-
A-C	617.34	617.34	0.00	-	-	-	-	-

A6 A629 Skipton Road / Spring Gardens Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Spring Gardens Lane-North Street_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:01:46

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	2.33	65.92	0.72	F
Stream C-AB	0.40	4.28	0.15	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:01:46

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	37.45	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street	North Street		Major
Spring Gardens Lane	Spring Gardens Lane		Minor
North Street	North Street		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Street	7.70		0.00		2.20	250.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Spring Gardens Lane	One lane	4.69								✓		20	39

Pedestrian Crossings

Name	Crossing Type
North Street	None
Spring Gardens Lane	None
North Street	None

Slope / Intercept / Capacity

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
1	B-A	588.192	0.099	0.251	0.158	0.358
1	B-C	758.211	0.108	0.272	-	-
1	C-B	718.741	0.258	0.258	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street	ONE HOUR	✓	1127.00	100.000
Spring Gardens Lane	ONE HOUR	✓	124.00	100.000
North Street	ONE HOUR	✓	779.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	177.000	950.000
	B	99.000	0.000	25.000
	C	749.000	30.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.80	0.00	0.20
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.72	65.92	2.33	F
C-AB	0.15	4.28	0.40	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	93.35	91.80	0.00	328.84	0.284	0.39	15.092	C
C-AB	57.29	56.87	0.00	898.53	0.064	0.11	4.277	A
C-A	529.18	529.18	0.00	-	-	-	-	-
A-B	133.25	133.25	0.00	-	-	-	-	-
A-C	715.21	715.21	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS

B-AC	111.47	110.33	0.00	270.87	0.412	0.67	22.264	C
C-AB	84.52	84.24	0.00	943.06	0.090	0.18	4.194	A
C-A	615.78	615.78	0.00	-	-	-	-	-
A-B	159.12	159.12	0.00	-	-	-	-	-
A-C	854.03	854.03	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	136.53	130.70	0.00	188.71	0.723	2.13	57.296	F
C-AB	150.64	149.77	0.00	1025.42	0.147	0.39	4.115	A
C-A	707.06	707.06	0.00	-	-	-	-	-
A-B	194.88	194.88	0.00	-	-	-	-	-
A-C	1045.97	1045.97	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	136.53	135.71	0.00	188.54	0.724	2.33	65.921	F
C-AB	151.12	151.10	0.00	1025.94	0.147	0.40	4.123	A
C-A	706.57	706.57	0.00	-	-	-	-	-
A-B	194.88	194.88	0.00	-	-	-	-	-
A-C	1045.97	1045.97	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	111.47	117.88	0.00	270.65	0.412	0.73	24.449	C
C-AB	84.93	85.80	0.00	943.71	0.090	0.18	4.204	A
C-A	615.37	615.37	0.00	-	-	-	-	-
A-B	159.12	159.12	0.00	-	-	-	-	-
A-C	854.03	854.03	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	93.35	94.65	0.00	328.69	0.284	0.41	15.465	C
C-AB	57.66	57.94	0.00	898.86	0.064	0.11	4.283	A
C-A	528.82	528.82	0.00	-	-	-	-	-
A-B	133.25	133.25	0.00	-	-	-	-	-
A-C	715.21	715.21	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Spring Gardens Lane-North Street_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:02:12

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.50	22.93	0.34	C
Stream C-AB	0.11	4.34	0.07	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:02:12

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	15.71	C

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street	North Street		Major
Spring Gardens Lane	Spring Gardens Lane		Minor
North Street	North Street		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Street	7.70		0.00		2.20	250.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Spring Gardens Lane	One lane	4.69								✓		20	39

Pedestrian Crossings

Name	Crossing Type
North Street	None
Spring Gardens Lane	None
North Street	None

Slope / Intercept / Capacity

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
1	B-A	588.192	0.099	0.251	0.158	0.358
1	B-C	758.211	0.108	0.272	-	-
1	C-B	718.741	0.258	0.258	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street	ONE HOUR	✓	1027.00	100.000
Spring Gardens Lane	ONE HOUR	✓	73.00	100.000
North Street	ONE HOUR	✓	682.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	116.000	911.000
	B	54.000	0.000	19.000
	C	666.000	16.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.74	0.00	0.26
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.34	22.93	0.50	C
C-AB	0.07	4.34	0.11	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	54.96	54.26	0.00	364.28	0.151	0.18	11.587	B
C-AB	25.37	25.22	0.00	855.67	0.030	0.04	4.335	A
C-A	488.07	488.07	0.00	-	-	-	-	-
A-B	87.33	87.33	0.00	-	-	-	-	-
A-C	685.85	685.85	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS

B-AC	65.63	65.28	0.00	311.75	0.211	0.26	14.586	B
C-AB	39.37	39.27	0.00	908.64	0.043	0.06	4.141	A
C-A	573.74	573.74	0.00	-	-	-	-	-
A-B	104.28	104.28	0.00	-	-	-	-	-
A-C	818.97	818.97	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	80.37	79.44	0.00	237.26	0.339	0.49	22.676	C
C-AB	62.75	62.56	0.00	963.48	0.065	0.11	3.996	A
C-A	688.15	688.15	0.00	-	-	-	-	-
A-B	127.72	127.72	0.00	-	-	-	-	-
A-C	1003.03	1003.03	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	80.37	80.34	0.00	237.23	0.339	0.50	22.932	C
C-AB	62.83	62.83	0.00	963.58	0.065	0.11	3.999	A
C-A	688.06	688.06	0.00	-	-	-	-	-
A-B	127.72	127.72	0.00	-	-	-	-	-
A-C	1003.03	1003.03	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	65.63	66.55	0.00	311.69	0.211	0.27	14.740	B
C-AB	39.46	39.64	0.00	908.80	0.043	0.06	4.143	A
C-A	573.64	573.64	0.00	-	-	-	-	-
A-B	104.28	104.28	0.00	-	-	-	-	-
A-C	818.97	818.97	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	54.96	55.33	0.00	364.23	0.151	0.18	11.669	B
C-AB	25.48	25.58	0.00	855.77	0.030	0.04	4.336	A
C-A	487.97	487.97	0.00	-	-	-	-	-
A-B	87.33	87.33	0.00	-	-	-	-	-
A-C	685.85	685.85	0.00	-	-	-	-	-

A7 A629 Skipton Road / A629 Hardings Road / B6265 Skipton Road

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Hardings Road_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:03:51

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
ArmA B6265 Hard Ings Road	1.62	5.98	0.62	A
ArmB A629 Skipton Road (S)	3.08	8.84	0.76	A
ArmC B6265 Skipton Road (N)	0.86	5.05	0.46	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:03:51

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	ArmB A629 Skipton Road (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	ArmC B6265 Skipton Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			7.05	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
ArmA B6265 Hard Ings Road	ArmA B6265 Hard Ings Road	
ArmB A629 Skipton Road (S)	ArmB A629 Skipton Road (S)	
ArmC B6265 Skipton Road (N)	ArmC B6265 Skipton Road (N)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

ArmA B6265 Hard Ings Road	3.80	7.50	15.00	20.00	50.00	25.00	
ArmB A629 Skipton Road (S)	3.20	6.30	45.00	100.00	50.00	10.00	
ArmC B6265 Skipton Road (N)	3.25	6.20	40.00	100.00	50.00	25.00	

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

Pedestrian Crossings

Name	Crossing Type
ArmA B6265 Hard Ings Road	None
ArmB A629 Skipton Road (S)	None
ArmC B6265 Skipton Road (N)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
ArmA B6265 Hard Ings Road		(calculated)	(calculated)	0.634	1808.794
ArmB A629 Skipton Road (S)		(calculated)	(calculated)	0.683	1927.980
ArmC B6265 Skipton Road (N)		(calculated)	(calculated)	0.644	1804.376

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
ArmA B6265 Hard Ings Road	ONE HOUR	✓	894.00	100.000
ArmB A629 Skipton Road (S)	ONE HOUR	✓	1160.00	100.000
ArmC B6265 Skipton Road (N)	ONE HOUR	✓	558.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	0.000	569.000	325.000
	2	672.000	0.000	488.000
	3	239.000	319.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.00	0.64	0.36
	2	0.58	0.00	0.42
	3	0.43	0.57	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
ArmA B6265 Hard Ings Road	0.62	5.98	1.62	A
ArmB A629 Skipton Road (S)	0.76	8.84	3.08	A
ArmC B6265 Skipton Road (N)	0.46	5.05	0.86	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	673.05	670.33	239.26	0.00	1657.08	0.406	0.68	3.640	A
ArmB A629 Skipton Road (S)	873.31	869.41	243.69	0.00	1761.59	0.496	0.97	4.017	A
ArmC B6265 Skipton Road (N)	420.09	418.51	503.66	0.00	1479.77	0.284	0.39	3.388	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	803.69	802.54	286.43	0.00	1627.17	0.494	0.97	4.359	A

ArmB A629 Skipton Road (S)	1042.82	1040.72	291.75	0.00	1728.77	0.603	1.50	5.216	A
ArmC B6265 Skipton Road (N)	501.63	501.03	602.90	0.00	1415.81	0.354	0.55	3.933	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	984.31	981.75	350.53	0.00	1586.52	0.620	1.61	5.928	A
ArmB A629 Skipton Road (S)	1277.18	1271.10	356.90	0.00	1684.28	0.758	3.02	8.587	A
ArmC B6265 Skipton Road (N)	614.37	613.15	736.36	0.00	1329.80	0.462	0.85	5.015	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	984.31	984.26	351.21	0.00	1586.09	0.621	1.62	5.981	A
ArmB A629 Skipton Road (S)	1277.18	1276.95	357.81	0.00	1683.66	0.759	3.08	8.837	A
ArmC B6265 Skipton Road (N)	614.37	614.34	739.75	0.00	1327.62	0.463	0.86	5.046	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	803.69	806.23	287.47	0.00	1626.51	0.494	0.99	4.403	A
ArmB A629 Skipton Road (S)	1042.82	1048.96	293.09	0.00	1727.85	0.604	1.54	5.351	A
ArmC B6265 Skipton Road (N)	501.63	502.84	607.67	0.00	1412.74	0.355	0.55	3.963	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	673.05	674.24	240.51	0.00	1656.28	0.406	0.69	3.669	A
ArmB A629 Skipton Road (S)	873.31	875.51	245.11	0.00	1760.62	0.496	0.99	4.078	A
ArmC B6265 Skipton Road (N)	420.09	420.71	507.19	0.00	1477.49	0.284	0.40	3.410	A

ARCADY 8

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Filename: Skipton Road-Hardings Road_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:04:19

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
ArmA B6265 Hard Ings Road	0.96	4.34	0.49	A
ArmB A629 Skipton Road (S)	1.43	5.19	0.59	A
ArmC B6265 Skipton Road (N)	0.53	3.80	0.35	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:04:19

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	ArmB A629 Skipton Road (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	ArmC B6265 Skipton Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			4.59	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
ArmA B6265 Hard Ings Road	ArmA B6265 Hard Ings Road	
ArmB A629 Skipton Road (S)	ArmB A629 Skipton Road (S)	
ArmC B6265 Skipton Road (N)	ArmC B6265 Skipton Road (N)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

ArmA B6265 Hard Ings Road	3.80	7.50	15.00	20.00	50.00	25.00	
ArmB A629 Skipton Road (S)	3.20	6.30	45.00	100.00	50.00	10.00	
ArmC B6265 Skipton Road (N)	3.25	6.20	40.00	100.00	50.00	25.00	

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

Pedestrian Crossings

Name	Crossing Type
ArmA B6265 Hard Ings Road	None
ArmB A629 Skipton Road (S)	None
ArmC B6265 Skipton Road (N)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
ArmA B6265 Hard Ings Road		(calculated)	(calculated)	0.634	1808.794
ArmB A629 Skipton Road (S)		(calculated)	(calculated)	0.683	1927.980
ArmC B6265 Skipton Road (N)		(calculated)	(calculated)	0.644	1804.376

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
ArmA B6265 Hard Ings Road	ONE HOUR	✓	729.00	100.000
ArmB A629 Skipton Road (S)	ONE HOUR	✓	907.00	100.000
ArmC B6265 Skipton Road (N)	ONE HOUR	✓	455.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	0.000	418.000	311.000
	2	501.000	0.000	406.000
	3	202.000	251.000	2.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.00	0.57	0.43
	2	0.55	0.00	0.45
	3	0.44	0.55	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
ArmA B6265 Hard Ings Road	0.49	4.34	0.96	A
ArmB A629 Skipton Road (S)	0.59	5.19	1.43	A
ArmC B6265 Skipton Road (N)	0.35	3.80	0.53	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	548.83	546.91	189.85	0.00	1688.41	0.325	0.48	3.148	A
ArmB A629 Skipton Road (S)	682.84	680.33	234.82	0.00	1767.64	0.386	0.63	3.304	A
ArmC B6265 Skipton Road (N)	342.55	341.43	375.80	0.00	1562.18	0.219	0.28	2.946	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	655.36	654.69	227.24	0.00	1664.70	0.394	0.65	3.563	A

ArmB A629 Skipton Road (S)	815.37	814.36	281.10	0.00	1736.04	0.470	0.88	3.902	A
ArmC B6265 Skipton Road (N)	409.04	408.68	449.83	0.00	1514.47	0.270	0.37	3.255	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	802.64	801.39	278.21	0.00	1632.38	0.492	0.96	4.326	A
ArmB A629 Skipton Road (S)	998.63	996.47	344.08	0.00	1693.04	0.590	1.42	5.153	A
ArmC B6265 Skipton Road (N)	500.96	500.34	550.42	0.00	1449.64	0.346	0.52	3.790	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	802.64	802.63	278.55	0.00	1632.16	0.492	0.96	4.339	A
ArmB A629 Skipton Road (S)	998.63	998.59	344.61	0.00	1692.68	0.590	1.43	5.186	A
ArmC B6265 Skipton Road (N)	500.96	500.96	551.59	0.00	1448.88	0.346	0.53	3.796	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	655.36	656.59	227.79	0.00	1664.35	0.394	0.65	3.578	A
ArmB A629 Skipton Road (S)	815.37	817.52	281.91	0.00	1735.49	0.470	0.89	3.932	A
ArmC B6265 Skipton Road (N)	409.04	409.65	451.57	0.00	1513.34	0.270	0.37	3.265	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	548.83	549.51	190.67	0.00	1687.89	0.325	0.48	3.166	A
ArmB A629 Skipton Road (S)	682.84	683.88	235.93	0.00	1766.88	0.386	0.63	3.329	A
ArmC B6265 Skipton Road (N)	342.55	342.91	377.75	0.00	1560.92	0.219	0.28	2.955	A

A8 A629 / A629 Hardings Road / A650 Hardings Road

ARCADY 8

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Filename: A629-Hardings Road_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:02:48

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
A650 Hard Ings Road	2.58	5.62	0.72	A
B6265 Hard Ings Road	16.76	62.06	0.98	F
A629 Skipton Road	5.84	12.51	0.86	B

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 07:30 - 09:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:02:47

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A650 Hard Ings Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			21.18	C

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
A650 Hard Ings Road	A650 Hard Ings Road	
B6265 Hard Ings Road	B6265 Hard Ings Road	
A629 Skipton Road	A629 Skipton Road	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A650 Hard Ings Road	3.90	12.10	45.00	22.00	70.00	28.00	
B6265 Hard Ings Road	4.25	8.90	7.60	20.00	70.00	35.00	

A629 Skipton Road	7.20	8.30	12.00	21.00	70.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
A650 Hard Ings Road	None
B6265 Hard Ings Road	None
A629 Skipton Road	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A650 Hard Ings Road		(calculated)	(calculated)	0.679	2782.464
B6265 Hard Ings Road		(calculated)	(calculated)	0.507	1733.479
A629 Skipton Road		(calculated)	(calculated)	0.623	2444.986

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A650 Hard Ings Road	ONE HOUR	✓	1519.00	100.000
B6265 Hard Ings Road	ONE HOUR	✓	914.00	100.000
A629 Skipton Road	ONE HOUR	✓	1585.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	172.000	389.000	958.000
	2	442.000	0.000	472.000
	3	955.000	500.000	130.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	**2**	**3**

From	1	0.11	0.26	0.63
	2	0.48	0.00	0.52
	3	0.60	0.32	0.08

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
From		1	2	3
	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
From		1	2	3
	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A650 Hard Ings Road	0.72	5.62	2.58	A
B6265 Hard Ings Road	0.98	62.06	16.76	F
A629 Skipton Road	0.86	12.51	5.84	B

Main Results for each time segment

Main results: (07:30-07:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1143.58	1140.13	472.35	0.00	2461.98	0.465	0.86	2.717	A
B6265 Hard Ings Road	688.11	683.32	945.63	0.00	1254.33	0.549	1.20	6.255	A
A629 Skipton Road	1193.27	1188.37	459.55	0.00	2158.56	0.553	1.22	3.693	A

Main results: (07:45-08:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1365.55	1363.76	565.02	0.00	2399.10	0.569	1.31	3.471	A
B6265 Hard Ings Road	821.67	817.11	1131.11	0.00	1160.35	0.708	2.34	10.350	B

A629 Skipton Road	1424.88	1421.52	549.57	0.00	2102.45	0.678	2.07	5.260	A

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1672.45	1667.51	688.17	0.00	2315.54	0.722	2.55	5.514	A
B6265 Hard Ings Road	1006.33	965.06	1382.48	0.00	1032.98	0.974	12.66	39.612	E
A629 Skipton Road	1745.12	1731.35	655.51	0.00	2036.42	0.857	5.51	11.322	B

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1672.45	1672.30	693.12	0.00	2312.18	0.723	2.58	5.622	A
B6265 Hard Ings Road	1006.33	989.90	1387.07	0.00	1030.65	0.976	16.76	62.058	F
A629 Skipton Road	1745.12	1743.79	668.06	0.00	2028.60	0.860	5.84	12.510	B

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1365.55	1370.52	572.14	0.00	2394.27	0.570	1.34	3.532	A
B6265 Hard Ings Road	821.67	878.47	1137.61	0.00	1157.05	0.710	2.56	15.451	C
A629 Skipton Road	1424.88	1439.42	580.01	0.00	2083.48	0.684	2.20	5.712	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1143.58	1145.44	475.81	0.00	2459.63	0.465	0.87	2.744	A
B6265 Hard Ings Road	688.11	693.40	950.29	0.00	1251.97	0.550	1.24	6.506	A
A629 Skipton Road	1193.27	1197.08	465.02	0.00	2155.15	0.554	1.25	3.771	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: A629-Hardings Road_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:03:18

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
A650 Hard Ings Road	2.34	5.14	0.70	A
B6265 Hard Ings Road	2.69	12.35	0.73	B
A629 Skipton Road	4.36	10.09	0.82	B

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:03:18

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A650 Hard Ings Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			8.52	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
A650 Hard Ings Road	A650 Hard Ings Road	
B6265 Hard Ings Road	B6265 Hard Ings Road	
A629 Skipton Road	A629 Skipton Road	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A650 Hard Ings Road	3.90	12.10	45.00	22.00	70.00	28.00	
B6265 Hard Ings Road	4.25	8.90	7.60	20.00	70.00	35.00	

A629 Skipton Road	7.20	8.30	12.00	21.00	70.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
A650 Hard Ings Road	None
B6265 Hard Ings Road	None
A629 Skipton Road	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A650 Hard Ings Road		(calculated)	(calculated)	0.679	2782.464
B6265 Hard Ings Road		(calculated)	(calculated)	0.507	1733.479
A629 Skipton Road		(calculated)	(calculated)	0.623	2444.986

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A650 Hard Ings Road	ONE HOUR	✓	1501.00	100.000
B6265 Hard Ings Road	ONE HOUR	✓	729.00	100.000
A629 Skipton Road	ONE HOUR	✓	1451.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	300.000	553.000	648.000
	2	418.000	0.000	311.000
	3	876.000	375.000	200.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	**2**	**3**

From	1	0.20	0.37	0.43
	2	0.57	0.00	0.43
	3	0.60	0.26	0.14

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
From		1	2	3
	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
From		1	2	3
	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A650 Hard Ings Road	0.70	5.14	2.34	A
B6265 Hard Ings Road	0.73	12.35	2.69	B
A629 Skipton Road	0.82	10.09	4.36	B

Main Results for each time segment

Main results: (16:30-16:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1130.03	1126.73	431.20	0.00	2489.89	0.454	0.83	2.634	A
B6265 Hard Ings Road	548.83	545.92	861.60	0.00	1296.91	0.423	0.73	4.776	A
A629 Skipton Road	1092.39	1088.13	538.22	0.00	2109.52	0.518	1.07	3.510	A

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1349.37	1347.73	515.84	0.00	2432.46	0.555	1.24	3.315	A
B6265 Hard Ings Road	655.36	653.62	1030.62	0.00	1211.26	0.541	1.16	6.434	A

A629 Skipton Road	1304.42	1301.72	644.14	0.00	2043.50	0.638	1.74	4.836	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1652.63	1648.34	629.14	0.00	2355.59	0.702	2.31	5.060	A
B6265 Hard Ings Road	802.64	796.82	1259.89	0.00	1095.09	0.733	2.62	11.842	B
A629 Skipton Road	1597.58	1587.62	786.33	0.00	1954.88	0.817	4.23	9.554	A

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1652.63	1652.52	632.87	0.00	2353.06	0.702	2.34	5.137	A
B6265 Hard Ings Road	802.64	802.35	1263.83	0.00	1093.10	0.734	2.69	12.350	B
A629 Skipton Road	1597.58	1597.04	790.34	0.00	1952.38	0.818	4.36	10.090	B

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1349.37	1353.67	520.98	0.00	2428.98	0.556	1.26	3.360	A
B6265 Hard Ings Road	655.36	661.31	1036.16	0.00	1208.46	0.542	1.20	6.648	A
A629 Skipton Road	1304.42	1314.68	649.74	0.00	2040.02	0.639	1.80	5.031	A

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1130.03	1131.73	434.02	0.00	2487.98	0.454	0.84	2.657	A
B6265 Hard Ings Road	548.83	550.67	865.74	0.00	1294.81	0.424	0.74	4.851	A
A629 Skipton Road	1092.39	1095.25	541.94	0.00	2107.20	0.518	1.09	3.569	A

A9 B6265 Skipton Road / Green Head Road / Clock View Street

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Green Head Road_AM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:04:52

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-CD	0.17	16.59	0.15	C
Stream B-AD	2.25	38.47	0.71	E
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	0.00	0.00	0.00	A
Stream D-ABC	0.00	0.00	0.00	A
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	0.09	8.13	0.09	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:04:51

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton

Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	Crossroads	Two-way	A,B,C,D	31.52	D

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Skipton Road		Major
B	Green Head Road		Minor
C	Skipton Road		Major
D	Clock View Street		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

A	8.50		0.00	✓	2.20	160.00		
C	8.50		0.00	✓	2.20	100.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				9.00	5.50	3.00	3.00	3.00	✓	1.00	19	30
D	One lane	4.40										14	25

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	666.621	-	-	-	-	-	-	0.230	0.329	0.230	-	-	-
1	B-A	535.457	0.087	0.220	0.220	-	-	-	0.138	0.314	-	0.220	0.220	0.110
1	B-C	604.071	0.083	0.209	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	468.433	0.076	0.192	0.192	-	-	-	0.121	0.275	0.121	-	-	-
1	B-D, offside lane	535.457	0.087	0.220	0.220	-	-	-	0.138	0.314	0.138	-	-	-
1	C-B	631.874	0.218	0.218	0.312	-	-	-	-	-	-	-	-	-
1	D-A	729.334	-	-	-	-	-	-	0.252	-	0.100	-	-	-
1	D-B, nearside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-B, offside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-C	563.728	-	0.146	0.330	0.116	0.231	0.231	0.231	0.231	0.092	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)

A	ONE HOUR	✓	614.00	100.000
B	ONE HOUR	✓	235.00	100.000
C	ONE HOUR	✓	551.00	100.000
D	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	132.000	482.000	0.000
	B	201.000	0.000	34.000	0.000
	C	512.000	38.000	0.000	1.000
	D	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.21	0.79	0.00
	B	0.86	0.00	0.14	0.00
	C	0.93	0.07	0.00	0.00
	D	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	0.000	0.000
	B	0.000	0.000	0.000	0.000
	C	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.15	16.59	0.17	C
B-AD	0.71	38.47	2.25	E
A-B	-	-	-	-

A-C	-	-	-	-
A-D	0.00	0.00	0.00	A
D-ABC	0.00	0.00	0.00	A
C-D	-	-	-	-
C-A	-	-	-	-
C-B	0.09	8.13	0.09	A

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	25.60	25.35	0.00	443.15	0.058	0.06	8.612	A
B-AD	151.32	148.80	0.00	384.43	0.394	0.63	15.124	C
A-B	99.38	99.38	0.00	-	-	-	-	-
A-C	362.87	362.87	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	568.31	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	438.25	0.000	0.00	0.000	A
C-D	0.75	0.75	0.00	-	-	-	-	-
C-A	385.46	385.46	0.00	-	-	-	-	-
C-B	28.61	28.38	0.00	531.01	0.054	0.06	7.159	A

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	30.57	30.47	0.00	384.29	0.080	0.09	10.172	B
B-AD	180.69	179.24	0.00	354.74	0.509	1.00	20.336	C
A-B	118.67	118.67	0.00	-	-	-	-	-
A-C	433.31	433.31	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	549.15	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	406.25	0.000	0.00	0.000	A
C-D	0.90	0.90	0.00	-	-	-	-	-
C-A	460.28	460.28	0.00	-	-	-	-	-
C-B	34.16	34.10	0.00	511.44	0.067	0.07	7.541	A

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	37.43	37.13	0.00	263.81	0.142	0.16	15.860	C
B-AD	221.31	216.75	0.00	313.26	0.706	2.13	35.698	E
A-B	145.33	145.33	0.00	-	-	-	-	-
A-C	530.69	530.69	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	522.75	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	361.51	0.000	0.00	0.000	A
C-D	1.10	1.10	0.00	-	-	-	-	-
C-A	563.72	563.72	0.00	-	-	-	-	-
C-B	41.84	41.75	0.00	484.37	0.086	0.09	8.131	A

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	37.43	37.40	0.00	254.42	0.147	0.17	16.586	C
B-AD	221.31	220.82	0.00	313.19	0.707	2.25	38.465	E

A-B	145.33	145.33	0.00	-	-	-	-	-
A-C	530.69	530.69	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	522.72	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	361.29	0.000	0.00	0.000	A
C-D	1.10	1.10	0.00	-	-	-	-	-
C-A	563.72	563.72	0.00	-	-	-	-	-
C-B	41.84	41.84	0.00	484.37	0.086	0.09	8.134	A

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	30.57	30.89	0.00	376.00	0.081	0.09	10.440	B
B-AD	180.69	185.37	0.00	354.72	0.509	1.08	21.795	C
A-B	118.67	118.67	0.00	-	-	-	-	-
A-C	433.31	433.31	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	549.10	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	405.94	0.000	0.00	0.000	A
C-D	0.90	0.90	0.00	-	-	-	-	-
C-A	460.28	460.28	0.00	-	-	-	-	-
C-B	34.16	34.25	0.00	511.44	0.067	0.07	7.547	A

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	25.60	25.71	0.00	439.23	0.058	0.06	8.709	A
B-AD	151.32	152.99	0.00	384.38	0.394	0.67	15.669	C
A-B	99.38	99.38	0.00	-	-	-	-	-
A-C	362.87	362.87	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	568.22	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	438.00	0.000	0.00	0.000	A
C-D	0.75	0.75	0.00	-	-	-	-	-
C-A	385.46	385.46	0.00	-	-	-	-	-
C-B	28.61	28.67	0.00	531.01	0.054	0.06	7.166	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Skipton Road-Green Head Road_PM_DM_2012.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:05:35

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-CD	0.09	12.84	0.08	B
Stream B-AD	1.41	30.70	0.59	D
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	0.00	6.95	0.00	A
Stream D-ABC	0.00	0.00	0.00	A
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	0.13	8.96	0.12	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:05:34

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton

Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	Crossroads	Two-way	A,B,C,D	24.17	C

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Skipton Road		Major
B	Green Head Road		Minor
C	Skipton Road		Major
D	Clock View Street		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

A	8.50		0.00	✓	2.20	160.00		
C	8.50		0.00	✓	2.20	100.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				9.00	5.50	3.00	3.00	3.00	✓	1.00	19	30
D	One lane	4.40										14	25

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	666.621	-	-	-	-	-	-	0.230	0.329	0.230	-	-	-
1	B-A	536.576	0.087	0.220	0.220	-	-	-	0.139	0.315	-	0.220	0.220	0.110
1	B-C	600.463	0.082	0.207	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	465.635	0.076	0.191	0.191	-	-	-	0.120	0.273	0.120	-	-	-
1	B-D, offside lane	536.576	0.087	0.220	0.220	-	-	-	0.139	0.315	0.139	-	-	-
1	C-B	631.874	0.218	0.218	0.312	-	-	-	-	-	-	-	-	-
1	D-A	729.334	-	-	-	-	-	-	0.252	-	0.100	-	-	-
1	D-B, nearside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-B, offside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-C	563.728	-	0.146	0.330	0.116	0.231	0.231	0.231	0.231	0.092	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)

A	ONE HOUR	✓	732.00	100.000
B	ONE HOUR	✓	177.00	100.000
C	ONE HOUR	✓	561.00	100.000
D	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	163.000	568.000	1.000
	B	155.000	0.000	22.000	0.000
	C	512.000	49.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.22	0.78	0.00
	B	0.88	0.00	0.12	0.00
	C	0.91	0.09	0.00	0.00
	D	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	0.000	0.000
	B	0.000	0.000	0.000	0.000
	C	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.08	12.84	0.09	B
B-AD	0.59	30.70	1.41	D
A-B	-	-	-	-

A-C	-	-	-	-
A-D	0.00	6.95	0.00	A
D-ABC	0.00	0.00	0.00	A
C-D	-	-	-	-
C-A	-	-	-	-
C-B	0.12	8.96	0.13	A

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	16.56	16.41	0.00	448.11	0.037	0.04	8.336	A
B-AD	116.69	114.87	0.00	366.45	0.318	0.46	14.210	B
A-B	122.71	122.71	0.00	-	-	-	-	-
A-C	427.62	427.62	0.00	-	-	-	-	-
A-D	0.75	0.75	0.00	565.76	0.001	0.00	6.370	A
D-ABC	0.00	0.00	0.00	427.54	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	385.46	385.46	0.00	-	-	-	-	-
C-B	36.89	36.58	0.00	511.56	0.072	0.08	7.574	A

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	19.78	19.72	0.00	401.30	0.049	0.05	9.433	A
B-AD	139.34	138.39	0.00	333.24	0.418	0.70	18.381	C
A-B	146.53	146.53	0.00	-	-	-	-	-
A-C	510.62	510.62	0.00	-	-	-	-	-
A-D	0.90	0.90	0.00	546.08	0.002	0.00	6.602	A
D-ABC	0.00	0.00	0.00	393.23	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	460.28	460.28	0.00	-	-	-	-	-
C-B	44.05	43.97	0.00	488.21	0.090	0.10	8.101	A

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	24.22	24.09	0.00	309.08	0.078	0.08	12.627	B
B-AD	170.66	168.00	0.00	287.24	0.594	1.36	29.539	D
A-B	179.47	179.47	0.00	-	-	-	-	-
A-C	625.38	625.38	0.00	-	-	-	-	-
A-D	1.10	1.10	0.00	518.99	0.002	0.00	6.950	A
D-ABC	0.00	0.00	0.00	345.14	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	563.72	563.72	0.00	-	-	-	-	-
C-B	53.95	53.81	0.00	455.92	0.118	0.13	8.950	A

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	24.22	24.22	0.00	304.47	0.080	0.09	12.845	B
B-AD	170.66	170.47	0.00	287.20	0.594	1.41	30.700	D

A-B	179.47	179.47	0.00	-	-	-	-	-
A-C	625.38	625.38	0.00	-	-	-	-	-
A-D	1.10	1.10	0.00	518.94	0.002	0.00	6.951	A
D-ABC	0.00	0.00	0.00	345.00	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	563.72	563.72	0.00	-	-	-	-	-
C-B	53.95	53.95	0.00	455.92	0.118	0.13	8.955	A

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	19.78	19.91	0.00	397.28	0.050	0.05	9.544	A
B-AD	139.34	142.00	0.00	333.21	0.418	0.74	19.075	C
A-B	146.53	146.53	0.00	-	-	-	-	-
A-C	510.62	510.62	0.00	-	-	-	-	-
A-D	0.90	0.90	0.00	546.01	0.002	0.00	6.606	A
D-ABC	0.00	0.00	0.00	393.03	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	460.28	460.28	0.00	-	-	-	-	-
C-B	44.05	44.18	0.00	488.20	0.090	0.10	8.111	A

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	16.56	16.62	0.00	445.85	0.037	0.04	8.387	A
B-AD	116.69	117.75	0.00	366.37	0.319	0.48	14.540	B
A-B	122.71	122.71	0.00	-	-	-	-	-
A-C	427.62	427.62	0.00	-	-	-	-	-
A-D	0.75	0.75	0.00	565.63	0.001	0.00	6.374	A
D-ABC	0.00	0.00	0.00	427.33	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	385.46	385.46	0.00	-	-	-	-	-
C-B	36.89	36.98	0.00	511.56	0.072	0.08	7.586	A

Appendix B

Accident Data

Steeton Moor
PRO REGE ET LEGE
0333 809
0784 509
0604 507
0369 008
1044 507
0086 707
1104 99632
0166 609
10HA 0000279
0593 308
10HA 0004094
1008 107
10HA 0363279
1053 109
1202 46748
0433 509
0130 107
0837 407
10HA 0001275
0397 307
0498 708
0217 808
0020 409
0142 407
1103 87538
1200 04199
0373 709
1103 17191
0978 807
10HA 0002147
1102 24847
1105 90317
1116 207
10HA 0005129
0882 709
0630 408
0435 609
1101 10818
0318 508
1016 508
0961 309
0677 007
0470 007
0132 809
0363 507
0313 608
0677 309
0808 407
0123 607
0726 308
10HA 0001025
10HA 0484559
0329 107
1204 12040 309
1201 39241
0673 109
0350 707
0484
0887 808
0231 809
0386 808
0712 307
0323 108
10HA 0387474
0521 207
10HA 0003954
0486 807
1202 68122
10HA 0001568
1200 43972
1105 41819
0005 109
1103 89026
0554 907
0587 109
0026 808
0060 609
Vicinity of West Lane, Keighley, Bradford.
Injury road traffic collisions from 01.01.2007 to date.
Run 03.10.2012 N.T.S.
Fatal
Serious
Slight
P indicates pedestrian
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Appendix C

Indicative Masterplan Layout

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UKAS QUALITY MANAGEMENT 001

LEGEND

- dwelling, showing notional ridge line
- single garage, showing notional ridge line
- parking space
- existing vegetation, indicative only
- proposed vegetation, indicative only

0 5 10 15 20 M

Rev.	Drawn	Comments	Date

Preliminary

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Lathams

PROJECT

High Shann, Keighley

CLIENT

The Trustees of the Chatsworth Settlement

TITLE

Indicative Masterplan Layout for up to 135 units, showing the approximate location of buildings, routes and open spaces included within the development proposal

DRAWN	CHECKED	
MAW	JP	
NUMBER	REVISION	ORIGINAL SIZE
6557 (03) 001	D	A3
SCALE	DATE	
1/1250	04/10/2012	

Appendix D

Trip Generation

D1 TRICS Output

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	1 days
	EX	ESSEX	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	4 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	4 days
08	NORTH WEST		
	CH	CHESHIRE	3 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
10	WALES		
	CF	CARDIFF	2 days
	CP	CAERPHILLY	1 days
	WR	WREXHAM	1 days

Filtering Stage 2 selection:

Parameter:	Number of dwellings
Actual Range:	9 to 372 (units:)
Range Selected by User:	9 to 491 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 22/05/12

Selected survey days:

Monday	9 days
Tuesday	13 days
Wednesday	5 days
Thursday	12 days
Friday	7 days

Selected survey types:

Manual count	46 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	20
Edge of Town	21
Neighbourhood Centre (PPS6 Local Centre)	2

Selected Location Sub Categories:

Residential Zone	34
Out of Town	1
No Sub Category	11

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	46	100	0.073	46	100	0.265	46	100	0.338
08:00 - 09:00	46	100	0.156	46	100	0.406	46	100	0.562
09:00 - 10:00	46	100	0.178	46	100	0.212	46	100	0.390
10:00 - 11:00	46	100	0.151	46	100	0.190	46	100	0.341
11:00 - 12:00	46	100	0.186	46	100	0.180	46	100	0.366
12:00 - 13:00	46	100	0.202	46	100	0.180	46	100	0.382
13:00 - 14:00	46	100	0.185	46	100	0.178	46	100	0.363
14:00 - 15:00	46	100	0.191	46	100	0.196	46	100	0.387
15:00 - 16:00	46	100	0.282	46	100	0.212	46	100	0.494
16:00 - 17:00	46	100	0.326	46	100	0.199	46	100	0.525
17:00 - 18:00	46	100	0.380	46	100	0.227	46	100	0.607
18:00 - 19:00	46	100	0.269	46	100	0.216	46	100	0.485
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			2.579			2.661			5.240

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 22/05/12
Number of weekdays (Monday-Friday):	46
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	46	100	0.003	46	100	0.003	46	100	0.006
08:00 - 09:00	46	100	0.003	46	100	0.003	46	100	0.006
09:00 - 10:00	46	100	0.005	46	100	0.004	46	100	0.009
10:00 - 11:00	46	100	0.004	46	100	0.004	46	100	0.008
11:00 - 12:00	46	100	0.002	46	100	0.003	46	100	0.005
12:00 - 13:00	46	100	0.005	46	100	0.005	46	100	0.010
13:00 - 14:00	46	100	0.003	46	100	0.005	46	100	0.008
14:00 - 15:00	46	100	0.002	46	100	0.003	46	100	0.005
15:00 - 16:00	46	100	0.002	46	100	0.002	46	100	0.004
16:00 - 17:00	46	100	0.002	46	100	0.001	46	100	0.003
17:00 - 18:00	46	100	0.001	46	100	0.001	46	100	0.002
18:00 - 19:00	46	100	0.000	46	100	0.001	46	100	0.001
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.032			0.035			0.067

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 22/05/12
Number of weekdays (Monday-Friday):	46
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	46	100	0.000	46	100	0.000	46	100	0.000
08:00 - 09:00	46	100	0.001	46	100	0.001	46	100	0.002
09:00 - 10:00	46	100	0.000	46	100	0.000	46	100	0.000
10:00 - 11:00	46	100	0.000	46	100	0.000	46	100	0.000
11:00 - 12:00	46	100	0.000	46	100	0.000	46	100	0.000
12:00 - 13:00	46	100	0.000	46	100	0.000	46	100	0.000
13:00 - 14:00	46	100	0.000	46	100	0.000	46	100	0.000
14:00 - 15:00	46	100	0.000	46	100	0.000	46	100	0.000
15:00 - 16:00	46	100	0.001	46	100	0.000	46	100	0.001
16:00 - 17:00	46	100	0.000	46	100	0.000	46	100	0.000
17:00 - 18:00	46	100	0.000	46	100	0.000	46	100	0.000
18:00 - 19:00	46	100	0.000	46	100	0.000	46	100	0.000
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.002			0.001			0.003

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 22/05/12
Number of weekdays (Monday-Friday):	46
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	46	100	0.006	46	100	0.013	46	100	0.019
08:00 - 09:00	46	100	0.005	46	100	0.016	46	100	0.021
09:00 - 10:00	46	100	0.003	46	100	0.004	46	100	0.007
10:00 - 11:00	46	100	0.002	46	100	0.005	46	100	0.007
11:00 - 12:00	46	100	0.005	46	100	0.003	46	100	0.008
12:00 - 13:00	46	100	0.005	46	100	0.003	46	100	0.008
13:00 - 14:00	46	100	0.003	46	100	0.004	46	100	0.007
14:00 - 15:00	46	100	0.003	46	100	0.003	46	100	0.006
15:00 - 16:00	46	100	0.014	46	100	0.008	46	100	0.022
16:00 - 17:00	46	100	0.014	46	100	0.010	46	100	0.024
17:00 - 18:00	46	100	0.015	46	100	0.011	46	100	0.026
18:00 - 19:00	46	100	0.011	46	100	0.007	46	100	0.018
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.086			0.087			0.173

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 22/05/12
Number of weekdays (Monday-Friday):	46
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	46	100	0.079	46	100	0.313	46	100	0.392
08:00 - 09:00	46	100	0.193	46	100	0.604	46	100	0.797
09:00 - 10:00	46	100	0.209	46	100	0.271	46	100	0.480
10:00 - 11:00	46	100	0.188	46	100	0.247	46	100	0.435
11:00 - 12:00	46	100	0.229	46	100	0.222	46	100	0.451
12:00 - 13:00	46	100	0.250	46	100	0.231	46	100	0.481
13:00 - 14:00	46	100	0.234	46	100	0.226	46	100	0.460
14:00 - 15:00	46	100	0.246	46	100	0.248	46	100	0.494
15:00 - 16:00	46	100	0.435	46	100	0.284	46	100	0.719
16:00 - 17:00	46	100	0.447	46	100	0.283	46	100	0.730
17:00 - 18:00	46	100	0.501	46	100	0.305	46	100	0.806
18:00 - 19:00	46	100	0.357	46	100	0.312	46	100	0.669
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			3.368			3.546			6.914

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 22/05/12
Number of weekdays (Monday-Friday):	46
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	46	100	0.001	46	100	0.012	46	100	0.013
08:00 - 09:00	46	100	0.007	46	100	0.022	46	100	0.029
09:00 - 10:00	46	100	0.005	46	100	0.008	46	100	0.013
10:00 - 11:00	46	100	0.004	46	100	0.008	46	100	0.012
11:00 - 12:00	46	100	0.005	46	100	0.008	46	100	0.013
12:00 - 13:00	46	100	0.006	46	100	0.007	46	100	0.013
13:00 - 14:00	46	100	0.007	46	100	0.005	46	100	0.012
14:00 - 15:00	46	100	0.006	46	100	0.005	46	100	0.011
15:00 - 16:00	46	100	0.013	46	100	0.008	46	100	0.021
16:00 - 17:00	46	100	0.014	46	100	0.005	46	100	0.019
17:00 - 18:00	46	100	0.017	46	100	0.004	46	100	0.021
18:00 - 19:00	46	100	0.008	46	100	0.004	46	100	0.012
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.093			0.096			0.189

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 22/05/12
Number of weekdays (Monday-Friday):	46
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	46	100	0.111	46	100	0.390	46	100	0.501
08:00 - 09:00	46	100	0.248	46	100	0.822	46	100	1.070
09:00 - 10:00	46	100	0.262	46	100	0.343	46	100	0.605
10:00 - 11:00	46	100	0.229	46	100	0.303	46	100	0.532
11:00 - 12:00	46	100	0.283	46	100	0.276	46	100	0.559
12:00 - 13:00	46	100	0.304	46	100	0.275	46	100	0.579
13:00 - 14:00	46	100	0.286	46	100	0.274	46	100	0.560
14:00 - 15:00	46	100	0.296	46	100	0.302	46	100	0.598
15:00 - 16:00	46	100	0.614	46	100	0.365	46	100	0.979
16:00 - 17:00	46	100	0.558	46	100	0.349	46	100	0.907
17:00 - 18:00	46	100	0.605	46	100	0.367	46	100	0.972
18:00 - 19:00	46	100	0.433	46	100	0.371	46	100	0.804
19:00 - 20:00	1	29	0.069	1	29	0.034	1	29	0.103
20:00 - 21:00	1	29	0.034	1	29	0.000	1	29	0.034
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			4.332			4.471			8.803

Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 22/05/12
Number of weekdays (Monday-Friday):	46
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	1

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	1 days
	EX	ESSEX	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	4 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	4 days
08	NORTH WEST		
	CH	CHESHIRE	3 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
10	WALES		
	CF	CARDIFF	2 days
	CP	CAERPHILLY	1 days
	WR	WREXHAM	1 days

Filtering Stage 2 selection:

Parameter:	Number of dwellings
Actual Range:	9 to 372 (units:)
Range Selected by User:	9 to 491 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 22/05/12

Selected survey days:

Monday	9 days
Tuesday	13 days
Wednesday	5 days
Thursday	12 days
Friday	7 days

Selected survey types:

Manual count	46 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	20
Edge of Town	21
Neighbourhood Centre (PPS6 Local Centre)	2

Selected Location Sub Categories:

Residential Zone	34
Out of Town	1
No Sub Category	11

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Ranking Type: TOTALS Time Range: 08:00-09:00
15th Percentile = No. 39 (**)
85th Percentile = No. 8 (**)

Median Values
Arrivals: 0.254
Departures: 0.830
Totals: 1.083

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals) Arrivals	Departures	Totals	Travel Plan
1	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.744	1.317	2.061	
2	CB-03-A-03	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Thu	20/11/08	0.450	1.425	1.875	
3	CP-03-A-02	SEMI DETACHED, PENGAM	CAERPHILLY	41	Mon	05/09/05	0.390	1.317	1.707	
4	CH-03-A-05	DETACHED, CREWE	CHESHIRE	17	Tue	14/10/08	0.235	1.471	1.706	
5	WO-03-A-01	DETACHED, BROMSGROVE	WORCESTERSHIRE	10	Thu	23/06/05	0.600	1.100	1.700	
6	LE-03-A-01	DETACHED, MELTON MOWBRAY	LEICESTERSHIRE	11	Tue	03/05/05	0.364	1.273	1.637	
7	CA-03-A-04	DETACHED, PETERBOROUGH	CAMBRIDGESHIRE	9	Tue	18/10/11	0.000	1.556	1.556	
8 **	EX-03-A-01	SEMI-DET., STANFORD-LE-H	ESSEX	237	Tue	13/05/08	0.367	1.152	1.519	
9	SF-03-A-02	SEMI DET./TERRACED, IPSW	SUFFOLK	230	Thu	24/05/07	0.443	1.074	1.517	
10	WO-03-A-03	DETACHED, KIDDERMINSTER	WORCESTERSHIRE	138	Fri	05/05/06	0.384	1.058	1.442	
11	GM-03-A-10	DETACHED/SEMI, MANCHESTE	GREATER MANCHESTER	29	Wed	12/10/11	0.172	1.207	1.379	
12	CH-03-A-08	DETACHED, CHESTER	CHESHIRE	11	Tue	22/05/12	0.182	1.182	1.364	
13	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.405	0.905	1.310	
14	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.269	1.000	1.269	
15	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.380	0.886	1.266	
16	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.600	0.650	1.250	
17	SH-03-A-04	TERRACED, SHREWSBURY	SHROPSHIRE	108	Thu	11/06/09	0.407	0.843	1.250	
18	SF-03-A-03	MIXED HOUSES, BURY ST ED	SUFFOLK	101	Mon	15/05/06	0.218	1.010	1.228	
19	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.292	0.917	1.209	
20	LC-03-A-29	DETACHED/SEMI D., BLACKB	LANCASHIRE	185	Thu	10/06/04	0.162	1.016	1.178	
21	LN-03-A-01	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	150	Tue	15/05/07	0.247	0.920	1.167	
22	SH-03-A-03	DETATCHED, SHREWSBURY	SHROPSHIRE	10	Fri	26/06/09	0.300	0.800	1.100	
23	LN-03-A-02	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	186	Mon	14/05/07	0.301	0.790	1.091	
24	BD-03-A-01	SEMI DETACHED, LUTON	BEDFORDSHIRE	131	Thu	08/07/04	0.206	0.870	1.076	
25	WO-03-A-06	DET./TERRACED, BROMSGROV	WORCESTERSHIRE	232	Thu	30/06/05	0.129	0.927	1.056	
26	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.178	0.877	1.055	
27	WM-03-A-02	DETACHED/SEMI D., STRBRI	WEST MIDLANDS	12	Wed	26/04/06	0.333	0.667	1.000	
28	CF-03-A-03	DETACHED, CARDIFF	CARDIFF	29	Mon	08/10/07	0.069	0.931	1.000	
29	CA-03-A-02	MIXED HOUSES, PETERBOROU	CAMBRIDGESHIRE	363	Thu	13/05/04	0.273	0.702	0.975	
30	TV-03-A-01	MIXED HOUSES/FLATS, HART	TEES VALLEY	225	Thu	14/04/05	0.196	0.764	0.960	
31	ST-03-A-05	TERRACED/DETACHED, STOKE	STAFFORDSHIRE	14	Wed	26/11/08	0.214	0.714	0.928	
32	WR-03-A-01	SEMI DETACHED, WREXHAM	WREXHAM	82	Mon	05/07/04	0.195	0.732	0.927	

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
33	CF-03-A-02	MIXED HOUSES, CARDIFF	CARDIFF	196	Fri	05/10/07	0.158	0.765	0.923	
34	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.117	0.805	0.922	
35	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.207	0.695	0.902	
36	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.211	0.676	0.887	
37	NT-03-A-03	SEMI DETACHED,KIRKBY-IN-	NOTTINGHAMSHIRE	166	Wed	28/06/06	0.169	0.687	0.856	
38	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.192	0.616	0.808	
39 **	ES-03-A-02	PRIVATE HOUSING,PEACEHAV	EAST SUSSEX	37	Fri	18/11/11	0.108	0.622	0.730	Yes
40	LC-03-A-22	BUNGALOWS, BLACKPOOL	LANCASHIRE	98	Tue	18/10/05	0.255	0.469	0.724	
41	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.081	0.636	0.717	
42	NY-03-A-06	BUNGALOWS/SEMI DET., BBD	NORTH YORKSHIRE	115	Fri	14/10/11	0.157	0.539	0.696	
43	CH-03-A-06	SEMI-DET./BUNGALOWS,CREW	CHESHIRE	129	Tue	14/10/08	0.225	0.457	0.682	
44	CW-03-A-01	TERRACED, PENZANCE	CORNWALL	13	Thu	30/06/05	0.385	0.231	0.616	
45	MS-03-A-01	TERRACED, RUNCORN	MERSEYSIDE	372	Thu	06/10/05	0.110	0.478	0.588	
46	NY-03-A-03	PRIVATE HOUSING, BOROUGH	NORTH YORKSHIRE	14	Mon	15/09/08	0.143	0.357	0.500	

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	1 days
	EX	ESSEX	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	2 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	4 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	4 days
08	NORTH WEST		
	CH	CHESHIRE	3 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
10	WALES		
	CF	CARDIFF	2 days
	CP	CAERPHILLY	1 days
	WR	WREXHAM	1 days

Filtering Stage 2 selection:

Parameter:	Number of dwellings
Actual Range:	9 to 372 (units:)
Range Selected by User:	9 to 491 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 22/05/12

Selected survey days:

Monday	9 days
Tuesday	13 days
Wednesday	5 days
Thursday	12 days
Friday	7 days

Selected survey types:

Manual count	46 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	20
Edge of Town	21
Neighbourhood Centre (PPS6 Local Centre)	2

Selected Location Sub Categories:

Residential Zone	34
Out of Town	1
No Sub Category	11

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Ranking Type: TOTALS Time Range: 17:00-18:00
15th Percentile = No. 39 (**)
85th Percentile = No. 8 (**)

Median Values
Arrivals: 0.561
Departures: 0.336
Totals: 0.897

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals) Arrivals	Departures	Totals	Travel Plan
1	LC-03-A-29	DETACHED/SEMI D., BLACKB	LANCASHIRE	185	Thu	10/06/04	0.897	0.589	1.486	
2	CF-03-A-03	DETACHED, CARDIFF	CARDIFF	29	Mon	08/10/07	0.931	0.448	1.379	
3	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.798	0.560	1.358	
4	LN-03-A-02	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	186	Mon	14/05/07	0.769	0.548	1.317	
5	SH-03-A-03	DETATCHED, SHREWSBURY	SHROPSHIRE	10	Fri	26/06/09	0.700	0.600	1.300	
6	SF-03-A-02	SEMI DET./TERRACED, IPSW	SUFFOLK	230	Thu	24/05/07	0.778	0.517	1.295	
7	SH-03-A-04	TERRACED, SHREWSBURY	SHROPSHIRE	108	Thu	11/06/09	0.833	0.426	1.259	
8 **	CA-03-A-04	DETACHED, PETERBOROUGH	CAMBRIDGESHIRE	9	Tue	18/10/11	1.000	0.222	1.222	
9	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.822	0.397	1.219	
10	WO-03-A-03	DETACHED, KIDDERMINSTER	WORCESTERSHIRE	138	Fri	05/05/06	0.812	0.399	1.211	
11	WO-03-A-01	DETACHED, BROMSGROVE	WORCESTERSHIRE	10	Thu	23/06/05	0.600	0.600	1.200	
12	EX-03-A-01	SEMI-DET., STANFORD-LE-H	ESSEX	237	Tue	13/05/08	0.675	0.481	1.156	
13	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.759	0.392	1.151	
14	NT-03-A-03	SEMI DETACHED,KIRKBY-IN-	NOTTINGHAMSHIRE	166	Wed	28/06/06	0.645	0.464	1.109	
15	CH-03-A-08	DETACHED, CHESTER	CHESHIRE	11	Tue	22/05/12	0.818	0.273	1.091	
16	SF-03-A-03	MIXED HOUSES, BURY ST ED	SUFFOLK	101	Mon	15/05/06	0.713	0.337	1.050	
17	CB-03-A-03	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Thu	20/11/08	0.675	0.375	1.050	
18	CF-03-A-02	MIXED HOUSES, CARDIFF	CARDIFF	196	Fri	05/10/07	0.638	0.367	1.005	
19	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.646	0.354	1.000	
20	CW-03-A-01	TERRACED, PENZANCE	CORNWALL	13	Thu	30/06/05	0.615	0.308	0.923	
21	WM-03-A-02	DETACHED/SEMI D., STRBRI	WEST MIDLANDS	12	Wed	26/04/06	0.167	0.750	0.917	
22	TV-03-A-01	MIXED HOUSES/FLATS, HART	TEES VALLEY	225	Thu	14/04/05	0.556	0.351	0.907	
23	CP-03-A-02	SEMI DETACHED, PENGAM	CAERPHILLY	41	Mon	05/09/05	0.707	0.195	0.902	
24	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.415	0.476	0.891	
25	WO-03-A-06	DET./TERRACED, BROMSGROV	WORCESTERSHIRE	232	Thu	30/06/05	0.629	0.259	0.888	
26	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.662	0.225	0.887	
27	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.658	0.219	0.877	
28	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.494	0.377	0.871	
29	LN-03-A-01	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	150	Tue	15/05/07	0.587	0.280	0.867	
30	WR-03-A-01	SEMI DETACHED, WREXHAM	WREXHAM	82	Mon	05/07/04	0.598	0.268	0.866	
31	BD-03-A-01	SEMI DETACHED, LUTON	BEDFORDSHIRE	131	Thu	08/07/04	0.573	0.290	0.863	
32	NY-03-A-03	PRIVATE HOUSING, BOROUGH	NORTH YORKSHIRE	14	Mon	15/09/08	0.643	0.214	0.857	

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
33	ST-03-A-05	TERRACED/DETACHED, STOKE	STAFFORDSHIRE	14	Wed	26/11/08	0.571	0.286	0.857	
34	CH-03-A-05	DETACHED, CREWE	CHESHIRE	17	Tue	14/10/08	0.471	0.353	0.824	
35	LE-03-A-01	DETACHED, MELTON MOWBRAY	LEICESTERSHIRE	11	Tue	03/05/05	0.455	0.364	0.819	
36	LC-03-A-22	BUNGALOWS, BLACKPOOL	LANCASHIRE	98	Tue	18/10/05	0.510	0.306	0.816	
37	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.561	0.244	0.805	
38	CA-03-A-02	MIXED HOUSES, PETERBOROU	CAMBRIDGESHIRE	363	Thu	13/05/04	0.444	0.358	0.802	
39 **	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.505	0.293	0.798	
40	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.404	0.365	0.769	
41	GM-03-A-10	DETACHED/SEMI, MANCHESTE	GREATER MANCHESTER	29	Wed	12/10/11	0.621	0.138	0.759	
42	ES-03-A-02	PRIVATE HOUSING,PEACEHAV	EAST SUSSEX	37	Fri	18/11/11	0.703	0.027	0.730	Yes
43	NY-03-A-06	BUNGALOWS/SEMI DET., BBD	NORTH YORKSHIRE	115	Fri	14/10/11	0.417	0.270	0.687	
44	MS-03-A-01	TERRACED, RUNCORN	MERSEYSIDE	372	Thu	06/10/05	0.395	0.277	0.672	
45	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.250	0.350	0.600	
46	CH-03-A-06	SEMI-DET./BUNGALOWS,CREW	CHESHIRE	129	Tue	14/10/08	0.178	0.225	0.403	

D2 Trip Generation Calculations

High Shann
Mode Share

National Statistics 2001

Lower Super Output Area - Bradford 007D

Mode		Journeys	Mode Share	Adjusted Mode Share
Private Modes	Car Driver	246	56%	51%
	Car Pax	36	8%	8%
	Mcycle	3	1%	1%
	Taxi	9	2%	2%
	Subtotal	294	67%	62%
Sustainable Modes	Walk	86	20%	23%
	Cycle	5	1%	1%
	Bus	20	5%	5%
	Rail	33	8%	9%
	Subtotal	144	33%	38%
Total		438	100%	100%

High Shann
Trip Generation by Mode

Source: 85th percentile person trip rates derived from TRICS

	ARRIVALS		DEPARTURES		TOTALS	
Time Range	Ave. DWELLS	Trip Rate	Ave. DWELLS	Trip Rate	Ave. DWELLS	Trip Rate
08:00-09:00	237	0.367	237	1.152	237	1.519
17:00-18:00	9	1.00	9	0.222	9	1.222
Daily Trip Rates:		0.971		1.519		2.49

Calculation

Total number of dwellings **135**

		Estimated Car Driver Mode Share		Estimated Car Passenger Mode Share		Estimated Motorcycle Mode Share		Estimated Taxi Mode Share		Estimated On Foot Mode Share		Estimated Cycle Mode Share		Estimated Bus Mode Share		Estimated Rail Mode Share	
		51%		**8%**		**1%**		**2%**		**23%**		**1%**		**5%**		**9%**	
Person Trips		**Car Trips**		**Car Passenger**		**Motorcycle**		**Taxi**		**Walking**		**Cycle**		**Bus**		**Rail**	
Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	156	25	80	4	13	0	1	1	3	11	35	1	2	3	8	4	13
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	30	69	15	11	2	1	0	3	1	31	7	2	0	7	2	12	3
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix E

Trip Distribution

High Shann

Trip Distribution

Based on 2001 Census data for 'Keighley West' ward

Origin Ward	Destination Ward	Destination District	Census Journey to Work Data											Trip Distribution -									
			Private Modes					Sustainable Modes					Total	Route Assumptions					Car Driver Trips per Route				
			Car Driver	Car Pax	Mcycle	Taxi	Subtotal	Foot	Bicycle	Bus	Train	Subtotal		A	B	C	D	Count	A	B	C	D	Total
Keighley West		HIGHLAND	6	0	0	0	6	0	0	0	0	0	6	1	2	3	7	4	1.5	1.5	1.5	1.5	6
Keighley West	Aire Valley with	Craven	18	9	0	0	27	0	0	3	3	6	33	1	2	3	7	4	4.5	4.5	4.5	4.5	18
Keighley West	Aireborough	Leeds	36	3	0	3	42	0	0	0	0	0	42	2	3	7		3	12.0	12.0	12.0		36
Keighley West	Altham	Hyndburn	3	0	0	0	3	0	0	0	0	0	3	1	2	3		3	1.0	1.0	1.0		3
Keighley West	Ardwick	Manchester	3	0	0	0	3	0	0	0	0	0	3	2	3	4		3	1.0	1.0	1.0		3
Keighley West	Armley	Leeds	12	0	0	0	12	3	0	0	0	3	15	2	3	7		3	4.0	4.0	4.0		12
Keighley West	Baildon	Bradford	15	0	0	0	15	0	0	3	6	9	24	2	3			2	7.5	7.5			15
Keighley West	Barden Fell	Craven	6	3	0	0	9	0	0	0	0	0	9	1	2	3		3	2.0	2.0	2.0		6
Keighley West	Barton	North Lincolnshire	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Barwick and Kippax	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Bathwick	Bath and North East	3	0	0	0	3	0	0	0	0	0	3	4				1	3.0				3
Keighley West	Batley East	Kirklees	3	0	0	0	3	0	0	0	3	3	6	4				1	3.0				3
Keighley West	Batley West	Kirklees	6	0	0	0	6	0	0	0	0	0	6	4				1	6.0				6
Keighley West	Beeston	Leeds	6	0	0	0	6	0	0	0	0	0	6	2	3	7		3	2.0	2.0	2.0		6
Keighley West	Bewsey and	Warrington	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Bingley	Bradford	117	27	0	0	144	6	0	24	18	48	192	2	3	7		3	39.0	39.0	39.0		117
Keighley West	Bingley Rural	Bradford	63	24	0	0	87	0	0	24	0	24	111	2	3	7		3	21.0	21.0	21.0		63
Keighley West	Birchwood	Warrington	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Bishop`s Castle with	South Shropshire	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Bolton	Bradford	9	0	0	0	9	3	0	0	3	6	15	2	3			2	4.5	4.5			9
Keighley West	Boulsworth	Pendle	3	0	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Bowling	Bradford	75	9	0	3	87	6	0	18	6	30	117	2	3	7		3	25.0	25.0	25.0		75
Keighley West	Bradford Moor	Bradford	12	0	0	0	12	3	0	12	0	15	27	2	3			2	6.0	6.0			12
Keighley West	Bradley	Pendle	3	0	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Bramley	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Brighouse	Calderdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Brimrod and Deeplish	Rochdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Burngreave	Sheffield	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Calder Valley	Calderdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Castleford Whitwood	Wakefield	3	0	0	0	3	0	0	0	0	0	3	1	2	7		3	1.0	1.0	1.0		3
Keighley West	Central	Darlington	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Central	Manchester	0	0	0	0	0	0	0	0	3	3	3	4				1	0.0				0
Keighley West	Central	Redditch	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Chadderton Central	Oldham	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Charlton Park	Cheltenham	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Cherryfield	Knowsley	3	0	0	0	3	0	0	0	0	0	3	1	2	3	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Church	Hyndburn	3	0	0	0	3	0	0	0	0	0	3	1	2	3		3	1.0	1.0	1.0		3
Keighley West	City and Holbeck	Leeds	27	3	0	0	30	0	0	3	83	86	116	2	3	7		3	9.0	9.0	9.0		27
Keighley West	Clayton	Bradford	9	3	0	0	12	0	0	9	0	9	21	4	7			2	4.5	4.5			9
Keighley West	Cleckheaton	Kirklees	9	0	0	0	9	0	0	0	0	0	9	4	7			2	4.5	4.5			9
Keighley West	Coalville	North West	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Coates	Pendle	9	0	0	0	9	0	0	3	0	3	12	1	2	5	6	4	2.3	2.3	2.3	2.3	9
Keighley West	Cowling	Craven	3	0	0	0	3	0	0	0	0	0	3	1	2	3		3	1.0	1.0	1.0		3
Keighley West	Craven	Bradford	285	54	0	0	339	6	3	85	9	103	442	2	3	7		3	95.0	95.0	95.0		285
Keighley West	Dalton	Kirklees	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Daneshouse with	Burnley	6	0	0	0	6	0	0	0	0	0	6	1	2	3	5	4	1.5	1.5	1.5	1.5	6
Keighley West	Deighton	Kirklees	21	3	0	0	24	0	0	0	0	0	24	4	7			2	10.5	10.5			21
Keighley West	Dewsbury East	Kirklees	0	3	0	0	3	0	0	0	0	0	3	4	7			2	0.0	0.0			0
Keighley West	Dewsbury West	Kirklees	0	6	0	0	6	0	0	0	0	0	6	4	7			2	0.0	0.0			0
Keighley West	Dodleston	Chester	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Earby	Pendle	3	0	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Eccleshill	Bradford	3	3	0	0	6	0	0	0	0	0	6	2	3			2	1.5	1.5			3
Keighley West	Elland	Calderdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Elvet	Durham	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Embsay-with-Eastby	Craven	3	0	0	0	3	0	0	0	0	0	3	1	2	3		3	1.0	1.0	1.0		3
Keighley West	Everton	Liverpool	6	0	0	0	6	0	0	0	0	0	6	1	2	3	5	4	1.5	1.5	1.5	1.5	6
Keighley West	Farringdon Without	City of London	0	0	0	0	0	0	0	3	0	3	3	2	3	7		3	0.0	0.0	0.0		0
Keighley West	Fishergate	York	3	0	0	0	3	0	0	0	0	0	3	2	3			2	1.5	1.5			3
Keighley West	Flint Coleshill	Flintshire	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Foulridge	Pendle	0	0	0	0	0	0	0	3	0	3	3	1	2	5	6	4	0.0	0.0	0.0	0.0	0
Keighley West	Gargrave and	Craven	12	0	0	0	12	0	0	0	0	0	12	1	2	3		3	4.0	4.0	4.0		12
Keighley West	Gisburn Rimington	Ribble Valley	0	3	0	0	3	0	0	0	0	0	3	1	2	3		3	0.0	0.0	0.0		0
Keighley West	Glusburn	Craven	66	12	0	0	78	0	0	18	0	18	96	1	2	7		3	22.0	22.0	22.0		66
Keighley West	Great Horton	Bradford	30	0	0	0	30	0	0	0	0	0	30	2	3	7		3	10.0	10.0	10.0		30
Keighley West	Halton	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Hanworth Park	Hounslow	0	3	0	0	3	0	0	0	0	0	3	2	3	7		3	0.0	0.0	0.0		0
Keighley West	Harehills	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Harlow Moor	Harrogate	3	0	0	0	3	0	0	0	0	0	3	2	3			2	1.5	1.5			3
Keighley West	Headingley	Leeds	12	0	0	0	12	3	0	0	0	3	15	2	3	7		3	4.0	4.0	4.0		12
Keighley West	Heaton	Bradford	12	0	0	0	12	0	0	0	0	0	12	2	3			2	6.0	6.0			12
Keighley West	Hipperholme and	Calderdale	6	0	0	0	6	0	0	0	0	0	6	4	7			2	3.0	3.0			6
Keighley West	Horbury	Wakefield	0	0	3	0	3	0	0	0	0	0	3	1	2	7		3	0.0	0.0	0.0		0
Keighley West	Horsfield	Pendle	3	0	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Horsforth	Leeds	9	0	0	0	9	0	0	0	0	0	9	2	3	7		3	3.0	3.0	3.0		9
Keighley West	Howdenshire	East Riding of	3	0	0	0	3	0	0	0	0	0	3	3	4	7		3	1.0	1.0	1.0		3
Keighley West	Hunslet	Leeds	6	0	0	0	6	0	0	0	0	0	6	2	3	7		3	2.0	2.0	2.0		6
Keighley West	Idle	Bradford	12	0	0	0	12	3	0	0	0	3	15	2	3			2	6.0	6.0			12
Keighley West	Ilkley	Bradford	33	9	0	0	42	3	0	3	3	9	51	1	2	3	7	4	8.3	8.3	8.3	8.3	33
Keighley West	Illingworth	Calderdale	9	0	0	0	9	0	0	0	0	0	9	4	7			2	4.5	4.5			9
Keighley West	Keighley North	Bradford	402	87	9	18	516	160	9	73	0	242	758	2	3	7		3	134.0	134.0	134.0		402
Keighley West	Keighley South	Bradford	569	145	6	12	732	363	15	180	0	558	1290	4	7			2	284.5	284.5			569
Keighley West	Keighley West	Bradford	496	84	6	18	604	253	6	57	9	325	929	2	3	4	7	4	124.0	124.0	124.0	124.0	496
Keighley West	Kirkstall	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Knowsley Park	Knowsley	3	0	0	0	3	0	0	0	0	0	3	1	2	3	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Linford North	Milton Keynes	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Little Horton	Bradford	36	9	0	0	45	6	0	0	6	12	57	2	3	4	7	4	9.0	9.0	9.0	9.0	36
Keighley West	Marshalswick South	St Albans	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Micklegate	York	0	0	0	0	0	0	0	0	3	3	3	2	3			2	0.0	0.0			0
Keighley West	Moorside	Newcastle upon Tyne	0	0	0	0	0	0	0	0	3	3	3	2	3	7		3	0.0	0.0	0.0		0
Keighley West	Moortown	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Morley North	Leeds	9	0	0	0	9	3	0	0	0	3	12	2	3	7		3	3.0	3.0	3.0		9
Keighley West	Newsome	Kirklees	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Nidd Valley	Harrogate	3	0	0	0	3	0	0	0	0	0	3	2	3			2	1.5	1.5			3
Keighley West	Northowram and	Calderdale	3	3	0	0	6	0	0	0	0	0	6	4	7			2	1.5	1.5			3
Keighley West	Odsal	Bradford	15	6	0	0	21	3	0	3	3	9	30	2	3	4	7	4	3.8	3.8	3.8	3.8	15
Keighley West	Ossett	Wakefield	3	0	0	0	3	0	0	0	0	0	3	1	2	4	7	4	0.8	0.8	0.8	0.8	3
Keighley West	Otley and Wharfedale	Leeds	24	3	0	0	27	0	0	0	0	0	27	2	3	7		3	8.0	8.0	8.0		24
Keighley West	Ovenden	Calderdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Paddock	Kirklees	6	0	0	0	6	0	0	0	0	0	6	4	7			2	3.0	3.0			6
Keighley West	Parklands	Northampton	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Pudsey North	Leeds	24	0	3	0	27	0	0	3	0	3	30	2	3	7		3	8.0	8.0	8.0		24
Keighley West	Queensbury	Bradford	18	0	0	0	18	0	0	0	0	0	18	4	7			2	9.0	9.0			18
Keighley West	Queensgate	Burnley	9	0	0	0	9	0	0	0	0	0	9	1	2	3	5	4	2.3	2.3	2.3	2.3	9
Keighley West	Richmond Hill	Leeds	9	0	0	0	9	0	0	0	0	0	9	2	3	7		3	3.0	3.0	3.0		9
Keighley West	Rombalds	Bradford	48	9	0	0	57	0	0	6	3	9	66	1	2	3	7	4	12.0	12.0	12.0	12.0	48
Keighley West	Rosegrove with	Burnley	3	3	0	0	6	0	0	0	0	0	6	1	2	3	5	4	0.8	0.8	0.8	0.8	3
Keighley West	Rothwell	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Roundhay	Leeds	6	0	0	0	6	0	0	0	0	0	6	2	3	7		3	2.0	2.0	2.0		6
Keighley West	Samlesbury and	South Ribble	3	0	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Sandyford	Newcastle upon Tyne	3	0	0	0	3	0	0	0	0	0	3	2	3			2	1.5	1.5			3
Keighley West	Settle and	Craven	6	0	0	0	6	0	0	0	0	0	6	1	2	3		3	2.0	2.0	2.0		6
Keighley West	Shipley East	Bradford	87	9	3	0	99	6	9	0	21	36	135	2	3	7		3	29.0	29.0	29.0		87
Keighley West	Shipley West	Bradford	30	3	0	0	33	3	0	9	6	18	51	2	3	7		3	10.0	10.0	10.0		30
Keighley West	Skelton Rawcliffe and	York	3	0	0	0	3	0	0	0	0	0	3	2	3			2	1.5	1.5			3
Keighley West	Skipton East	Craven	6	3	0	0	9	0	0	0	3	3	12	1	2	3		3	2.0	2.0	2.0		6
Keighley West	Skipton North	Craven	43	3	0	0	46	0	0	18	9	27	73	1	2	3	7	4	10.8	10.8	10.8	10.8	43
Keighley West	Skipton South	Craven	6	0	0	0	6	0	0	0	0	0	6	1	2	3		3	2.0	2.0	2.0		6

High Shann

Trip Distribution

Based on 2001 Census data for 'Keighley West' ward

Origin Ward	Destination Ward	Destination District	Census Journey to Work Data											Trip Distribution -									
			Private Modes					Sustainable Modes					Total	Route Assumptions					Car Driver Trips per Route				
			Car Driver	Car Pax	Mcycle	Taxi	Subtotal	Foot	Bicycle	Bus	Train	Subtotal		A	B	C	D	Count	A	B	C	D	Total
Keighley West	Skipton West	Craven	39	9	3	0	51	3	0	3	6	12	63	1	2	3	7	4	9.8	9.8	9.8	9.8	39
Keighley West	Skircoat	Calderdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	South Wortley	Sheffield	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Sparkbrook	Birmingham	0	0	0	0	0	3	0	0	0	3	3	1	2	3	4	4	0.0	0.0	0.0	0.0	0
Keighley West	St James`s	Westminster	0	0	0	0	0	0	0	0	3	3	3	2	3	7		3	0.0	0.0	0.0		0
Keighley West	St. John`s	Calderdale	6	0	0	0	6	0	0	0	0	0	6	4	7			2	3.0	3.0			6
Keighley West	St. Peter`s	Wolverhampton	0	0	0	3	3	0	0	0	0	0	3	4	7			2	0.0	0.0			0
Keighley West	Stockland Green	Birmingham	3	0	0	0	3	0	0	0	0	0	3	1	2	3	4	4	0.8	0.8	0.8	0.8	3
Keighley West	Sutton-in-Craven	Craven	15	6	0	0	21	0	0	0	0	0	21	5	6			2	7.5	7.5			15
Keighley West	Tadcaster West	Selby	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Thornton	Bradford	9	3	3	0	15	0	0	6	0	6	21	4	7			2	4.5	4.5			9
Keighley West	Todmorden	Calderdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Toller	Bradford	39	3	0	0	42	0	0	3	0	3	45	2	3	7		3	13.0	13.0	13.0		39
Keighley West	Tong	Bradford	18	6	0	0	24	0	0	6	0	6	30	2	3	4		3	6.0	6.0	6.0		18
Keighley West	Town	Calderdale	12	3	0	0	15	0	0	3	3	6	21	4	7			2	6.0	6.0			12
Keighley West	Undercliffe	Bradford	52	9	0	0	61	0	0	12	24	36	97	2	3	7		3	17.3	17.3	17.3		52
Keighley West	University	Bradford	147	27	0	0	174	12	3	24	65	104	278	2	3	7		3	49.0	49.0	49.0		147
Keighley West	University	Leeds	30	0	0	0	30	0	3	0	12	15	45	2	3	7		3	10.0	10.0	10.0		30
Keighley West	Upper Wharfedale	Craven	3	0	0	0	3	0	0	0	0	0	3	1	2	3		3	1.0	1.0	1.0		3
Keighley West	Vivary Bridge	Pendle	0	3	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.0	0.0	0.0	0.0	0
Keighley West	Warley	Calderdale	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Washburn	Harrogate	6	0	0	0	6	0	0	0	0	0	6	2	3			2	3.0	3.0			6
Keighley West	Waterside	Pendle	3	0	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Weetwood	Leeds	9	0	0	0	9	0	0	0	0	0	9	2	3	7		3	3.0	3.0	3.0		9
Keighley West	West Craven	Craven	6	0	0	0	6	0	0	0	0	0	6	1	2	3		3	2.0	2.0	2.0		6
Keighley West	Western	Swindon	3	0	0	0	3	0	0	0	0	0	3	4	7			2	1.5	1.5			3
Keighley West	Weston-super-Mare	North Somerset	0	3	0	0	3	0	0	0	0	0	3	4	7			2	0.0	0.0			0
Keighley West	Whinmoor	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Wibsey	Bradford	0	3	0	0	3	0	0	9	0	9	12	2	3	7		3	0.0	0.0	0.0		0
Keighley West	Winsford Gravel	Vale Royal	3	0	0	0	3	0	0	0	0	0	3	1	2	5	6	4	0.8	0.8	0.8	0.8	3
Keighley West	Worth Valley	Bradford	96	18	0	6	120	15	0	37	3	55	175	4	7			2	48.0	48.0			96
Keighley West	Wortley	Leeds	3	0	0	0	3	0	0	0	0	0	3	2	3	7		3	1.0	1.0	1.0		3
Keighley West	Wyke	Bradford	21	3	0	0	24	3	0	0	0	3	27	4	7			2	10.5	10.5			21
Total			**3515**	**640**	**36**	**63**	**4254**	**869**	**48**	**663**	**319**	**1899**		**109**	**182**	**172**	**63**		**1271**	**1259**	**784**	**200**	**3515**

	Route	Number of Trips				
		A	B	C	D	Total
1	Hollins Lane	105	0	0	0	**105**
2	Green Head Lane	720	105	0	0	**825**
3	Spring Gardens	1	720	74	0	**795**
4	West Lane	438	1	145	1	**584**
5	Braithwaite Road	8	0	8	6	**21**
6	Black Hill Lane	0	8	0	9	**17**
7	Highfield Lane	0	426	558	184	**1168**
		1271	**1259**	**784**	**200**	**3515**

	Route	% of Trips				
		A	B	C	D	Total
1	Hollins Lane	3%	0%	0%	0%	**3%**
2	Green Head Lane	20%	3%	0%	0%	**23%**
3	Spring Gardens	0%	20%	2%	0%	**23%**
4	West Lane	12%	0%	4%	0%	**17%**
5	Braithwaite Road	0%	0%	0%	0%	**1%**
6	Black Hill Lane	0%	0%	0%	0%	**0.5%**
7	Highfield Lane	0%	12%	16%	5%	**33%**
		36%	**36%**	**22%**	**6%**	**100%**

Appendix F

Future Assessment Year
Highway Capacity Assessment

F1 Shann Lane / Spring Gardens Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Shann Lane-Spring Gardens Lane_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:32:50

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.27	10.20	0.21	B
Stream C-AB	0.03	5.28	0.02	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:32:50

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	9.45	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Spring Gardens Lane (East)	Spring Gardens Lane (East)		Major
Shann Lane	Shann Lane		Minor
Spring Gardens Lane (West)	Spring Gardens Lane (West)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Spring Gardens Lane (West)	6.40		0.00		2.20	55.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	2.90								✓		0	30

Pedestrian Crossings

Name	Crossing Type
Spring Gardens Lane (East)	None
Shann Lane	None
Spring Gardens Lane (West)	None

Slope / Intercept / Capacity

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
1	B-A	487.387	0.087	0.220	0.139	0.315
1	B-C	636.387	0.096	0.242	-	-
1	C-B	605.814	0.231	0.231	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Spring Gardens Lane (East)	ONE HOUR	✓	187.00	100.000
Shann Lane	ONE HOUR	✓	87.00	100.000
Spring Gardens Lane (West)	ONE HOUR	✓	245.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	7.000	180.000
	B	59.000	0.000	28.000
	C	234.000	11.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.04	0.96
	B	0.68	0.00	0.32
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.21	10.20	0.27	B
C-AB	0.02	5.28	0.03	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	65.50	64.86	0.00	473.76	0.138	0.16	8.791	A
C-AB	10.98	10.91	0.00	692.36	0.016	0.02	5.282	A
C-A	173.47	173.47	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	135.51	135.51	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	78.21	78.04	0.00	463.27	0.169	0.20	9.341	A

C-AB	13.84	13.82	0.00	709.41	0.020	0.02	5.175	A
C-A	206.41	206.41	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	161.82	161.82	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.79	95.52	0.00	448.71	0.213	0.27	10.193	B
C-AB	18.21	18.18	0.00	732.94	0.025	0.03	5.036	A
C-A	251.54	251.54	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	198.18	198.18	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.79	95.78	0.00	448.70	0.213	0.27	10.200	B
C-AB	18.22	18.21	0.00	732.95	0.025	0.03	5.038	A
C-A	251.53	251.53	0.00	-	-	-	-	-
A-B	7.71	7.71	0.00	-	-	-	-	-
A-C	198.18	198.18	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	78.21	78.47	0.00	463.26	0.169	0.21	9.361	A
C-AB	13.85	13.88	0.00	709.42	0.020	0.02	5.175	A
C-A	206.40	206.40	0.00	-	-	-	-	-
A-B	6.29	6.29	0.00	-	-	-	-	-
A-C	161.82	161.82	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	65.50	65.67	0.00	473.74	0.138	0.16	8.827	A
C-AB	11.00	11.02	0.00	692.38	0.016	0.02	5.283	A
C-A	173.45	173.45	0.00	-	-	-	-	-
A-B	5.27	5.27	0.00	-	-	-	-	-
A-C	135.51	135.51	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Shann Lane-Spring Gardens Lane_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:33:14

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.44	11.39	0.31	B
Stream C-AB	0.06	5.35	0.04	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:33:13

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	10.38	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Spring Gardens Lane (East)	Spring Gardens Lane (East)		Major
Shann Lane	Shann Lane		Minor
Spring Gardens Lane (West)	Spring Gardens Lane (West)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Spring Gardens Lane (West)	6.40		0.00		2.20	55.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	2.90								✓		0	30

Pedestrian Crossings

Name	Crossing Type
Spring Gardens Lane (East)	None
Shann Lane	None
Spring Gardens Lane (West)	None

Slope / Intercept / Capacity

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
1	B-A	487.387	0.087	0.220	0.139	0.315
1	B-C	636.387	0.096	0.242	-	-
1	C-B	605.814	0.231	0.231	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Spring Gardens Lane (East)	ONE HOUR	✓	194.00	100.000
Shann Lane	ONE HOUR	✓	128.00	100.000
Spring Gardens Lane (West)	ONE HOUR	✓	252.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	14.000	180.000
	B	78.000	0.000	50.000
	C	234.000	18.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.07	0.93
	B	0.61	0.00	0.39
	C	0.93	0.07	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.31	11.39	0.44	B
C-AB	0.04	5.35	0.06	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	96.37	95.38	0.00	482.52	0.200	0.25	9.276	A
C-AB	17.98	17.84	0.00	691.26	0.026	0.03	5.346	A
C-A	171.74	171.74	0.00	-	-	-	-	-
A-B	10.54	10.54	0.00	-	-	-	-	-
A-C	135.51	135.51	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	115.07	114.78	0.00	471.87	0.244	0.32	10.073	B

C-AB	22.67	22.63	0.00	708.13	0.032	0.04	5.251	A
C-A	203.88	203.88	0.00	-	-	-	-	-
A-B	12.59	12.59	0.00	-	-	-	-	-
A-C	161.82	161.82	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.93	140.45	0.00	457.08	0.308	0.44	11.352	B
C-AB	29.83	29.77	0.00	731.43	0.041	0.06	5.130	A
C-A	247.62	247.62	0.00	-	-	-	-	-
A-B	15.41	15.41	0.00	-	-	-	-	-
A-C	198.18	198.18	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.93	140.92	0.00	457.07	0.308	0.44	11.386	B
C-AB	29.85	29.85	0.00	731.45	0.041	0.06	5.131	A
C-A	247.61	247.61	0.00	-	-	-	-	-
A-B	15.41	15.41	0.00	-	-	-	-	-
A-C	198.18	198.18	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	115.07	115.53	0.00	471.85	0.244	0.33	10.117	B
C-AB	22.69	22.75	0.00	708.16	0.032	0.04	5.252	A
C-A	203.85	203.85	0.00	-	-	-	-	-
A-B	12.59	12.59	0.00	-	-	-	-	-
A-C	161.82	161.82	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	96.37	96.66	0.00	482.49	0.200	0.25	9.337	A
C-AB	18.02	18.05	0.00	691.29	0.026	0.03	5.347	A
C-A	171.70	171.70	0.00	-	-	-	-	-
A-B	10.54	10.54	0.00	-	-	-	-	-
A-C	135.51	135.51	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Shann Lane-Spring Gardens Lane_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:33:42

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.14	10.00	0.13	B
Stream C-AB	0.08	5.55	0.05	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:33:41

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	8.23	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Spring Gardens Lane (East)	Spring Gardens Lane (East)		Major
Shann Lane	Shann Lane		Minor
Spring Gardens Lane (West)	Spring Gardens Lane (West)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Spring Gardens Lane (West)	6.40		0.00		2.20	55.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	2.90								✓		0	30

Pedestrian Crossings

Name	Crossing Type
Spring Gardens Lane (East)	None
Shann Lane	None
Spring Gardens Lane (West)	None

Slope / Intercept / Capacity

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
1	B-A	487.387	0.087	0.220	0.139	0.315
1	B-C	636.387	0.096	0.242	-	-
1	C-B	605.814	0.231	0.231	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Spring Gardens Lane (East)	ONE HOUR	✓	364.00	100.000
Shann Lane	ONE HOUR	✓	47.00	100.000
Spring Gardens Lane (West)	ONE HOUR	✓	267.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	69.000	295.000
	B	31.000	0.000	16.000
	C	246.000	21.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.66	0.00	0.34
	C	0.92	0.08	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.13	10.00	0.14	B
C-AB	0.05	5.55	0.08	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	35.38	35.05	0.00	449.41	0.079	0.08	8.681	A
C-AB	21.55	21.38	0.00	670.75	0.032	0.04	5.542	A
C-A	179.46	179.46	0.00	-	-	-	-	-
A-B	51.95	51.95	0.00	-	-	-	-	-
A-C	222.09	222.09	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	42.25	42.16	0.00	433.60	0.097	0.11	9.195	A

C-AB	27.41	27.35	0.00	684.29	0.040	0.06	5.482	A
C-A	212.62	212.62	0.00	-	-	-	-	-
A-B	62.03	62.03	0.00	-	-	-	-	-
A-C	265.20	265.20	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	51.75	51.61	0.00	411.64	0.126	0.14	9.994	A
C-AB	36.53	36.43	0.00	703.29	0.052	0.08	5.400	A
C-A	257.44	257.44	0.00	-	-	-	-	-
A-B	75.97	75.97	0.00	-	-	-	-	-
A-C	324.80	324.80	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	51.75	51.74	0.00	411.62	0.126	0.14	10.003	B
C-AB	36.55	36.55	0.00	703.32	0.052	0.08	5.402	A
C-A	257.42	257.42	0.00	-	-	-	-	-
A-B	75.97	75.97	0.00	-	-	-	-	-
A-C	324.80	324.80	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	42.25	42.39	0.00	433.57	0.097	0.11	9.205	A
C-AB	27.44	27.53	0.00	684.34	0.040	0.06	5.484	A
C-A	212.59	212.59	0.00	-	-	-	-	-
A-B	62.03	62.03	0.00	-	-	-	-	-
A-C	265.20	265.20	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	35.38	35.48	0.00	449.36	0.079	0.09	8.699	A
C-AB	21.61	21.67	0.00	670.80	0.032	0.04	5.548	A
C-A	179.40	179.40	0.00	-	-	-	-	-
A-B	51.95	51.95	0.00	-	-	-	-	-
A-C	222.09	222.09	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Shann Lane-Spring Gardens Lane_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:34:08

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.17	10.37	0.15	B
Stream C-AB	0.20	5.76	0.10	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:34:08

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	7.93	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Spring Gardens Lane (East)	Spring Gardens Lane (East)		Major
Shann Lane	Shann Lane		Minor
Spring Gardens Lane (West)	Spring Gardens Lane (West)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Spring Gardens Lane (West)	6.40		0.00		2.20	55.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	2.90								✓		0	30

Pedestrian Crossings

Name	Crossing Type
Spring Gardens Lane (East)	None
Shann Lane	None
Spring Gardens Lane (West)	None

Slope / Intercept / Capacity

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
1	B-A	487.387	0.087	0.220	0.139	0.315
1	B-C	636.387	0.096	0.242	-	-
1	C-B	605.814	0.231	0.231	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Spring Gardens Lane (East)	ONE HOUR	✓	380.00	100.000
Shann Lane	ONE HOUR	✓	55.00	100.000
Spring Gardens Lane (West)	ONE HOUR	✓	287.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	85.000	295.000
	B	35.000	0.000	20.000
	C	246.000	41.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.22	0.78
	B	0.64	0.00	0.36
	C	0.86	0.14	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	10.37	0.17	B
C-AB	0.10	5.76	0.20	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	41.41	41.00	0.00	448.02	0.092	0.10	8.835	A
C-AB	42.14	41.73	0.00	668.26	0.063	0.10	5.744	A
C-A	173.93	173.93	0.00	-	-	-	-	-
A-B	63.99	63.99	0.00	-	-	-	-	-
A-C	222.09	222.09	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	49.44	49.33	0.00	431.21	0.115	0.13	9.424	A

C-AB	53.64	53.51	0.00	681.42	0.079	0.13	5.735	A
C-A	204.37	204.37	0.00	-	-	-	-	-
A-B	76.41	76.41	0.00	-	-	-	-	-
A-C	265.20	265.20	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	60.56	60.38	0.00	407.86	0.148	0.17	10.354	B
C-AB	73.32	73.09	0.00	703.09	0.104	0.19	5.719	A
C-A	242.67	242.67	0.00	-	-	-	-	-
A-B	93.59	93.59	0.00	-	-	-	-	-
A-C	324.80	324.80	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	60.56	60.55	0.00	407.82	0.148	0.17	10.366	B
C-AB	73.39	73.39	0.00	703.18	0.104	0.20	5.723	A
C-A	242.60	242.60	0.00	-	-	-	-	-
A-B	93.59	93.59	0.00	-	-	-	-	-
A-C	324.80	324.80	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	49.44	49.61	0.00	431.14	0.115	0.13	9.439	A
C-AB	53.72	53.95	0.00	681.55	0.079	0.14	5.741	A
C-A	204.28	204.28	0.00	-	-	-	-	-
A-B	76.41	76.41	0.00	-	-	-	-	-
A-C	265.20	265.20	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	41.41	41.52	0.00	447.91	0.092	0.10	8.862	A
C-AB	42.28	42.42	0.00	668.38	0.063	0.10	5.756	A
C-A	173.79	173.79	0.00	-	-	-	-	-
A-B	63.99	63.99	0.00	-	-	-	-	-
A-C	222.09	222.09	0.00	-	-	-	-	-

F2 Shann Lane / West Lane / Black Hill Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Shann Lane_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:43:39

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.11	8.07	0.10	A
Stream C-AB	0.11	5.64	0.08	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:43:38

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	6.84	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Black Hill Lane	Black Hill Lane		Major
Shann Lane	Shann Lane		Minor
West Lane	West Lane		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
West Lane	7.10		0.00		2.20	110.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	3.40								✓		34	40

Pedestrian Crossings

Name	Crossing Type
Black Hill Lane	None
Shann Lane	None
West Lane	None

Slope / Intercept / Capacity

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
1	B-A	528.637	0.092	0.232	0.146	0.331
1	B-C	675.113	0.099	0.249	-	-
1	C-B	637.665	0.235	0.235	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Black Hill Lane	ONE HOUR	✓	158.00	100.000
Shann Lane	ONE HOUR	✓	46.00	100.000
West Lane	ONE HOUR	✓	170.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	5.000	153.000
	B	32.000	0.000	14.000
	C	131.000	39.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.03	0.97
	B	0.70	0.00	0.30
	C	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	8.07	0.11	A
C-AB	0.08	5.64	0.11	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	34.63	34.35	0.00	518.69	0.067	0.07	7.430	A
C-AB	34.27	34.01	0.00	674.72	0.051	0.07	5.618	A
C-A	93.71	93.71	0.00	-	-	-	-	-
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	115.19	115.19	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	41.35	41.29	0.00	509.35	0.081	0.09	7.690	A

C-AB	42.22	42.15	0.00	682.20	0.062	0.08	5.626	A
C-A	110.61	110.61	0.00	-	-	-	-	-
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	137.54	137.54	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	50.65	50.55	0.00	496.48	0.102	0.11	8.071	A
C-AB	53.90	53.79	0.00	692.63	0.078	0.11	5.635	A
C-A	133.27	133.27	0.00	-	-	-	-	-
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	168.46	168.46	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	50.65	50.64	0.00	496.45	0.102	0.11	8.074	A
C-AB	53.92	53.92	0.00	692.65	0.078	0.11	5.637	A
C-A	133.25	133.25	0.00	-	-	-	-	-
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	168.46	168.46	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	41.35	41.45	0.00	509.31	0.081	0.09	7.697	A
C-AB	42.24	42.35	0.00	682.23	0.062	0.09	5.627	A
C-A	110.58	110.58	0.00	-	-	-	-	-
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	137.54	137.54	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	34.63	34.70	0.00	518.60	0.067	0.07	7.439	A
C-AB	34.32	34.39	0.00	674.76	0.051	0.07	5.625	A
C-A	93.66	93.66	0.00	-	-	-	-	-
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	115.19	115.19	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Shann Lane_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:44:22

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.12	8.11	0.10	A
Stream C-AB	0.11	5.64	0.08	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:44:22

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	6.87	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Black Hill Lane	Black Hill Lane		Major
Shann Lane	Shann Lane		Minor
West Lane	West Lane		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
West Lane	7.10		0.00		2.20	110.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	3.40								✓		34	40

Pedestrian Crossings

Name	Crossing Type
Black Hill Lane	None
Shann Lane	None
West Lane	None

Slope / Intercept / Capacity

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
1	B-A	528.637	0.092	0.232	0.146	0.331
1	B-C	675.113	0.099	0.249	-	-
1	C-B	637.665	0.235	0.235	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Black Hill Lane	ONE HOUR	✓	158.00	100.000
Shann Lane	ONE HOUR	✓	47.00	100.000
West Lane	ONE HOUR	✓	170.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	5.000	153.000
	B	33.000	0.000	14.000
	C	131.000	39.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.03	0.97
	B	0.70	0.00	0.30
	C	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	8.11	0.12	A
C-AB	0.08	5.64	0.11	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	35.38	35.09	0.00	517.74	0.068	0.07	7.453	A
C-AB	34.27	34.01	0.00	674.72	0.051	0.07	5.618	A
C-A	93.71	93.71	0.00	-	-	-	-	-
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	115.19	115.19	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	42.25	42.18	0.00	508.39	0.083	0.09	7.721	A

C-AB	42.22	42.15	0.00	682.20	0.062	0.08	5.626	A
C-A	110.61	110.61	0.00	-	-	-	-	-
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	137.54	137.54	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	51.75	51.65	0.00	495.48	0.104	0.12	8.109	A
C-AB	53.90	53.79	0.00	692.63	0.078	0.11	5.635	A
C-A	133.27	133.27	0.00	-	-	-	-	-
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	168.46	168.46	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	51.75	51.75	0.00	495.46	0.104	0.12	8.113	A
C-AB	53.92	53.92	0.00	692.65	0.078	0.11	5.637	A
C-A	133.25	133.25	0.00	-	-	-	-	-
A-B	5.51	5.51	0.00	-	-	-	-	-
A-C	168.46	168.46	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	42.25	42.35	0.00	508.34	0.083	0.09	7.726	A
C-AB	42.24	42.35	0.00	682.23	0.062	0.09	5.627	A
C-A	110.58	110.58	0.00	-	-	-	-	-
A-B	4.49	4.49	0.00	-	-	-	-	-
A-C	137.54	137.54	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	35.38	35.45	0.00	517.65	0.068	0.07	7.468	A
C-AB	34.32	34.39	0.00	674.76	0.051	0.07	5.625	A
C-A	93.66	93.66	0.00	-	-	-	-	-
A-B	3.76	3.76	0.00	-	-	-	-	-
A-C	115.19	115.19	0.00	-	-	-	-	-

ARCADY 8

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Filename: West Lane-Shann Lane_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:44:45

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.04	6.50	0.03	A
Stream C-AB	0.12	5.58	0.08	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:44:45

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	5.82	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Black Hill Lane	Black Hill Lane		Major
Shann Lane	Shann Lane		Minor
West Lane	West Lane		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
West Lane	7.10		0.00		2.20	110.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	3.40								✓		34	40

Pedestrian Crossings

Name	Crossing Type
Black Hill Lane	None
Shann Lane	None
West Lane	None

Slope / Intercept / Capacity

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
1	B-A	528.637	0.092	0.232	0.146	0.331
1	B-C	675.113	0.099	0.249	-	-
1	C-B	637.665	0.235	0.235	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Black Hill Lane	ONE HOUR	✓	145.00	100.000
Shann Lane	ONE HOUR	✓	18.00	100.000
West Lane	ONE HOUR	✓	183.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	11.000	134.000
	B	5.000	0.000	13.000
	C	142.000	41.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.28	0.00	0.72
	C	0.78	0.22	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	6.50	0.04	A
C-AB	0.08	5.58	0.12	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	13.55	13.46	0.00	590.74	0.023	0.02	6.236	A
C-AB	36.46	36.17	0.00	682.31	0.053	0.07	5.571	A
C-A	101.31	101.31	0.00	-	-	-	-	-
A-B	8.28	8.28	0.00	-	-	-	-	-
A-C	100.88	100.88	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	16.18	16.16	0.00	583.57	0.028	0.03	6.344	A

C-AB	45.00	44.93	0.00	691.24	0.065	0.09	5.570	A
C-A	119.51	119.51	0.00	-	-	-	-	-
A-B	9.89	9.89	0.00	-	-	-	-	-
A-C	120.46	120.46	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.82	19.79	0.00	573.62	0.035	0.04	6.499	A
C-AB	57.61	57.49	0.00	703.65	0.082	0.12	5.573	A
C-A	143.88	143.88	0.00	-	-	-	-	-
A-B	12.11	12.11	0.00	-	-	-	-	-
A-C	147.54	147.54	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.82	19.82	0.00	573.61	0.035	0.04	6.499	A
C-AB	57.63	57.63	0.00	703.68	0.082	0.12	5.575	A
C-A	143.86	143.86	0.00	-	-	-	-	-
A-B	12.11	12.11	0.00	-	-	-	-	-
A-C	147.54	147.54	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	16.18	16.21	0.00	583.54	0.028	0.03	6.345	A
C-AB	45.03	45.14	0.00	691.28	0.065	0.09	5.575	A
C-A	119.48	119.48	0.00	-	-	-	-	-
A-B	9.89	9.89	0.00	-	-	-	-	-
A-C	120.46	120.46	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	13.55	13.57	0.00	590.69	0.023	0.02	6.239	A
C-AB	36.51	36.59	0.00	682.35	0.054	0.07	5.578	A
C-A	101.26	101.26	0.00	-	-	-	-	-
A-B	8.28	8.28	0.00	-	-	-	-	-
A-C	100.88	100.88	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Shann Lane_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:45:09

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.04	6.50	0.03	A
Stream C-AB	0.12	5.58	0.08	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:45:09

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	5.82	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Black Hill Lane	Black Hill Lane		Major
Shann Lane	Shann Lane		Minor
West Lane	West Lane		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
West Lane	7.10		0.00		2.20	110.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Shann Lane	One lane	3.40								✓		34	40

Pedestrian Crossings

Name	Crossing Type
Black Hill Lane	None
Shann Lane	None
West Lane	None

Slope / Intercept / Capacity

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
1	B-A	528.637	0.092	0.232	0.146	0.331
1	B-C	675.113	0.099	0.249	-	-
1	C-B	637.665	0.235	0.235	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Black Hill Lane	ONE HOUR	✓	145.00	100.000
Shann Lane	ONE HOUR	✓	18.00	100.000
West Lane	ONE HOUR	✓	183.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	11.000	134.000
	B	5.000	0.000	13.000
	C	142.000	41.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.28	0.00	0.72
	C	0.78	0.22	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	6.50	0.04	A
C-AB	0.08	5.58	0.12	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	13.55	13.46	0.00	590.74	0.023	0.02	6.236	A
C-AB	36.46	36.17	0.00	682.31	0.053	0.07	5.571	A
C-A	101.31	101.31	0.00	-	-	-	-	-
A-B	8.28	8.28	0.00	-	-	-	-	-
A-C	100.88	100.88	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	16.18	16.16	0.00	583.57	0.028	0.03	6.344	A

C-AB	45.00	44.93	0.00	691.24	0.065	0.09	5.570	A
C-A	119.51	119.51	0.00	-	-	-	-	-
A-B	9.89	9.89	0.00	-	-	-	-	-
A-C	120.46	120.46	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.82	19.79	0.00	573.62	0.035	0.04	6.499	A
C-AB	57.61	57.49	0.00	703.65	0.082	0.12	5.573	A
C-A	143.88	143.88	0.00	-	-	-	-	-
A-B	12.11	12.11	0.00	-	-	-	-	-
A-C	147.54	147.54	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.82	19.82	0.00	573.61	0.035	0.04	6.499	A
C-AB	57.63	57.63	0.00	703.68	0.082	0.12	5.575	A
C-A	143.86	143.86	0.00	-	-	-	-	-
A-B	12.11	12.11	0.00	-	-	-	-	-
A-C	147.54	147.54	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	16.18	16.21	0.00	583.54	0.028	0.03	6.345	A
C-AB	45.03	45.14	0.00	691.28	0.065	0.09	5.575	A
C-A	119.48	119.48	0.00	-	-	-	-	-
A-B	9.89	9.89	0.00	-	-	-	-	-
A-C	120.46	120.46	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	13.55	13.57	0.00	590.69	0.023	0.02	6.239	A
C-AB	36.51	36.59	0.00	682.35	0.054	0.07	5.578	A
C-A	101.26	101.26	0.00	-	-	-	-	-
A-B	8.28	8.28	0.00	-	-	-	-	-
A-C	100.88	100.88	0.00	-	-	-	-	-

F3 West Lane / Oakworth Road / High Street

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Oakworth Road_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:41:51

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	5.22	39.42	0.84	E
Stream C-A	-	-	-	-
Stream C-B	2.87	38.87	0.74	E
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using ARCADY 8.0.0.296 at 09/11/2012 15:41:51

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	39.22	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Oakworth Road	Oakworth Road		Major
West Lane	West Lane		Minor
High Steet	High Steet		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
High Steet	7.60	✓	1.30	✓	2.54	90.00		

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
West Lane	One lane	4.50										33	250

Pedestrian Crossings

Name	Crossing Type
Oakworth Road	None
West Lane	None
High Steet	None

Slope / Intercept / Capacity

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
1	B-A	723.637	0.119	0.301	0.190	0.430
1	B-C	898.655	0.128	0.324	-	-
1	C-B	649.251	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Oakworth Road	ONE HOUR	✓	1048.00	100.000
West Lane	ONE HOUR	✓	461.00	100.000
High Steet	ONE HOUR	✓	773.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	359.000	689.000
	B	0.000	0.000	461.000
	C	519.000	254.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.34	0.66
	B	0.00	0.00	1.00
	C	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	10.000	10.000	10.000
	B	10.000	10.000	10.000
	C	10.000	10.000	10.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.84	39.42	5.22	E
C-A	-	-	-	-
C-B	0.74	38.87	2.87	E
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	347.06	342.79	0.00	695.98	0.499	1.07	11.085	B
C-A	390.73	390.73	0.00	-	-	-	-	-
C-B	191.22	188.23	0.00	464.59	0.412	0.75	14.182	B
A-B	270.27	270.27	0.00	-	-	-	-	-
A-C	518.72	518.72	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	414.43	411.50	0.00	656.64	0.631	1.80	15.957	C

C-A	466.57	466.57	0.00	-	-	-	-	-
C-B	228.34	226.53	0.00	428.75	0.533	1.20	19.402	C
A-B	322.73	322.73	0.00	-	-	-	-	-
A-C	619.40	619.40	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	507.57	495.68	0.00	602.25	0.843	4.77	33.892	D
C-A	571.43	571.43	0.00	-	-	-	-	-
C-B	279.66	273.66	0.00	379.20	0.738	2.70	35.631	E
A-B	395.27	395.27	0.00	-	-	-	-	-
A-C	758.60	758.60	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	507.57	505.79	0.00	602.25	0.843	5.22	39.420	E
C-A	571.43	571.43	0.00	-	-	-	-	-
C-B	279.66	278.99	0.00	379.20	0.738	2.87	38.869	E
A-B	395.27	395.27	0.00	-	-	-	-	-
A-C	758.60	758.60	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	414.43	427.42	0.00	656.64	0.631	1.97	18.153	C
C-A	466.57	466.57	0.00	-	-	-	-	-
C-B	228.34	234.58	0.00	428.75	0.533	1.31	20.991	C
A-B	322.73	322.73	0.00	-	-	-	-	-
A-C	619.40	619.40	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	347.06	350.47	0.00	695.98	0.499	1.12	11.570	B
C-A	390.73	390.73	0.00	-	-	-	-	-
C-B	191.22	193.30	0.00	464.59	0.412	0.79	14.705	B
A-B	270.27	270.27	0.00	-	-	-	-	-
A-C	518.72	518.72	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Oakworth Road_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:42:14

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	6.24	45.92	0.87	E
Stream C-A	-	-	-	-
Stream C-B	3.07	40.94	0.75	E
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using ARCADY 8.0.0.296 at 09/11/2012 15:42:14

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	44.17	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Oakworth Road	Oakworth Road		Major
West Lane	West Lane		Minor
High Steet	High Steet		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
High Steet	7.60	✓	1.30	✓	2.54	90.00		

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
West Lane	One lane	4.50										33	250

Pedestrian Crossings

Name	Crossing Type
Oakworth Road	None
West Lane	None
High Steet	None

Slope / Intercept / Capacity

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
1	B-A	723.637	0.119	0.301	0.190	0.430
1	B-C	898.655	0.128	0.324	-	-
1	C-B	649.251	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Oakworth Road	ONE HOUR	✓	1048.00	100.000
West Lane	ONE HOUR	✓	476.00	100.000
High Steet	ONE HOUR	✓	778.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	359.000	689.000
	B	0.000	0.000	476.000
	C	519.000	259.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.34	0.66
	B	0.00	0.00	1.00
	C	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	10.000	10.000	10.000
	B	10.000	10.000	10.000
	C	10.000	10.000	10.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.87	45.92	6.24	E
C-A	-	-	-	-
C-B	0.75	40.94	3.07	E
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	358.36	353.81	0.00	695.98	0.515	1.14	11.428	B
C-A	390.73	390.73	0.00	-	-	-	-	-
C-B	194.99	191.89	0.00	464.59	0.420	0.77	14.344	B
A-B	270.27	270.27	0.00	-	-	-	-	-
A-C	518.72	518.72	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	427.91	424.63	0.00	656.64	0.652	1.96	16.824	C

C-A	466.57	466.57	0.00	-	-	-	-	-
C-B	232.84	230.93	0.00	428.75	0.543	1.25	19.819	C
A-B	322.73	322.73	0.00	-	-	-	-	-
A-C	619.40	619.40	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	524.09	509.62	0.00	602.25	0.870	5.57	37.916	E
C-A	571.43	571.43	0.00	-	-	-	-	-
C-B	285.16	278.66	0.00	379.20	0.752	2.88	37.167	E
A-B	395.27	395.27	0.00	-	-	-	-	-
A-C	758.60	758.60	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	524.09	521.43	0.00	602.25	0.870	6.24	45.921	E
C-A	571.43	571.43	0.00	-	-	-	-	-
C-B	285.16	284.39	0.00	379.20	0.752	3.07	40.943	E
A-B	395.27	395.27	0.00	-	-	-	-	-
A-C	758.60	758.60	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	427.91	444.19	0.00	656.64	0.652	2.17	19.892	C
C-A	466.57	466.57	0.00	-	-	-	-	-
C-B	232.84	239.65	0.00	428.75	0.543	1.37	21.623	C
A-B	322.73	322.73	0.00	-	-	-	-	-
A-C	619.40	619.40	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	358.36	362.24	0.00	695.98	0.515	1.20	12.000	B
C-A	390.73	390.73	0.00	-	-	-	-	-
C-B	194.99	197.19	0.00	464.59	0.420	0.82	14.930	B
A-B	270.27	270.27	0.00	-	-	-	-	-
A-C	518.72	518.72	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Oakworth Road_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:42:38

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	10.56	61.52	0.93	F
Stream C-A	-	-	-	-
Stream C-B	7.59	67.97	0.90	F
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:42:37

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	64.07	F

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Oakworth Road	Oakworth Road		Major
West Lane	West Lane		Minor
High Steet	High Steet		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
High Steet	7.60	✓	1.30	✓	2.54	90.00		

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
West Lane	One lane	4.50										33	250

Pedestrian Crossings

Name	Crossing Type
Oakworth Road	None
West Lane	None
High Steet	None

Slope / Intercept / Capacity

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
1	B-A	723.637	0.119	0.301	0.190	0.430
1	B-C	898.655	0.128	0.324	-	-
1	C-B	649.251	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Oakworth Road	ONE HOUR	✓	657.00	100.000
West Lane	ONE HOUR	✓	601.00	100.000
High Steet	ONE HOUR	✓	1188.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	203.000	454.000
	B	0.000	0.000	601.000
	C	794.000	394.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.00	0.00	1.00
	C	0.67	0.33	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	10.000	10.000	10.000
	B	10.000	10.000	10.000
	C	10.000	10.000	10.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.93	61.52	10.56	F
C-A	-	-	-	-
C-B	0.90	67.97	7.59	F
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	452.46	446.36	0.00	768.34	0.589	1.52	12.085	B
C-A	597.76	597.76	0.00	-	-	-	-	-
C-B	296.62	291.33	0.00	533.49	0.556	1.32	16.029	C
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	341.80	341.80	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	540.29	535.45	0.00	743.05	0.727	2.74	18.633	C

C-A	713.79	713.79	0.00	-	-	-	-	-
C-B	354.20	350.30	0.00	511.02	0.693	2.30	24.040	C
A-B	182.49	182.49	0.00	-	-	-	-	-
A-C	408.14	408.14	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	661.71	637.66	0.00	708.08	0.935	8.75	45.428	E
C-A	874.21	874.21	0.00	-	-	-	-	-
C-B	433.80	417.20	0.00	479.95	0.904	6.45	52.690	F
A-B	223.51	223.51	0.00	-	-	-	-	-
A-C	499.86	499.86	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	661.71	654.46	0.00	708.08	0.935	10.56	61.518	F
C-A	874.21	874.21	0.00	-	-	-	-	-
C-B	433.80	429.22	0.00	479.95	0.904	7.59	67.974	F
A-B	223.51	223.51	0.00	-	-	-	-	-
A-C	499.86	499.86	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	540.29	569.87	0.00	743.05	0.727	3.17	25.990	D
C-A	713.79	713.79	0.00	-	-	-	-	-
C-B	354.20	373.76	0.00	511.02	0.693	2.70	32.030	D
A-B	182.49	182.49	0.00	-	-	-	-	-
A-C	408.14	408.14	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	452.46	458.62	0.00	768.34	0.589	1.63	13.025	B
C-A	597.76	597.76	0.00	-	-	-	-	-
C-B	296.62	301.71	0.00	533.49	0.556	1.43	17.438	C
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	341.80	341.80	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: West Lane-Oakworth Road_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:43:15

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	11.01	63.69	0.94	F
Stream C-A	-	-	-	-
Stream C-B	9.30	80.23	0.93	F
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:43:14

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	70.34	F

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Oakworth Road	Oakworth Road		Major
West Lane	West Lane		Minor
High Steet	High Steet		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
High Steet	7.60	✓	1.30	✓	2.54	90.00		

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
West Lane	One lane	4.50										33	250

Pedestrian Crossings

Name	Crossing Type
Oakworth Road	None
West Lane	None
High Steet	None

Slope / Intercept / Capacity

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
1	B-A	723.637	0.119	0.301	0.190	0.430
1	B-C	898.655	0.128	0.324	-	-
1	C-B	649.251	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Oakworth Road	ONE HOUR	✓	657.00	100.000
West Lane	ONE HOUR	✓	604.00	100.000
High Steet	ONE HOUR	✓	1200.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	203.000	454.000
	B	0.000	0.000	604.000
	C	794.000	406.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.00	0.00	1.00
	C	0.66	0.34	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.100	1.100	1.100
	B	1.100	1.100	1.100
	C	1.100	1.100	1.100

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	10.000	10.000	10.000
	B	10.000	10.000	10.000
	C	10.000	10.000	10.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.94	63.69	11.01	F
C-A	-	-	-	-
C-B	0.93	80.23	9.30	F
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	454.72	448.55	0.00	768.34	0.592	1.54	12.162	B
C-A	597.76	597.76	0.00	-	-	-	-	-
C-B	305.66	300.00	0.00	533.49	0.573	1.41	16.590	C
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	341.80	341.80	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	542.98	538.03	0.00	743.05	0.731	2.78	18.853	C

C-A	713.79	713.79	0.00	-	-	-	-	-
C-B	364.99	360.57	0.00	511.02	0.714	2.52	25.556	D
A-B	182.49	182.49	0.00	-	-	-	-	-
A-C	408.14	408.14	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	665.02	639.99	0.00	708.08	0.939	9.04	46.493	E
C-A	874.21	874.21	0.00	-	-	-	-	-
C-B	447.01	426.74	0.00	479.95	0.931	7.58	59.087	F
A-B	223.51	223.51	0.00	-	-	-	-	-
A-C	499.86	499.86	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	665.02	657.14	0.00	708.08	0.939	11.01	63.688	F
C-A	874.21	874.21	0.00	-	-	-	-	-
C-B	447.01	440.14	0.00	479.95	0.931	9.30	80.234	F
A-B	223.51	223.51	0.00	-	-	-	-	-
A-C	499.86	499.86	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	542.98	574.08	0.00	743.05	0.731	3.23	26.843	D
C-A	713.79	713.79	0.00	-	-	-	-	-
C-B	364.99	390.05	0.00	511.02	0.714	3.04	37.553	E
A-B	182.49	182.49	0.00	-	-	-	-	-
A-C	408.14	408.14	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	454.72	461.07	0.00	768.34	0.592	1.65	13.138	B
C-A	597.76	597.76	0.00	-	-	-	-	-
C-B	305.66	311.65	0.00	533.49	0.573	1.54	18.296	C
A-B	152.83	152.83	0.00	-	-	-	-	-
A-C	341.80	341.80	0.00	-	-	-	-	-

F4 A629 High Street / Bridge Street / Chapel Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: High Street-Oakworth Road_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:30:59

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
High Street West	16.80	53.12	0.97	F
High Steet East	2.00	7.81	0.67	A
Bridge Street	2.12	7.79	0.68	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:30:59

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	High Street West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	High Steet East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			25.07	D

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
High Street West	High Street West	
Chapel Lane	Chapel Lane	
High Steet East	High Steet East	
Bridge Street	Bridge Street	

Roundabout Geometry

Name	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)	Exit Only

High Street West	4.50	6.10	55.00	6.80	47.00	27.00	
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	✓
High Steet East	4.60	6.30	48.00	13.00	43.00	35.00	
Bridge Street	4.70	6.80	12.00	46.00	43.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
High Street West	None
Chapel Lane	None
High Steet East	None
Bridge Street	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
High Street West		(calculated)	(calculated)	0.587	1654.296
Chapel Lane		(calculated)	(calculated)	Exit-only	Exit-only
High Steet East		(calculated)	(calculated)	0.636	1775.373
Bridge Street		(calculated)	(calculated)	0.678	1882.619

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
High Street West	ONE HOUR	✓	1080.00	100.000
Chapel Lane	Exit-only	✓	Exit-only	Exit-only
High Steet East	ONE HOUR	✓	852.00	100.000
Bridge Street	ONE HOUR	✓	902.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
	1	147.000	7.000	537.000	389.000

From	**2**	Exit-only	Exit-only	Exit-only	Exit-only
	3	418.000	1.000	9.000	424.000
	4	247.000	65.000	581.000	9.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.14	0.01	0.50	0.36
	2	0.25	0.25	0.25	0.25
	3	0.49	0.00	0.01	0.50
	4	0.27	0.07	0.64	0.01

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
High Street West	0.97	53.12	16.80	F
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	0.67	7.81	2.00	A
Bridge Street	0.68	7.79	2.12	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	813.08	807.26	498.46	0.00	1361.60	0.597	1.46	6.429	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	641.43	638.52	407.38	0.00	1516.33	0.423	0.73	4.088	A
Bridge Street	679.07	676.12	430.64	0.00	1590.51	0.427	0.74	3.924	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	970.90	965.55	596.73	0.00	1303.90	0.745	2.79	10.474	B
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	765.93	764.51	487.28	0.00	1465.53	0.523	1.08	5.125	A
Bridge Street	810.88	809.40	515.47	0.00	1532.96	0.529	1.11	4.965	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1189.10	1148.04	729.32	0.00	1226.04	0.970	13.06	35.158	E
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	938.07	934.59	579.64	0.00	1406.80	0.667	1.95	7.567	A
Bridge Street	993.12	989.24	625.75	0.00	1458.16	0.681	2.08	7.613	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1189.10	1174.13	732.06	0.00	1224.43	0.971	16.80	53.121	F
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	938.07	937.86	592.62	0.00	1398.55	0.671	2.00	7.807	A
Bridge Street	993.12	992.97	630.95	0.00	1454.64	0.683	2.12	7.792	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	970.90	1025.75	600.69	0.00	1301.57	0.746	3.09	15.454	C
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	765.93	769.39	517.20	0.00	1446.50	0.530	1.14	5.342	A
Bridge Street	810.88	814.77	526.12	0.00	1525.74	0.531	1.15	5.090	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	813.08	819.38	501.81	0.00	1359.63	0.598	1.51	6.740	A

Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	641.43	643.02	413.45	0.00	1512.48	0.424	0.74	4.149	A
Bridge Street	679.07	680.65	434.55	0.00	1587.86	0.428	0.75	3.976	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: High Street-Oakworth Road_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:31:26

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
High Street West	20.63	62.98	0.99	F
High Steet East	2.08	8.05	0.68	A
Bridge Street	2.20	7.99	0.69	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:31:25

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	High Street West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	High Steet East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			29.01	D

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
High Street West	High Street West	
Chapel Lane	Chapel Lane	
High Steet East	High Steet East	
Bridge Street	Bridge Street	

Roundabout Geometry

Name	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)	Exit Only

High Street West	4.50	6.10	55.00	6.80	47.00	27.00	
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	✓
High Steet East	4.60	6.30	48.00	13.00	43.00	35.00	
Bridge Street	4.70	6.80	12.00	46.00	43.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
High Street West	None
Chapel Lane	None
High Steet East	None
Bridge Street	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
High Street West		(calculated)	(calculated)	0.587	1654.296
Chapel Lane		(calculated)	(calculated)	Exit-only	Exit-only
High Steet East		(calculated)	(calculated)	0.636	1775.373
Bridge Street		(calculated)	(calculated)	0.678	1882.619

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
High Street West	ONE HOUR	✓	1094.00	100.000
Chapel Lane	Exit-only	✓	Exit-only	Exit-only
High Steet East	ONE HOUR	✓	858.00	100.000
Bridge Street	ONE HOUR	✓	913.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
	1	147.000	7.000	537.000	403.000

From	**2**	Exit-only	Exit-only	Exit-only	Exit-only
	3	418.000	1.000	9.000	430.000
	4	251.000	65.000	588.000	9.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.13	0.01	0.49	0.37
	2	0.25	0.25	0.25	0.25
	3	0.49	0.00	0.01	0.50
	4	0.27	0.07	0.64	0.01

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
High Street West	0.99	62.98	20.63	F
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	0.68	8.05	2.08	A
Bridge Street	0.69	7.99	2.20	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	823.62	817.58	503.69	0.00	1358.53	0.606	1.51	6.584	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	645.95	642.98	417.78	0.00	1509.73	0.428	0.74	4.139	A
Bridge Street	687.35	684.33	430.60	0.00	1590.54	0.432	0.76	3.960	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	983.48	977.68	602.98	0.00	1300.22	0.756	2.96	10.965	B
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	771.32	769.85	499.60	0.00	1457.70	0.529	1.11	5.221	A
Bridge Street	820.77	819.23	515.40	0.00	1533.01	0.535	1.14	5.032	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1204.52	1155.61	736.89	0.00	1221.59	0.986	15.19	39.206	E
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	944.68	941.02	590.84	0.00	1399.68	0.675	2.02	7.786	A
Bridge Street	1005.23	1001.16	624.69	0.00	1458.88	0.689	2.16	7.795	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1204.52	1182.74	739.76	0.00	1219.91	0.987	20.63	62.983	F
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	944.68	944.45	604.52	0.00	1390.98	0.679	2.08	8.053	A
Bridge Street	1005.23	1005.06	630.05	0.00	1455.25	0.691	2.20	7.990	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	983.48	1052.74	607.11	0.00	1297.80	0.758	3.32	18.499	C
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	771.32	774.93	537.39	0.00	1433.67	0.538	1.18	5.493	A
Bridge Street	820.77	824.84	528.02	0.00	1524.45	0.538	1.18	5.174	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	823.62	830.60	507.13	0.00	1356.51	0.607	1.57	6.935	A

Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	645.95	647.64	424.37	0.00	1505.53	0.429	0.76	4.205	A
Bridge Street	687.35	689.00	434.67	0.00	1587.77	0.433	0.77	4.014	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: High Street-Oakworth Road_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:31:53

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
High Street West	8.09	27.08	0.90	D
High Steet East	19.10	55.51	0.98	F
Bridge Street	7.17	26.14	0.89	D

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:31:52

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	High Street West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	High Steet East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			37.25	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
High Street West	High Street West	
Chapel Lane	Chapel Lane	
High Steet East	High Steet East	
Bridge Street	Bridge Street	

Roundabout Geometry

Name	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)	Exit Only

High Street West	4.50	6.10	55.00	6.80	47.00	27.00	
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	✓
High Steet East	4.60	6.30	48.00	13.00	43.00	35.00	
Bridge Street	4.70	6.80	12.00	46.00	43.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
High Street West	None
Chapel Lane	None
High Steet East	None
Bridge Street	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
High Street West		(calculated)	(calculated)	0.587	1654.296
Chapel Lane		(calculated)	(calculated)	Exit-only	Exit-only
High Steet East		(calculated)	(calculated)	0.636	1775.373
Bridge Street		(calculated)	(calculated)	0.678	1882.619

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
High Street West	ONE HOUR	✓	1040.00	100.000
Chapel Lane	Exit-only	✓	Exit-only	Exit-only
High Steet East	ONE HOUR	✓	1158.00	100.000
Bridge Street	ONE HOUR	✓	953.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
	1	269.000	10.000	360.000	401.000

From	**2**	Exit-only	Exit-only	Exit-only	Exit-only
	3	665.000	3.000	20.000	470.000
	4	375.000	35.000	532.000	11.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.26	0.01	0.35	0.39
	2	0.25	0.25	0.25	0.25
	3	0.57	0.00	0.02	0.41
	4	0.39	0.04	0.56	0.01

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
High Street West	0.90	27.08	8.09	D
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	0.98	55.51	19.10	F
Bridge Street	0.89	26.14	7.17	D

Main Results for each time segment

Main results: (16:30-16:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	782.97	777.88	449.82	0.00	1390.16	0.563	1.27	5.833	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	871.80	865.89	509.37	0.00	1451.48	0.601	1.48	6.088	A
Bridge Street	717.47	713.30	715.65	0.00	1397.18	0.514	1.04	5.233	A

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	934.94	931.03	538.15	0.00	1338.29	0.699	2.25	8.753	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1041.02	1035.42	609.65	0.00	1387.72	0.750	2.88	10.058	B
Bridge Street	856.73	853.39	855.99	0.00	1301.98	0.658	1.88	7.966	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1145.06	1125.27	650.25	0.00	1272.47	0.900	7.20	21.999	C
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1274.98	1229.95	736.84	0.00	1306.85	0.976	14.13	35.063	E
Bridge Street	1049.27	1031.85	1021.80	0.00	1189.51	0.882	6.23	20.879	C

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1145.06	1141.48	659.05	0.00	1267.30	0.904	8.09	27.082	D
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1274.98	1255.14	747.44	0.00	1300.10	0.981	19.10	55.513	F
Bridge Street	1049.27	1045.53	1040.96	0.00	1176.52	0.892	7.17	26.139	D

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	934.94	957.50	553.74	0.00	1329.14	0.703	2.45	10.237	B
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1041.02	1104.32	626.97	0.00	1376.71	0.756	3.27	16.067	C
Bridge Street	856.73	876.84	903.77	0.00	1269.58	0.675	2.14	9.610	A

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	782.97	787.52	455.17	0.00	1387.02	0.564	1.32	6.048	A

Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	871.80	878.73	515.67	0.00	1447.48	0.602	1.54	6.403	A
Bridge Street	717.47	721.70	725.77	0.00	1390.31	0.516	1.08	5.417	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: High Street-Oakworth Road_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:32:22

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
High Street West	8.96	29.98	0.91	D
High Steet East	19.59	56.71	0.98	F
Bridge Street	9.33	33.04	0.92	D

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:32:21

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	High Street West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	High Steet East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			40.65	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
High Street West	High Street West	
Chapel Lane	Chapel Lane	
High Steet East	High Steet East	
Bridge Street	Bridge Street	

Roundabout Geometry

Name	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)	Exit Only

High Street West	4.50	6.10	55.00	6.80	47.00	27.00	
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	✓
High Steet East	4.60	6.30	48.00	13.00	43.00	35.00	
Bridge Street	4.70	6.80	12.00	46.00	43.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
High Street West	None
Chapel Lane	None
High Steet East	None
Bridge Street	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
High Street West		(calculated)	(calculated)	0.587	1654.296
Chapel Lane		(calculated)	(calculated)	Exit-only	Exit-only
High Steet East		(calculated)	(calculated)	0.636	1775.373
Bridge Street		(calculated)	(calculated)	0.678	1882.619

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
High Street West	ONE HOUR	✓	1043.00	100.000
Chapel Lane	Exit-only	✓	Exit-only	Exit-only
High Steet East	ONE HOUR	✓	1159.00	100.000
Bridge Street	ONE HOUR	✓	985.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
	1	269.000	10.000	360.000	404.000

From	**2**	Exit-only	Exit-only	Exit-only	Exit-only
	3	665.000	3.000	20.000	471.000
	4	387.000	35.000	552.000	11.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.26	0.01	0.35	0.39
	2	0.25	0.25	0.25	0.25
	3	0.57	0.00	0.02	0.41
	4	0.39	0.04	0.56	0.01

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
High Street West	0.91	29.98	8.96	D
Chapel Lane	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	0.98	56.71	19.59	F
Bridge Street	0.92	33.04	9.33	D

Main Results for each time segment

Main results: (16:30-16:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	785.23	780.04	464.69	0.00	1381.43	0.568	1.30	5.936	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	872.56	866.61	511.55	0.00	1450.10	0.602	1.49	6.110	A
Bridge Street	741.56	737.09	715.62	0.00	1397.20	0.531	1.12	5.420	A

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	937.64	933.52	555.85	0.00	1327.90	0.706	2.33	9.033	A
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1041.92	1036.26	612.21	0.00	1386.10	0.752	2.90	10.128	B
Bridge Street	885.49	881.70	855.90	0.00	1302.04	0.680	2.07	8.484	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1148.36	1126.45	668.99	0.00	1261.46	0.910	7.81	23.588	C
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1276.08	1230.20	738.70	0.00	1305.66	0.977	14.37	35.504	E
Bridge Street	1084.51	1061.73	1020.79	0.00	1190.20	0.911	7.76	24.614	C

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	1148.36	1143.74	679.52	0.00	1255.28	0.915	8.96	29.976	D
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1276.08	1255.20	750.05	0.00	1298.45	0.983	19.59	56.712	F
Bridge Street	1084.51	1078.25	1040.09	0.00	1177.11	0.921	9.33	33.043	D

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	937.64	963.20	576.39	0.00	1315.84	0.713	2.57	10.895	B
Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	1041.92	1107.00	631.70	0.00	1373.70	0.758	3.32	16.547	C
Bridge Street	885.49	913.22	905.55	0.00	1268.37	0.698	2.39	10.877	B

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
High Street West	785.23	790.13	470.66	0.00	1377.92	0.570	1.35	6.176	A

Chapel Lane	Exit-only	Exit-only	Exit-only	0.00	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
High Steet East	872.56	879.63	518.17	0.00	1445.89	0.603	1.55	6.436	A
Bridge Street	741.56	746.50	725.95	0.00	1390.20	0.533	1.16	5.636	A

F5 A629 North Street / Albert Street

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Albert Steet-North Street_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:29:12

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.84	15.92	0.46	C
Stream C-AB	0.13	10.05	0.11	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:29:12

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	14.81	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street (S)	North Street (S)		Major
Albert Street	Albert Street		Minor
North Steet (N)	North Steet (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Steet (N)	9.65		0.00	✓	2.20	90.00	✓	4.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Albert Street	One lane	3.10										25	19

Pedestrian Crossings

Name	Crossing Type
North Street (S)	None
Albert Street	None
North Steet (N)	None

Slope / Intercept / Capacity

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
1	B-A	499.749	0.077	0.194	0.122	0.276
1	B-C	641.946	0.083	0.209	-	-
1	C-B	626.083	0.204	0.204	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street (S)	ONE HOUR	✓	992.00	100.000
Albert Street	ONE HOUR	✓	176.00	100.000
North Steet (N)	ONE HOUR	✓	845.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	45.000	947.000
	B	0.000	0.000	176.000
	C	804.000	41.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.00	0.00	1.00
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.46	15.92	0.84	C
C-AB	0.11	10.05	0.13	B
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	132.50	131.04	0.00	489.97	0.270	0.37	9.991	A
C-AB	30.87	30.59	0.00	473.70	0.065	0.07	8.119	A
C-A	605.29	605.29	0.00	-	-	-	-	-
A-B	33.88	33.88	0.00	-	-	-	-	-
A-C	712.95	712.95	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	158.22	157.63	0.00	460.48	0.344	0.51	11.863	B

C-AB	36.86	36.78	0.00	444.13	0.083	0.09	8.835	A
C-A	722.78	722.78	0.00	-	-	-	-	-
A-B	40.45	40.45	0.00	-	-	-	-	-
A-C	851.33	851.33	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	193.78	192.51	0.00	419.69	0.462	0.83	15.756	C
C-AB	45.16	45.02	0.00	403.32	0.112	0.12	10.040	B
C-A	885.20	885.20	0.00	-	-	-	-	-
A-B	49.55	49.55	0.00	-	-	-	-	-
A-C	1042.67	1042.67	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	193.78	193.73	0.00	419.69	0.462	0.84	15.922	C
C-AB	45.16	45.15	0.00	403.32	0.112	0.13	10.050	B
C-A	885.20	885.20	0.00	-	-	-	-	-
A-B	49.55	49.55	0.00	-	-	-	-	-
A-C	1042.67	1042.67	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	158.22	159.46	0.00	460.48	0.344	0.53	12.007	B
C-AB	36.86	37.00	0.00	444.13	0.083	0.09	8.844	A
C-A	722.78	722.78	0.00	-	-	-	-	-
A-B	40.45	40.45	0.00	-	-	-	-	-
A-C	851.33	851.33	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	132.50	133.13	0.00	489.97	0.270	0.38	10.107	B
C-AB	30.87	30.95	0.00	473.70	0.065	0.07	8.132	A
C-A	605.29	605.29	0.00	-	-	-	-	-
A-B	33.88	33.88	0.00	-	-	-	-	-
A-C	712.95	712.95	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Albert Steet-North Street_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:29:38

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	1.13	18.48	0.54	C
Stream C-AB	0.13	10.13	0.12	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:29:38

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	17.06	C

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street (S)	North Street (S)		Major
Albert Street	Albert Street		Minor
North Steet (N)	North Steet (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Steet (N)	9.65		0.00	✓	2.20	90.00	✓	4.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Albert Street	One lane	3.10										25	19

Pedestrian Crossings

Name	Crossing Type
North Street (S)	None
Albert Street	None
North Steet (N)	None

Slope / Intercept / Capacity

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
1	B-A	499.749	0.077	0.194	0.122	0.276
1	B-C	641.946	0.083	0.209	-	-
1	C-B	626.083	0.204	0.204	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street (S)	ONE HOUR	✓	999.00	100.000
Albert Street	ONE HOUR	✓	204.00	100.000
North Steet (N)	ONE HOUR	✓	852.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	52.000	947.000
	B	0.000	0.000	204.000
	C	810.000	42.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.00	0.00	1.00
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.54	18.48	1.13	C
C-AB	0.12	10.13	0.13	B
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	153.58	151.78	0.00	489.54	0.314	0.45	10.604	B
C-AB	31.62	31.34	0.00	472.62	0.067	0.07	8.153	A
C-A	609.81	609.81	0.00	-	-	-	-	-
A-B	39.15	39.15	0.00	-	-	-	-	-
A-C	712.95	712.95	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	183.39	182.60	0.00	459.95	0.399	0.65	12.938	B

C-AB	37.76	37.68	0.00	442.85	0.085	0.09	8.883	A
C-A	728.17	728.17	0.00	-	-	-	-	-
A-B	46.75	46.75	0.00	-	-	-	-	-
A-C	851.33	851.33	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	224.61	222.77	0.00	419.05	0.536	1.11	18.166	C
C-AB	46.26	46.12	0.00	401.76	0.115	0.13	10.118	B
C-A	891.81	891.81	0.00	-	-	-	-	-
A-B	57.25	57.25	0.00	-	-	-	-	-
A-C	1042.67	1042.67	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	224.61	224.52	0.00	419.05	0.536	1.13	18.483	C
C-AB	46.26	46.26	0.00	401.76	0.115	0.13	10.126	B
C-A	891.81	891.81	0.00	-	-	-	-	-
A-B	57.25	57.25	0.00	-	-	-	-	-
A-C	1042.67	1042.67	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	183.39	185.20	0.00	459.95	0.399	0.68	13.186	B
C-AB	37.76	37.90	0.00	442.85	0.085	0.09	8.894	A
C-A	728.17	728.17	0.00	-	-	-	-	-
A-B	46.75	46.75	0.00	-	-	-	-	-
A-C	851.33	851.33	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	153.58	154.44	0.00	489.54	0.314	0.46	10.772	B
C-AB	31.62	31.71	0.00	472.62	0.067	0.07	8.166	A
C-A	609.81	609.81	0.00	-	-	-	-	-
A-B	39.15	39.15	0.00	-	-	-	-	-
A-C	712.95	712.95	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: Albert Steet-North Street_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:30:07

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.71	14.35	0.42	B
Stream C-AB	0.50	13.10	0.33	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:30:06

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	13.81	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street (S)	North Street (S)		Major
Albert Street	Albert Street		Minor
North Steet (N)	North Steet (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Steet (N)	9.65		0.00	✓	2.20	90.00	✓	4.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Albert Street	One lane	3.10										25	19

Pedestrian Crossings

Name	Crossing Type
North Street (S)	None
Albert Street	None
North Steet (N)	None

Slope / Intercept / Capacity

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
1	B-A	499.749	0.077	0.194	0.122	0.276
1	B-C	641.946	0.083	0.209	-	-
1	C-B	626.083	0.204	0.204	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street (S)	ONE HOUR	✓	981.00	100.000
Albert Street	ONE HOUR	✓	163.00	100.000
North Steet (N)	ONE HOUR	✓	709.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	103.000	878.000
	B	0.000	0.000	163.000
	C	587.000	122.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.10	0.90
	B	0.00	0.00	1.00
	C	0.83	0.17	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.42	14.35	0.71	B
C-AB	0.33	13.10	0.50	B
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	122.71	121.42	0.00	497.23	0.247	0.32	9.548	A
C-AB	91.97	91.02	0.00	475.83	0.193	0.24	9.333	A
C-A	441.81	441.81	0.00	-	-	-	-	-
A-B	77.54	77.54	0.00	-	-	-	-	-
A-C	661.00	661.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	146.53	146.04	0.00	469.14	0.312	0.45	11.107	B

C-AB	110.15	109.81	0.00	447.57	0.246	0.32	10.647	B
C-A	527.23	527.23	0.00	-	-	-	-	-
A-B	92.59	92.59	0.00	-	-	-	-	-
A-C	789.30	789.30	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	179.47	178.46	0.00	430.30	0.417	0.70	14.236	B
C-AB	136.90	136.21	0.00	411.67	0.333	0.49	13.039	B
C-A	643.73	643.73	0.00	-	-	-	-	-
A-B	113.41	113.41	0.00	-	-	-	-	-
A-C	966.70	966.70	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	179.47	179.43	0.00	430.30	0.417	0.71	14.345	B
C-AB	136.90	136.87	0.00	411.67	0.333	0.50	13.100	B
C-A	643.73	643.73	0.00	-	-	-	-	-
A-B	113.41	113.41	0.00	-	-	-	-	-
A-C	966.70	966.70	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	146.53	147.51	0.00	469.14	0.312	0.46	11.228	B
C-AB	110.15	110.81	0.00	447.57	0.246	0.33	10.710	B
C-A	527.23	527.23	0.00	-	-	-	-	-
A-B	92.59	92.59	0.00	-	-	-	-	-
A-C	789.30	789.30	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	122.71	123.23	0.00	497.23	0.247	0.33	9.638	A
C-AB	91.97	92.33	0.00	475.83	0.193	0.24	9.395	A
C-A	441.81	441.81	0.00	-	-	-	-	-
A-B	77.54	77.54	0.00	-	-	-	-	-
A-C	661.00	661.00	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Albert Steet-North Street_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:30:32

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.75	14.77	0.43	B
Stream C-AB	0.54	13.56	0.35	B
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:30:31

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	14.25	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street (S)	North Street (S)		Major
Albert Street	Albert Street		Minor
North Steet (N)	North Steet (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Steet (N)	9.65		0.00	✓	2.20	90.00	✓	4.00

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

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Albert Street	One lane	3.10										25	19

Pedestrian Crossings

Name	Crossing Type
North Street (S)	None
Albert Street	None
North Steet (N)	None

Slope / Intercept / Capacity

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
1	B-A	499.749	0.077	0.194	0.122	0.276
1	B-C	641.946	0.083	0.209	-	-
1	C-B	626.083	0.204	0.204	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street (S)	ONE HOUR	✓	1001.00	100.000
Albert Street	ONE HOUR	✓	168.00	100.000
North Steet (N)	ONE HOUR	✓	715.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	123.000	878.000
	B	0.000	0.000	168.000
	C	588.000	127.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.00	0.00	1.00
	C	0.82	0.18	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.43	14.77	0.75	B
C-AB	0.35	13.56	0.54	B
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	126.48	125.13	0.00	495.98	0.255	0.34	9.673	A
C-AB	95.76	94.76	0.00	472.85	0.203	0.25	9.497	A
C-A	442.53	442.53	0.00	-	-	-	-	-
A-B	92.60	92.60	0.00	-	-	-	-	-
A-C	661.00	661.00	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	151.03	150.50	0.00	467.65	0.323	0.47	11.331	B

C-AB	114.78	114.40	0.00	444.22	0.258	0.34	10.903	B
C-A	528.00	528.00	0.00	-	-	-	-	-
A-B	110.57	110.57	0.00	-	-	-	-	-
A-C	789.30	789.30	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	184.97	183.89	0.00	428.48	0.432	0.74	14.653	B
C-AB	143.16	142.40	0.00	408.57	0.350	0.53	13.488	B
C-A	644.07	644.07	0.00	-	-	-	-	-
A-B	135.43	135.43	0.00	-	-	-	-	-
A-C	966.70	966.70	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	184.97	184.93	0.00	428.48	0.432	0.75	14.774	B
C-AB	143.16	143.13	0.00	408.57	0.350	0.54	13.562	B
C-A	644.07	644.07	0.00	-	-	-	-	-
A-B	135.43	135.43	0.00	-	-	-	-	-
A-C	966.70	966.70	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	151.03	152.08	0.00	467.65	0.323	0.49	11.445	B
C-AB	114.78	115.52	0.00	444.22	0.258	0.36	10.978	B
C-A	528.00	528.00	0.00	-	-	-	-	-
A-B	110.57	110.57	0.00	-	-	-	-	-
A-C	789.30	789.30	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	126.48	127.03	0.00	495.98	0.255	0.35	9.773	A
C-AB	95.76	96.15	0.00	472.85	0.203	0.26	9.566	A
C-A	442.53	442.53	0.00	-	-	-	-	-
A-B	92.60	92.60	0.00	-	-	-	-	-
A-C	661.00	661.00	0.00	-	-	-	-	-

F6 A629 Skipton Road / Spring Gardens Lane

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Spring Gardens Lane-North Street_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:39:14

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	6.02	157.42	0.93	F
Stream C-AB	0.57	4.25	0.18	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:39:14

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	80.99	F

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street	North Street		Major
Spring Gardens Lane	Spring Gardens Lane		Minor
North Street	North Street		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Street	7.70		0.00		2.20	250.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Spring Gardens Lane	One lane	4.69								✓		20	39

Pedestrian Crossings

Name	Crossing Type
North Street	None
Spring Gardens Lane	None
North Street	None

Slope / Intercept / Capacity

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
1	B-A	588.192	0.099	0.251	0.158	0.358
1	B-C	758.211	0.108	0.272	-	-
1	C-B	718.741	0.258	0.258	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street	ONE HOUR	✓	1206.00	100.000
Spring Gardens Lane	ONE HOUR	✓	132.00	100.000
North Street	ONE HOUR	✓	833.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	189.000	1017.000
	B	106.000	0.000	26.000
	C	801.000	32.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.80	0.00	0.20
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.93	157.42	6.02	F
C-AB	0.18	4.25	0.57	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	99.38	97.52	0.00	307.34	0.323	0.46	17.014	C
C-AB	65.77	65.26	0.00	914.12	0.072	0.13	4.241	A
C-A	561.36	561.36	0.00	-	-	-	-	-
A-B	142.29	142.29	0.00	-	-	-	-	-
A-C	765.65	765.65	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS

B-AC	118.67	116.97	0.00	244.88	0.485	0.89	27.775	D
C-AB	104.24	103.82	0.00	975.33	0.107	0.23	4.132	A
C-A	644.61	644.61	0.00	-	-	-	-	-
A-B	169.91	169.91	0.00	-	-	-	-	-
A-C	914.26	914.26	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	145.33	130.62	0.00	155.93	0.932	4.57	108.661	F
C-AB	190.95	189.63	0.00	1064.16	0.179	0.56	4.122	A
C-A	726.20	726.20	0.00	-	-	-	-	-
A-B	208.09	208.09	0.00	-	-	-	-	-
A-C	1119.74	1119.74	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	145.33	139.51	0.00	155.67	0.934	6.02	157.424	F
C-AB	191.79	191.75	0.00	1065.01	0.180	0.57	4.136	A
C-A	725.36	725.36	0.00	-	-	-	-	-
A-B	208.09	208.09	0.00	-	-	-	-	-
A-C	1119.74	1119.74	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	118.67	138.73	0.00	244.55	0.485	1.01	39.491	E
C-AB	104.93	106.24	0.00	976.41	0.107	0.24	4.147	A
C-A	643.92	643.92	0.00	-	-	-	-	-
A-B	169.91	169.91	0.00	-	-	-	-	-
A-C	914.26	914.26	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	99.38	101.44	0.00	307.14	0.324	0.49	17.666	C
C-AB	66.24	66.68	0.00	914.59	0.072	0.13	4.249	A
C-A	560.89	560.89	0.00	-	-	-	-	-
A-B	142.29	142.29	0.00	-	-	-	-	-
A-C	765.65	765.65	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Spring Gardens Lane-North Street_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:39:59

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	11.78	248.72	1.07	F
Stream C-AB	0.83	4.35	0.22	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:39:59

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	123.22	F

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street	North Street		Major
Spring Gardens Lane	Spring Gardens Lane		Minor
North Street	North Street		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Street	7.70		0.00		2.20	250.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Spring Gardens Lane	One lane	4.69								✓		20	39

Pedestrian Crossings

Name	Crossing Type
North Street	None
Spring Gardens Lane	None
North Street	None

Slope / Intercept / Capacity

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
1	B-A	588.192	0.099	0.251	0.158	0.358
1	B-C	758.211	0.108	0.272	-	-
1	C-B	718.741	0.258	0.258	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street	ONE HOUR	✓	1234.00	100.000
Spring Gardens Lane	ONE HOUR	✓	152.00	100.000
North Street	ONE HOUR	✓	847.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	189.000	1045.000
	B	106.000	0.000	46.000
	C	809.000	38.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.15	0.85
	B	0.70	0.00	0.30
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	1.07	248.72	11.78	F
C-AB	0.22	4.35	0.83	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	114.43	112.25	0.00	317.40	0.361	0.55	17.373	C
C-AB	79.32	78.66	0.00	914.48	0.087	0.17	4.306	A
C-A	558.34	558.34	0.00	-	-	-	-	-
A-B	142.29	142.29	0.00	-	-	-	-	-
A-C	786.73	786.73	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS

B-AC	136.64	134.41	0.00	252.07	0.542	1.11	30.034	D
C-AB	126.57	125.97	0.00	976.55	0.130	0.32	4.235	A
C-A	634.87	634.87	0.00	-	-	-	-	-
A-B	169.91	169.91	0.00	-	-	-	-	-
A-C	939.43	939.43	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	167.36	141.51	0.00	156.90	1.067	7.57	148.109	F
C-AB	234.29	232.29	0.00	1066.71	0.220	0.82	4.325	A
C-A	698.28	698.28	0.00	-	-	-	-	-
A-B	208.09	208.09	0.00	-	-	-	-	-
A-C	1150.57	1150.57	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	167.36	150.50	0.00	156.49	1.069	11.78	248.715	F
C-AB	235.67	235.60	0.00	1067.99	0.221	0.83	4.348	A
C-A	696.89	696.89	0.00	-	-	-	-	-
A-B	208.09	208.09	0.00	-	-	-	-	-
A-C	1150.57	1150.57	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	136.64	178.51	0.00	251.57	0.543	1.32	69.705	F
C-AB	127.66	129.66	0.00	978.19	0.131	0.33	4.259	A
C-A	633.78	633.78	0.00	-	-	-	-	-
A-B	169.91	169.91	0.00	-	-	-	-	-
A-C	939.43	939.43	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	114.43	117.37	0.00	317.13	0.361	0.58	18.271	C
C-AB	79.98	80.61	0.00	915.13	0.087	0.17	4.321	A
C-A	557.69	557.69	0.00	-	-	-	-	-
A-B	142.29	142.29	0.00	-	-	-	-	-
A-C	786.73	786.73	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Spring Gardens Lane-North Street_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:40:47

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.67	29.14	0.41	D
Stream C-AB	0.14	4.30	0.08	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:40:47

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	18.93	C

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street	North Street		Major
Spring Gardens Lane	Spring Gardens Lane		Minor
North Street	North Street		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Street	7.70		0.00		2.20	250.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Spring Gardens Lane	One lane	4.69								✓		20	39

Pedestrian Crossings

Name	Crossing Type
North Street	None
Spring Gardens Lane	None
North Street	None

Slope / Intercept / Capacity

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
1	B-A	588.192	0.099	0.251	0.158	0.358
1	B-C	758.211	0.108	0.272	-	-
1	C-B	718.741	0.258	0.258	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street	ONE HOUR	✓	1099.00	100.000
Spring Gardens Lane	ONE HOUR	✓	77.00	100.000
North Street	ONE HOUR	✓	729.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	124.000	975.000
	B	57.000	0.000	20.000
	C	712.000	17.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.74	0.00	0.26
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.41	29.14	0.67	D
C-AB	0.08	4.30	0.14	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	57.97	57.18	0.00	345.43	0.168	0.20	12.456	B
C-AB	28.47	28.30	0.00	866.25	0.033	0.04	4.296	A
C-A	520.36	520.36	0.00	-	-	-	-	-
A-B	93.35	93.35	0.00	-	-	-	-	-
A-C	734.03	734.03	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS

B-AC	69.22	68.78	0.00	288.80	0.240	0.31	16.328	C
C-AB	45.31	45.20	0.00	925.12	0.049	0.07	4.091	A
C-A	610.04	610.04	0.00	-	-	-	-	-
A-B	111.47	111.47	0.00	-	-	-	-	-
A-C	876.50	876.50	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	84.78	83.40	0.00	208.12	0.407	0.65	28.553	D
C-AB	73.91	73.66	0.00	984.28	0.075	0.13	3.954	A
C-A	728.74	728.74	0.00	-	-	-	-	-
A-B	136.53	136.53	0.00	-	-	-	-	-
A-C	1073.50	1073.50	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	84.78	84.71	0.00	208.07	0.407	0.67	29.140	D
C-AB	74.02	74.02	0.00	984.41	0.075	0.14	3.955	A
C-A	728.62	728.62	0.00	-	-	-	-	-
A-B	136.53	136.53	0.00	-	-	-	-	-
A-C	1073.50	1073.50	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	69.22	70.61	0.00	288.74	0.240	0.32	16.605	C
C-AB	45.43	45.68	0.00	925.33	0.049	0.08	4.094	A
C-A	609.92	609.92	0.00	-	-	-	-	-
A-B	111.47	111.47	0.00	-	-	-	-	-
A-C	876.50	876.50	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	57.97	58.44	0.00	345.37	0.168	0.20	12.566	B
C-AB	28.59	28.72	0.00	866.37	0.033	0.04	4.300	A
C-A	520.23	520.23	0.00	-	-	-	-	-
A-B	93.35	93.35	0.00	-	-	-	-	-
A-C	734.03	734.03	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Spring Gardens Lane-North Street_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:41:15

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-AC	0.76	31.33	0.44	D
Stream C-AB	0.46	4.38	0.16	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:41:14

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	T-Junction	Two-way	A,B,C	15.55	C

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
North Street	North Street		Major
Spring Gardens Lane	Spring Gardens Lane		Minor
North Street	North Street		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
North Street	7.70		0.00		2.20	250.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Spring Gardens Lane	One lane	4.69								✓		20	39

Pedestrian Crossings

Name	Crossing Type
North Street	None
Spring Gardens Lane	None
North Street	None

Slope / Intercept / Capacity

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
1	B-A	588.192	0.099	0.251	0.158	0.358
1	B-C	758.211	0.108	0.272	-	-
1	C-B	718.741	0.258	0.258	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
North Street	ONE HOUR	✓	1104.00	100.000
Spring Gardens Lane	ONE HOUR	✓	81.00	100.000
North Street	ONE HOUR	✓	752.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	124.000	980.000
	B	57.000	0.000	24.000
	C	718.000	34.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.70	0.00	0.30
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.44	31.33	0.76	D
C-AB	0.16	4.38	0.46	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	60.98	60.14	0.00	345.90	0.176	0.21	12.562	B
C-AB	62.52	62.03	0.00	886.04	0.071	0.12	4.369	A
C-A	503.62	503.62	0.00	-	-	-	-	-
A-B	93.35	93.35	0.00	-	-	-	-	-
A-C	737.80	737.80	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS

B-AC	72.82	72.33	0.00	287.60	0.253	0.33	16.685	C
C-AB	91.54	91.22	0.00	928.08	0.099	0.20	4.305	A
C-A	584.49	584.49	0.00	-	-	-	-	-
A-B	111.47	111.47	0.00	-	-	-	-	-
A-C	881.00	881.00	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	89.18	87.57	0.00	203.94	0.437	0.73	30.524	D
C-AB	160.27	159.28	0.00	1005.21	0.159	0.45	4.262	A
C-A	667.69	667.69	0.00	-	-	-	-	-
A-B	136.53	136.53	0.00	-	-	-	-	-
A-C	1079.00	1079.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	89.18	89.10	0.00	203.74	0.438	0.76	31.333	D
C-AB	160.84	160.81	0.00	1005.80	0.160	0.46	4.272	A
C-A	667.13	667.13	0.00	-	-	-	-	-
A-B	136.53	136.53	0.00	-	-	-	-	-
A-C	1079.00	1079.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	72.82	74.45	0.00	287.35	0.253	0.35	17.033	C
C-AB	92.03	93.02	0.00	928.83	0.099	0.21	4.317	A
C-A	584.01	584.01	0.00	-	-	-	-	-
A-B	111.47	111.47	0.00	-	-	-	-	-
A-C	881.00	881.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	60.98	61.50	0.00	345.72	0.176	0.22	12.690	B
C-AB	62.94	63.27	0.00	886.42	0.071	0.13	4.376	A
C-A	503.21	503.21	0.00	-	-	-	-	-
A-B	93.35	93.35	0.00	-	-	-	-	-
A-C	737.80	737.80	0.00	-	-	-	-	-

F7 A629 Skipton Road / A629 Hardings Road / B6265 Skipton Road

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Hardings Road_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:36:40

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
ArmA B6265 Hard Ings Road	2.01	6.94	0.67	A
ArmB A629 Skipton Road (S)	4.38	11.89	0.82	B
ArmC B6265 Skipton Road (N)	1.02	5.65	0.51	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:36:39

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	ArmB A629 Skipton Road (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	ArmC B6265 Skipton Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			8.86	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
ArmA B6265 Hard Ings Road	ArmA B6265 Hard Ings Road	
ArmB A629 Skipton Road (S)	ArmB A629 Skipton Road (S)	
ArmC B6265 Skipton Road (N)	ArmC B6265 Skipton Road (N)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

ArmA B6265 Hard Ings Road	3.80	7.50	15.00	20.00	50.00	25.00	
ArmB A629 Skipton Road (S)	3.20	6.30	45.00	100.00	50.00	10.00	
ArmC B6265 Skipton Road (N)	3.25	6.20	40.00	100.00	50.00	25.00	

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

Pedestrian Crossings

Name	Crossing Type
ArmA B6265 Hard Ings Road	None
ArmB A629 Skipton Road (S)	None
ArmC B6265 Skipton Road (N)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
ArmA B6265 Hard Ings Road		(calculated)	(calculated)	0.634	1808.794
ArmB A629 Skipton Road (S)		(calculated)	(calculated)	0.683	1927.980
ArmC B6265 Skipton Road (N)		(calculated)	(calculated)	0.644	1804.376

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
ArmA B6265 Hard Ings Road	ONE HOUR	✓	956.00	100.000
ArmB A629 Skipton Road (S)	ONE HOUR	✓	1241.00	100.000
ArmC B6265 Skipton Road (N)	ONE HOUR	✓	597.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	0.000	609.000	347.000
	2	719.000	0.000	522.000
	3	256.000	341.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.00	0.64	0.36
	2	0.58	0.00	0.42
	3	0.43	0.57	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
ArmA B6265 Hard Ings Road	0.67	6.94	2.01	A
ArmB A629 Skipton Road (S)	0.82	11.89	4.38	B
ArmC B6265 Skipton Road (N)	0.51	5.65	1.02	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	719.73	716.64	255.71	0.00	1646.65	0.437	0.77	3.859	A
ArmB A629 Skipton Road (S)	934.29	929.76	260.12	0.00	1750.37	0.534	1.13	4.364	A
ArmC B6265 Skipton Road (N)	449.45	447.68	538.68	0.00	1457.21	0.308	0.44	3.560	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	859.42	858.00	306.14	0.00	1614.67	0.532	1.13	4.749	A

ArmB A629 Skipton Road (S)	1115.63	1112.86	311.43	0.00	1715.33	0.650	1.83	5.948	A
ArmC B6265 Skipton Road (N)	536.69	535.96	644.76	0.00	1388.84	0.386	0.63	4.217	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1052.58	1049.14	374.56	0.00	1571.28	0.670	1.98	6.850	A
ArmB A629 Skipton Road (S)	1366.37	1356.70	380.81	0.00	1667.96	0.819	4.24	11.229	B
ArmC B6265 Skipton Road (N)	657.31	655.75	786.03	0.00	1297.79	0.506	1.01	5.593	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1052.58	1052.48	375.42	0.00	1570.73	0.670	2.01	6.944	A
ArmB A629 Skipton Road (S)	1366.37	1365.80	382.02	0.00	1667.13	0.820	4.38	11.886	B
ArmC B6265 Skipton Road (N)	657.31	657.27	791.30	0.00	1294.39	0.508	1.02	5.650	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	859.42	862.85	307.43	0.00	1613.85	0.533	1.15	4.814	A
ArmB A629 Skipton Road (S)	1115.63	1125.58	313.19	0.00	1714.13	0.651	1.90	6.218	A
ArmC B6265 Skipton Road (N)	536.69	538.23	652.13	0.00	1384.09	0.388	0.64	4.263	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	719.73	721.20	257.15	0.00	1645.73	0.437	0.78	3.899	A
ArmB A629 Skipton Road (S)	934.29	937.25	261.78	0.00	1749.24	0.534	1.16	4.451	A
ArmC B6265 Skipton Road (N)	449.45	450.21	543.02	0.00	1454.41	0.309	0.45	3.589	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Hardings Road_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:37:20

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
ArmA B6265 Hard Ings Road	2.11	7.20	0.68	A
ArmB A629 Skipton Road (S)	5.52	14.53	0.85	B
ArmC B6265 Skipton Road (N)	1.14	6.14	0.53	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:37:19

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	ArmB A629 Skipton Road (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	ArmC B6265 Skipton Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			10.27	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
ArmA B6265 Hard Ings Road	ArmA B6265 Hard Ings Road	
ArmB A629 Skipton Road (S)	ArmB A629 Skipton Road (S)	
ArmC B6265 Skipton Road (N)	ArmC B6265 Skipton Road (N)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

ArmA B6265 Hard Ings Road	3.80	7.50	15.00	20.00	50.00	25.00	
ArmB A629 Skipton Road (S)	3.20	6.30	45.00	100.00	50.00	10.00	
ArmC B6265 Skipton Road (N)	3.25	6.20	40.00	100.00	50.00	25.00	

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

Pedestrian Crossings

Name	Crossing Type
ArmA B6265 Hard Ings Road	None
ArmB A629 Skipton Road (S)	None
ArmC B6265 Skipton Road (N)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
ArmA B6265 Hard Ings Road		(calculated)	(calculated)	0.634	1808.794
ArmB A629 Skipton Road (S)		(calculated)	(calculated)	0.683	1927.980
ArmC B6265 Skipton Road (N)		(calculated)	(calculated)	0.644	1804.376

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
ArmA B6265 Hard Ings Road	ONE HOUR	✓	969.00	100.000
ArmB A629 Skipton Road (S)	ONE HOUR	✓	1289.00	100.000
ArmC B6265 Skipton Road (N)	ONE HOUR	✓	612.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	0.000	617.000	352.000
	2	761.000	6.000	522.000
	3	271.000	341.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.00	0.64	0.36
	2	0.59	0.00	0.40
	3	0.44	0.56	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
ArmA B6265 Hard Ings Road	0.68	7.20	2.11	A
ArmB A629 Skipton Road (S)	0.85	14.53	5.52	B
ArmC B6265 Skipton Road (N)	0.53	6.14	1.14	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	729.51	726.35	260.17	0.00	1643.82	0.444	0.79	3.911	A
ArmB A629 Skipton Road (S)	970.43	965.49	263.85	0.00	1747.82	0.555	1.23	4.574	A
ArmC B6265 Skipton Road (N)	460.75	458.86	574.50	0.00	1434.12	0.321	0.47	3.685	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	871.11	869.62	311.48	0.00	1611.28	0.541	1.16	4.844	A

ArmB A629 Skipton Road (S)	1158.78	1155.52	315.90	0.00	1712.28	0.677	2.05	6.427	A
ArmC B6265 Skipton Road (N)	550.18	549.37	687.58	0.00	1361.24	0.404	0.67	4.429	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1066.89	1063.21	380.99	0.00	1567.20	0.681	2.08	7.090	A
ArmB A629 Skipton Road (S)	1419.22	1406.34	386.22	0.00	1664.26	0.853	5.27	13.335	B
ArmC B6265 Skipton Road (N)	673.82	672.02	836.82	0.00	1265.05	0.533	1.12	6.052	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1066.89	1066.78	382.02	0.00	1566.55	0.681	2.11	7.198	A
ArmB A629 Skipton Road (S)	1419.22	1418.22	387.52	0.00	1663.38	0.853	5.52	14.533	B
ArmC B6265 Skipton Road (N)	673.82	673.77	843.89	0.00	1260.50	0.535	1.14	6.135	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	871.11	874.78	313.01	0.00	1610.31	0.541	1.19	4.918	A
ArmB A629 Skipton Road (S)	1158.78	1172.27	317.77	0.00	1711.00	0.677	2.14	6.841	A
ArmC B6265 Skipton Road (N)	550.18	551.97	697.54	0.00	1354.82	0.406	0.69	4.493	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	729.51	731.06	261.73	0.00	1642.83	0.444	0.80	3.956	A
ArmB A629 Skipton Road (S)	970.43	973.95	265.57	0.00	1746.65	0.556	1.26	4.681	A
ArmC B6265 Skipton Road (N)	460.75	461.59	579.53	0.00	1430.87	0.322	0.48	3.719	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Hardings Road_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:38:22

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
ArmA B6265 Hard Ings Road	2.10	6.94	0.68	A
ArmB A629 Skipton Road (S)	2.16	7.37	0.69	A
ArmC B6265 Skipton Road (N)	0.60	4.06	0.38	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:38:21

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	ArmB A629 Skipton Road (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	ArmC B6265 Skipton Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			6.54	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
ArmA B6265 Hard Ings Road	ArmA B6265 Hard Ings Road	
ArmB A629 Skipton Road (S)	ArmB A629 Skipton Road (S)	
ArmC B6265 Skipton Road (N)	ArmC B6265 Skipton Road (N)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

ArmA B6265 Hard Ings Road	3.80	7.50	15.00	20.00	50.00	25.00	
ArmB A629 Skipton Road (S)	3.20	6.30	45.00	100.00	50.00	10.00	
ArmC B6265 Skipton Road (N)	3.25	6.20	40.00	100.00	50.00	25.00	

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

Pedestrian Crossings

Name	Crossing Type
ArmA B6265 Hard Ings Road	None
ArmB A629 Skipton Road (S)	None
ArmC B6265 Skipton Road (N)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
ArmA B6265 Hard Ings Road		(calculated)	(calculated)	0.634	1808.794
ArmB A629 Skipton Road (S)		(calculated)	(calculated)	0.683	1927.980
ArmC B6265 Skipton Road (N)		(calculated)	(calculated)	0.644	1804.376

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
ArmA B6265 Hard Ings Road	ONE HOUR	✓	1001.00	100.000
ArmB A629 Skipton Road (S)	ONE HOUR	✓	971.00	100.000
ArmC B6265 Skipton Road (N)	ONE HOUR	✓	486.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	3.000	510.000	488.000
	2	536.000	0.000	435.000
	3	216.000	268.000	2.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.00	0.51	0.49
	2	0.55	0.00	0.45
	3	0.44	0.55	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
ArmA B6265 Hard Ings Road	0.68	6.94	2.10	A
ArmB A629 Skipton Road (S)	0.69	7.37	2.16	A
ArmC B6265 Skipton Road (N)	0.38	4.06	0.60	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	753.61	750.38	202.58	0.00	1680.33	0.448	0.81	3.858	A
ArmB A629 Skipton Road (S)	731.02	727.95	369.57	0.00	1675.64	0.436	0.77	3.786	A
ArmC B6265 Skipton Road (N)	365.89	364.65	404.08	0.00	1543.95	0.237	0.31	3.050	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	899.88	898.39	242.50	0.00	1655.02	0.544	1.18	4.748	A

ArmB A629 Skipton Road (S)	872.91	871.40	442.47	0.00	1625.86	0.537	1.15	4.762	A
ArmC B6265 Skipton Road (N)	436.90	436.49	483.71	0.00	1492.63	0.293	0.41	3.406	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1102.12	1098.52	296.86	0.00	1620.55	0.680	2.08	6.848	A
ArmB A629 Skipton Road (S)	1069.09	1065.15	541.04	0.00	1558.56	0.686	2.13	7.239	A
ArmC B6265 Skipton Road (N)	535.10	534.35	591.27	0.00	1423.31	0.376	0.60	4.046	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1102.12	1102.02	297.27	0.00	1620.29	0.680	2.10	6.943	A
ArmB A629 Skipton Road (S)	1069.09	1068.97	542.76	0.00	1557.38	0.686	2.16	7.365	A
ArmC B6265 Skipton Road (N)	535.10	535.08	593.38	0.00	1421.95	0.376	0.60	4.059	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	899.88	903.46	243.13	0.00	1654.62	0.544	1.21	4.816	A
ArmB A629 Skipton Road (S)	872.91	876.85	444.96	0.00	1624.16	0.537	1.18	4.841	A
ArmC B6265 Skipton Road (N)	436.90	437.64	486.74	0.00	1490.68	0.293	0.42	3.420	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	753.61	755.15	203.50	0.00	1679.75	0.449	0.82	3.899	A
ArmB A629 Skipton Road (S)	731.02	732.60	371.92	0.00	1674.03	0.437	0.78	3.832	A
ArmC B6265 Skipton Road (N)	365.89	366.30	406.66	0.00	1542.29	0.237	0.31	3.061	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Hardings Road_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:38:50

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
ArmA B6265 Hard Ings Road	2.33	7.46	0.70	A
ArmB A629 Skipton Road (S)	2.27	7.66	0.70	A
ArmC B6265 Skipton Road (N)	0.61	4.10	0.38	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:38:50

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	ArmB A629 Skipton Road (S) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	ArmC B6265 Skipton Road (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			6.88	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
ArmA B6265 Hard Ings Road	ArmA B6265 Hard Ings Road	
ArmB A629 Skipton Road (S)	ArmB A629 Skipton Road (S)	
ArmC B6265 Skipton Road (N)	ArmC B6265 Skipton Road (N)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

ArmA B6265 Hard Ings Road	3.80	7.50	15.00	20.00	50.00	25.00	
ArmB A629 Skipton Road (S)	3.20	6.30	45.00	100.00	50.00	10.00	
ArmC B6265 Skipton Road (N)	3.25	6.20	40.00	100.00	50.00	25.00	

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

Pedestrian Crossings

Name	Crossing Type
ArmA B6265 Hard Ings Road	None
ArmB A629 Skipton Road (S)	None
ArmC B6265 Skipton Road (N)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
ArmA B6265 Hard Ings Road		(calculated)	(calculated)	0.634	1808.794
ArmB A629 Skipton Road (S)		(calculated)	(calculated)	0.683	1927.980
ArmC B6265 Skipton Road (N)		(calculated)	(calculated)	0.644	1804.376

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
ArmA B6265 Hard Ings Road	ONE HOUR	✓	1033.00	100.000
ArmB A629 Skipton Road (S)	ONE HOUR	✓	980.00	100.000
ArmC B6265 Skipton Road (N)	ONE HOUR	✓	489.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	3.000	530.000	500.000
	2	544.000	1.000	435.000
	3	219.000	268.000	2.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.00	0.51	0.48
	2	0.56	0.00	0.44
	3	0.45	0.55	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
ArmA B6265 Hard Ings Road	0.70	7.46	2.33	A
ArmB A629 Skipton Road (S)	0.70	7.66	2.27	A
ArmC B6265 Skipton Road (N)	0.38	4.10	0.61	A

Main Results for each time segment

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	777.70	774.28	203.33	0.00	1679.86	0.463	0.86	3.960	A
ArmB A629 Skipton Road (S)	737.80	734.65	378.52	0.00	1669.52	0.442	0.79	3.837	A
ArmC B6265 Skipton Road (N)	368.14	366.89	410.81	0.00	1539.62	0.239	0.31	3.067	A

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	928.65	927.01	243.39	0.00	1654.46	0.561	1.26	4.938	A

ArmB A629 Skipton Road (S)	881.00	879.42	453.19	0.00	1618.54	0.544	1.18	4.859	A
ArmC B6265 Skipton Road (N)	439.60	439.18	491.76	0.00	1487.44	0.296	0.42	3.432	A

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1137.35	1133.23	297.95	0.00	1619.86	0.702	2.30	7.334	A
ArmB A629 Skipton Road (S)	1079.00	1074.79	554.00	0.00	1549.70	0.696	2.23	7.512	A
ArmC B6265 Skipton Road (N)	538.40	537.63	601.01	0.00	1417.03	0.380	0.61	4.090	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	1137.35	1137.23	298.37	0.00	1619.59	0.702	2.33	7.458	A
ArmB A629 Skipton Road (S)	1079.00	1078.86	555.96	0.00	1548.37	0.697	2.27	7.662	A
ArmC B6265 Skipton Road (N)	538.40	538.39	603.28	0.00	1415.57	0.380	0.61	4.103	A

Main results: (09:00-09:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	928.65	932.77	244.04	0.00	1654.04	0.561	1.30	5.018	A
ArmB A629 Skipton Road (S)	881.00	885.22	455.99	0.00	1616.62	0.545	1.21	4.951	A
ArmC B6265 Skipton Road (N)	439.60	440.36	495.00	0.00	1485.36	0.296	0.42	3.446	A

Main results: (09:15-09:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
ArmA B6265 Hard Ings Road	777.70	779.40	204.26	0.00	1679.27	0.463	0.87	4.009	A
ArmB A629 Skipton Road (S)	737.80	739.44	381.02	0.00	1667.81	0.442	0.80	3.885	A
ArmC B6265 Skipton Road (N)	368.14	368.57	413.49	0.00	1537.89	0.239	0.32	3.081	A

F8 A629 / A629 Hardings Road / A650 Hardings Road

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: A629-Hardings Road_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:27:06

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
A650 Hard Ings Road	3.57	7.31	0.78	A
B6265 Hard Ings Road	56.45	170.10	1.10	F
A629 Skipton Road	10.35	21.20	0.92	C

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 07:30 - 09:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:27:06

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A650 Hard Ings Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			49.82	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
A650 Hard Ings Road	A650 Hard Ings Road	
B6265 Hard Ings Road	B6265 Hard Ings Road	
A629 Skipton Road	A629 Skipton Road	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A650 Hard Ings Road	3.90	12.10	45.00	22.00	70.00	28.00	
B6265 Hard Ings Road	4.25	8.90	7.60	20.00	70.00	35.00	

A629 Skipton Road	7.20	8.30	12.00	21.00	70.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
A650 Hard Ings Road	None
B6265 Hard Ings Road	None
A629 Skipton Road	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A650 Hard Ings Road		(calculated)	(calculated)	0.679	2782.464
B6265 Hard Ings Road		(calculated)	(calculated)	0.507	1733.479
A629 Skipton Road		(calculated)	(calculated)	0.623	2444.986

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A650 Hard Ings Road	ONE HOUR	✓	1625.00	100.000
B6265 Hard Ings Road	ONE HOUR	✓	978.00	100.000
A629 Skipton Road	ONE HOUR	✓	1696.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	184.000	416.000	1025.000
	2	473.000	0.000	505.000
	3	1022.000	535.000	139.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	**2**	**3**

From	1	0.11	0.26	0.63
	2	0.48	0.00	0.52
	3	0.60	0.32	0.08

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
From		1	2	3
	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
From		1	2	3
	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A650 Hard Ings Road	0.78	7.31	3.57	A
B6265 Hard Ings Road	1.10	170.10	56.45	F
A629 Skipton Road	0.92	21.20	10.35	C

Main Results for each time segment

Main results: (07:30-07:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1223.39	1219.39	505.09	0.00	2439.76	0.501	1.00	2.940	A
B6265 Hard Ings Road	736.29	730.34	1011.39	0.00	1221.01	0.603	1.49	7.251	A
A629 Skipton Road	1276.84	1270.98	491.29	0.00	2138.77	0.597	1.46	4.122	A

Main results: (07:45-08:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1460.84	1458.50	603.98	0.00	2372.66	0.616	1.58	3.927	A
B6265 Hard Ings Road	879.20	871.55	1209.68	0.00	1120.53	0.785	3.40	14.042	B

A629 Skipton Road	1524.67	1519.81	586.66	0.00	2079.33	0.733	2.68	6.378	A

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1789.16	1781.59	731.61	0.00	2286.07	0.783	3.48	7.031	A
B6265 Hard Ings Road	1076.80	963.62	1476.38	0.00	985.40	1.093	31.70	78.737	F
A629 Skipton Road	1867.33	1840.97	667.78	0.00	2028.78	0.920	9.27	17.185	C

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1789.16	1788.79	740.37	0.00	2280.13	0.785	3.57	7.314	A
B6265 Hard Ings Road	1076.80	977.79	1483.55	0.00	981.76	1.097	56.45	170.104	F
A629 Skipton Road	1867.33	1863.00	675.45	0.00	2023.99	0.923	10.35	21.196	C

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1460.84	1468.57	617.26	0.00	2363.66	0.618	1.64	4.055	A
B6265 Hard Ings Road	879.20	1084.57	1219.91	0.00	1115.35	0.788	5.11	104.101	F
A629 Skipton Road	1524.67	1553.22	690.83	0.00	2014.41	0.757	3.22	8.260	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1223.39	1225.87	510.14	0.00	2436.34	0.502	1.02	2.981	A
B6265 Hard Ings Road	736.29	750.48	1017.25	0.00	1218.04	0.604	1.56	7.924	A
A629 Skipton Road	1276.84	1283.67	501.77	0.00	2132.25	0.599	1.51	4.277	A

ARCADY 8

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Filename: A629-Hardings Road_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:27:35

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
A650 Hard Ings Road	3.69	7.52	0.79	A
B6265 Hard Ings Road	85.82	245.28	1.16	F
A629 Skipton Road	11.23	23.00	0.93	C

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 07:30 - 09:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:27:34

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A650 Hard Ings Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			69.86	F

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
A650 Hard Ings Road	A650 Hard Ings Road	
B6265 Hard Ings Road	B6265 Hard Ings Road	
A629 Skipton Road	A629 Skipton Road	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A650 Hard Ings Road	3.90	12.10	45.00	22.00	70.00	28.00	
B6265 Hard Ings Road	4.25	8.90	7.60	20.00	70.00	35.00	

A629 Skipton Road	7.20	8.30	12.00	21.00	70.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
A650 Hard Ings Road	None
B6265 Hard Ings Road	None
A629 Skipton Road	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A650 Hard Ings Road		(calculated)	(calculated)	0.679	2782.464
B6265 Hard Ings Road		(calculated)	(calculated)	0.507	1733.479
A629 Skipton Road		(calculated)	(calculated)	0.623	2444.986

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A650 Hard Ings Road	ONE HOUR	✓	1636.00	100.000
B6265 Hard Ings Road	ONE HOUR	✓	1035.00	100.000
A629 Skipton Road	ONE HOUR	✓	1698.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	184.000	427.000	1025.000
	2	521.000	0.000	514.000
	3	1022.000	537.000	139.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	**2**	**3**

From	1	0.11	0.26	0.63
	2	0.50	0.00	0.50
	3	0.60	0.32	0.08

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
From		1	2	3
	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
From		1	2	3
	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A650 Hard Ings Road	0.79	7.52	3.69	A
B6265 Hard Ings Road	1.16	245.28	85.82	F
A629 Skipton Road	0.93	23.00	11.23	C

Main Results for each time segment

Main results: (07:30-07:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1231.67	1227.61	506.53	0.00	2438.78	0.505	1.01	2.963	A
B6265 Hard Ings Road	779.20	772.32	1011.36	0.00	1221.02	0.638	1.72	7.907	A
A629 Skipton Road	1278.34	1272.32	526.84	0.00	2116.62	0.604	1.51	4.235	A

Main results: (07:45-08:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1470.73	1468.33	605.62	0.00	2371.55	0.620	1.61	3.975	A
B6265 Hard Ings Road	930.44	919.70	1209.62	0.00	1120.56	0.830	4.41	17.072	C

A629 Skipton Road	1526.47	1521.23	628.10	0.00	2053.50	0.743	2.82	6.696	A

Main results: (08:00-08:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1801.27	1793.37	732.87	0.00	2285.21	0.788	3.59	7.205	A
B6265 Hard Ings Road	1139.56	973.09	1475.99	0.00	985.59	1.156	46.02	105.669	F
A629 Skipton Road	1869.53	1840.84	691.54	0.00	2013.97	0.928	9.99	18.362	C

Main results: (08:15-08:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1801.27	1800.87	742.32	0.00	2278.80	0.790	3.69	7.517	A
B6265 Hard Ings Road	1139.56	980.36	1483.47	0.00	981.80	1.161	85.82	245.283	F
A629 Skipton Road	1869.53	1864.58	696.04	0.00	2011.16	0.930	11.23	23.002	C

Main results: (08:30-08:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1470.73	1478.81	620.22	0.00	2361.65	0.623	1.67	4.114	A
B6265 Hard Ings Road	930.44	1102.28	1220.36	0.00	1115.12	0.834	42.86	211.479	F
A629 Skipton Road	1526.47	1557.89	721.19	0.00	1995.49	0.765	3.37	8.779	A

Main results: (08:45-09:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1231.67	1234.23	511.67	0.00	2435.30	0.506	1.03	3.005	A
B6265 Hard Ings Road	779.20	943.29	1017.30	0.00	1218.01	0.640	1.84	23.686	C
A629 Skipton Road	1278.34	1285.23	613.65	0.00	2062.51	0.620	1.65	4.671	A

ARCADY 8

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Filename: A629-Hardings Road_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:28:15

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
A650 Hard Ings Road	3.12	6.46	0.76	A
B6265 Hard Ings Road	4.27	18.65	0.82	C
A629 Skipton Road	7.51	16.62	0.89	C

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:28:14

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A650 Hard Ings Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			12.88	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
A650 Hard Ings Road	A650 Hard Ings Road	
B6265 Hard Ings Road	B6265 Hard Ings Road	
A629 Skipton Road	A629 Skipton Road	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A650 Hard Ings Road	3.90	12.10	45.00	22.00	70.00	28.00	
B6265 Hard Ings Road	4.25	8.90	7.60	20.00	70.00	35.00	

A629 Skipton Road	7.20	8.30	12.00	21.00	70.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
A650 Hard Ings Road	None
B6265 Hard Ings Road	None
A629 Skipton Road	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A650 Hard Ings Road		(calculated)	(calculated)	0.679	2782.464
B6265 Hard Ings Road		(calculated)	(calculated)	0.507	1733.479
A629 Skipton Road		(calculated)	(calculated)	0.623	2444.986

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A650 Hard Ings Road	ONE HOUR	✓	1605.00	100.000
B6265 Hard Ings Road	ONE HOUR	✓	780.00	100.000
A629 Skipton Road	ONE HOUR	✓	1552.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	321.000	591.000	693.000
	2	447.000	0.000	333.000
	3	937.000	401.000	214.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	**2**	**3**

From	1	0.20	0.37	0.43
	2	0.57	0.00	0.43
	3	0.60	0.26	0.14

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
From		1	2	3
	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
From		1	2	3
	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A650 Hard Ings Road	0.76	6.46	3.12	A
B6265 Hard Ings Road	0.82	18.65	4.27	C
A629 Skipton Road	0.89	16.62	7.51	C

Main Results for each time segment

Main results: (16:30-16:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1208.33	1204.52	461.01	0.00	2469.67	0.489	0.95	2.837	A
B6265 Hard Ings Road	587.22	583.80	921.40	0.00	1266.60	0.464	0.86	5.246	A
A629 Skipton Road	1168.43	1163.38	575.47	0.00	2086.31	0.560	1.26	3.880	A

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1442.86	1440.75	551.38	0.00	2408.35	0.599	1.48	3.713	A
B6265 Hard Ings Road	701.20	698.82	1102.09	0.00	1175.05	0.597	1.45	7.522	A

A629 Skipton Road	1395.22	1391.44	688.63	0.00	2015.78	0.692	2.20	5.732	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1767.14	1760.81	669.56	0.00	2328.17	0.759	3.06	6.275	A
B6265 Hard Ings Road	858.80	848.44	1345.42	0.00	1051.75	0.817	4.04	16.911	C
A629 Skipton Road	1708.78	1689.68	838.38	0.00	1922.44	0.889	6.98	14.422	B

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1767.14	1766.89	676.28	0.00	2323.61	0.761	3.12	6.461	A
B6265 Hard Ings Road	858.80	857.86	1351.60	0.00	1048.62	0.819	4.27	18.655	C
A629 Skipton Road	1708.78	1706.64	845.00	0.00	1918.31	0.891	7.51	16.623	C

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1442.86	1449.28	561.11	0.00	2401.75	0.601	1.52	3.806	A
B6265 Hard Ings Road	701.20	712.19	1110.87	0.00	1170.60	0.599	1.53	8.033	A
A629 Skipton Road	1395.22	1416.00	698.00	0.00	2009.94	0.694	2.32	6.264	A

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1208.33	1210.55	464.63	0.00	2467.21	0.490	0.97	2.869	A
B6265 Hard Ings Road	587.22	589.82	926.47	0.00	1264.04	0.465	0.88	5.359	A
A629 Skipton Road	1168.43	1172.54	580.12	0.00	2083.41	0.561	1.29	3.969	A

ARCADY 8

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Filename: A629-Hardings Road_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:28:39

« (Default Analysis Set) - Scenario 1, PM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
A650 Hard Ings Road	3.38	6.88	0.78	A
B6265 Hard Ings Road	4.59	19.84	0.83	C
A629 Skipton Road	7.91	17.49	0.90	C

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, PM " model duration: 16:30 - 18:00

Run using ARCADY 8.0.0.296 at 09/11/2012 15:28:39

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)

5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A650 Hard Ings Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:30	18:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			13.61	B

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description
A650 Hard Ings Road	A650 Hard Ings Road	
B6265 Hard Ings Road	B6265 Hard Ings Road	
A629 Skipton Road	A629 Skipton Road	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A650 Hard Ings Road	3.90	12.10	45.00	22.00	70.00	28.00	
B6265 Hard Ings Road	4.25	8.90	7.60	20.00	70.00	35.00	

A629 Skipton Road	7.20	8.30	12.00	21.00	70.00	30.00	

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

Pedestrian Crossings

Name	Crossing Type
A650 Hard Ings Road	None
B6265 Hard Ings Road	None
A629 Skipton Road	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A650 Hard Ings Road		(calculated)	(calculated)	0.679	2782.464
B6265 Hard Ings Road		(calculated)	(calculated)	0.507	1733.479
A629 Skipton Road		(calculated)	(calculated)	0.623	2444.986

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A650 Hard Ings Road	ONE HOUR	✓	1633.00	100.000
B6265 Hard Ings Road	ONE HOUR	✓	791.00	100.000
A629 Skipton Road	ONE HOUR	✓	1557.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To		
		1	**2**	**3**
From	**1**	321.000	619.000	693.000
	2	456.000	0.000	335.000
	3	937.000	406.000	214.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To		
		1	**2**	**3**

From	1	0.20	0.38	0.42
	2	0.58	0.00	0.42
	3	0.60	0.26	0.14

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To		
From		1	2	3
	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To		
From		1	2	3
	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A650 Hard Ings Road	0.78	6.88	3.38	A
B6265 Hard Ings Road	0.83	19.84	4.59	C
A629 Skipton Road	0.90	17.49	7.91	C

Main Results for each time segment

Main results: (16:30-16:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1229.41	1225.46	464.74	0.00	2467.14	0.498	0.99	2.889	A
B6265 Hard Ings Road	595.51	592.00	921.35	0.00	1266.63	0.470	0.88	5.309	A
A629 Skipton Road	1172.19	1167.09	582.17	0.00	2082.13	0.563	1.28	3.912	A

Main results: (16:45-17:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1468.03	1465.78	555.82	0.00	2405.34	0.610	1.55	3.822	A
B6265 Hard Ings Road	711.09	708.60	1102.02	0.00	1175.09	0.605	1.50	7.676	A

A629 Skipton Road	1399.71	1395.84	696.63	0.00	2010.79	0.696	2.24	5.816	A

Main results: (17:00-17:15)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1797.97	1790.94	674.58	0.00	2324.76	0.773	3.31	6.656	A
B6265 Hard Ings Road	870.91	859.65	1344.91	0.00	1052.01	0.828	4.31	17.767	C
A629 Skipton Road	1714.29	1694.06	847.62	0.00	1916.68	0.894	7.30	14.983	B

Main results: (17:15-17:30)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1797.97	1797.67	681.66	0.00	2319.96	0.775	3.38	6.882	A
B6265 Hard Ings Road	870.91	869.80	1351.53	0.00	1048.66	0.831	4.59	19.839	C
A629 Skipton Road	1714.29	1711.84	854.79	0.00	1912.21	0.897	7.91	17.490	C

Main results: (17:30-17:45)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1468.03	1475.18	566.20	0.00	2398.30	0.612	1.60	3.930	A
B6265 Hard Ings Road	711.09	723.13	1111.43	0.00	1170.32	0.608	1.58	8.258	A
A629 Skipton Road	1399.71	1421.89	706.85	0.00	2004.42	0.698	2.37	6.407	A

Main results: (17:45-18:00)

Name	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
A650 Hard Ings Road	1229.41	1231.78	468.46	0.00	2464.62	0.499	1.00	2.925	A
B6265 Hard Ings Road	595.51	598.23	926.56	0.00	1263.99	0.471	0.90	5.428	A
A629 Skipton Road	1172.19	1176.43	587.01	0.00	2079.12	0.564	1.31	4.007	A

F9 B6265 Skipton Road / Green Head Road / Clock View Street

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Green Head Road_AM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:34:45

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-CD	0.28	26.00	0.22	D
Stream B-AD	3.44	55.69	0.80	F
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	0.00	0.00	0.00	A
Stream D-ABC	0.00	0.00	0.00	A
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	0.10	8.39	0.10	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:34:44

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton

Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	Crossroads	Two-way	A,B,C,D	45.39	E

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Skipton Road		Major
B	Green Head Road		Minor
C	Skipton Road		Major
D	Clock View Street		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

A	8.50		0.00	✓	2.20	160.00		
C	8.50		0.00	✓	2.20	100.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				9.00	5.50	3.00	3.00	3.00	✓	1.00	19	30
D	One lane	4.40										14	25

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	666.621	-	-	-	-	-	-	0.230	0.329	0.230	-	-	-
1	B-A	535.526	0.087	0.220	0.220	-	-	-	0.138	0.314	-	0.220	0.220	0.110
1	B-C	603.849	0.082	0.209	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	468.261	0.076	0.192	0.192	-	-	-	0.121	0.274	0.121	-	-	-
1	B-D, offside lane	535.526	0.087	0.220	0.220	-	-	-	0.138	0.314	0.138	-	-	-
1	C-B	631.874	0.218	0.218	0.312	-	-	-	-	-	-	-	-	-
1	D-A	729.334	-	-	-	-	-	-	0.252	-	0.100	-	-	-
1	D-B, nearside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-B, offside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-C	563.728	-	0.146	0.330	0.116	0.231	0.231	0.231	0.231	0.092	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)

A	ONE HOUR	✓	657.00	100.000
B	ONE HOUR	✓	251.00	100.000
C	ONE HOUR	✓	590.00	100.000
D	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	141.000	516.000	0.000
	B	215.000	0.000	36.000	0.000
	C	548.000	41.000	0.000	1.000
	D	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.21	0.79	0.00
	B	0.86	0.00	0.14	0.00
	C	0.93	0.07	0.00	0.00
	D	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	0.000	0.000
	B	0.000	0.000	0.000	0.000
	C	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.22	26.00	0.28	D
B-AD	0.80	55.69	3.44	F
A-B	-	-	-	-

A-C	-	-	-	-
A-D	0.00	0.00	0.00	A
D-ABC	0.00	0.00	0.00	A
C-D	-	-	-	-
C-A	-	-	-	-
C-B	0.10	8.39	0.10	A

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	27.10	26.83	0.00	424.78	0.064	0.07	9.041	A
B-AD	161.86	158.90	0.00	373.71	0.433	0.74	16.545	C
A-B	106.15	106.15	0.00	-	-	-	-	-
A-C	388.47	388.47	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	561.33	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	426.74	0.000	0.00	0.000	A
C-D	0.75	0.75	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	30.87	30.62	0.00	523.95	0.059	0.06	7.294	A

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	32.36	32.23	0.00	352.90	0.092	0.10	11.221	B
B-AD	193.28	191.31	0.00	341.82	0.565	1.23	23.599	C
A-B	126.76	126.76	0.00	-	-	-	-	-
A-C	463.87	463.87	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	540.81	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	392.32	0.000	0.00	0.000	A
C-D	0.90	0.90	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	36.86	36.79	0.00	503.00	0.073	0.08	7.721	A

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	39.64	39.06	0.00	196.81	0.201	0.24	22.738	C
B-AD	236.72	229.16	0.00	297.09	0.797	3.12	48.359	E
A-B	155.24	155.24	0.00	-	-	-	-	-
A-C	568.13	568.13	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	512.53	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	344.10	0.000	0.00	0.000	A
C-D	1.10	1.10	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	45.14	45.04	0.00	474.04	0.095	0.10	8.390	A

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	39.64	39.50	0.00	177.79	0.223	0.28	25.998	D
B-AD	236.72	235.45	0.00	296.92	0.797	3.44	55.693	F

A-B	155.24	155.24	0.00	-	-	-	-	-
A-C	568.13	568.13	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	512.50	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	343.73	0.000	0.00	0.000	A
C-D	1.10	1.10	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	45.14	45.14	0.00	474.04	0.095	0.10	8.393	A

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	32.36	33.05	0.00	336.75	0.096	0.11	11.880	B
B-AD	193.28	201.52	0.00	341.74	0.566	1.38	26.981	D
A-B	126.76	126.76	0.00	-	-	-	-	-
A-C	463.87	463.87	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	540.75	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	391.81	0.000	0.00	0.000	A
C-D	0.90	0.90	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	36.86	36.96	0.00	503.00	0.073	0.08	7.727	A

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	27.10	27.25	0.00	419.17	0.065	0.07	9.190	A
B-AD	161.86	164.23	0.00	373.65	0.433	0.79	17.375	C
A-B	106.15	106.15	0.00	-	-	-	-	-
A-C	388.47	388.47	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	561.22	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	426.44	0.000	0.00	0.000	A
C-D	0.75	0.75	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	30.87	30.93	0.00	523.95	0.059	0.06	7.302	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Green Head Road_AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:35:14

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-CD	0.56	46.81	0.37	E
Stream B-AD	4.81	74.13	0.86	F
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	0.00	0.00	0.00	A
Stream D-ABC	0.00	0.00	0.00	A
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	0.11	8.44	0.10	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:35:13

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton

Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	Crossroads	Two-way	A,B,C,D	61.73	F

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Skipton Road		Major
B	Green Head Road		Minor
C	Skipton Road		Major
D	Clock View Street		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

A	8.50		0.00	✓	2.20	160.00		
C	8.50		0.00	✓	2.20	100.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				9.00	5.50	3.00	3.00	3.00	✓	1.00	19	30
D	One lane	4.40										14	25

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	666.621	-	-	-	-	-	-	0.230	0.329	0.230	-	-	-
1	B-A	535.094	0.087	0.220	0.220	-	-	-	0.138	0.314	-	0.220	0.220	0.110
1	B-C	605.241	0.083	0.209	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	469.340	0.076	0.193	0.193	-	-	-	0.121	0.275	0.121	-	-	-
1	B-D, offside lane	535.094	0.087	0.220	0.220	-	-	-	0.138	0.314	0.138	-	-	-
1	C-B	631.874	0.218	0.218	0.312	-	-	-	-	-	-	-	-	-
1	D-A	729.334	-	-	-	-	-	-	0.252	-	0.100	-	-	-
1	D-B, nearside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-B, offside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-C	563.728	-	0.146	0.330	0.116	0.231	0.231	0.231	0.231	0.092	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)

A	ONE HOUR	✓	662.00	100.000
B	ONE HOUR	✓	271.00	100.000
C	ONE HOUR	✓	591.00	100.000
D	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	146.000	516.000	0.000
	B	230.000	0.000	41.000	0.000
	C	548.000	42.000	0.000	1.000
	D	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.22	0.78	0.00
	B	0.85	0.00	0.15	0.00
	C	0.93	0.07	0.00	0.00
	D	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	0.000	0.000
	B	0.000	0.000	0.000	0.000
	C	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.37	46.81	0.56	E
B-AD	0.86	74.13	4.81	F
A-B	-	-	-	-

A-C	-	-	-	-
A-D	0.00	0.00	0.00	A
D-ABC	0.00	0.00	0.00	A
C-D	-	-	-	-
C-A	-	-	-	-
C-B	0.10	8.44	0.11	A

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	30.87	30.55	0.00	414.14	0.075	0.08	9.377	A
B-AD	173.16	169.81	0.00	372.64	0.465	0.84	17.481	C
A-B	109.92	109.92	0.00	-	-	-	-	-
A-C	388.47	388.47	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	561.08	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	425.56	0.000	0.00	0.000	A
C-D	0.75	0.75	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	31.62	31.36	0.00	523.13	0.060	0.06	7.317	A

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	36.86	36.69	0.00	332.39	0.111	0.12	12.165	B
B-AD	206.77	204.32	0.00	340.43	0.607	1.45	25.971	D
A-B	131.25	131.25	0.00	-	-	-	-	-
A-C	463.87	463.87	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	540.51	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	390.85	0.000	0.00	0.000	A
C-D	0.90	0.90	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	37.76	37.69	0.00	502.02	0.075	0.08	7.752	A

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	45.14	44.01	0.00	150.93	0.299	0.41	33.339	D
B-AD	253.23	242.40	0.00	294.94	0.859	4.16	59.132	F
A-B	160.75	160.75	0.00	-	-	-	-	-
A-C	568.13	568.13	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	512.17	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	342.21	0.000	0.00	0.000	A
C-D	1.10	1.10	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	46.24	46.14	0.00	472.84	0.098	0.11	8.435	A

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	45.14	44.53	0.00	120.74	0.374	0.56	46.805	E
B-AD	253.23	250.62	0.00	294.54	0.860	4.81	74.128	F

A-B	160.75	160.75	0.00	-	-	-	-	-
A-C	568.13	568.13	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	512.13	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	341.66	0.000	0.00	0.000	A
C-D	1.10	1.10	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	46.24	46.24	0.00	472.84	0.098	0.11	8.438	A

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	36.86	38.53	0.00	306.22	0.120	0.14	13.530	B
B-AD	206.77	219.35	0.00	340.14	0.608	1.67	32.335	D
A-B	131.25	131.25	0.00	-	-	-	-	-
A-C	463.87	463.87	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	540.45	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	390.06	0.000	0.00	0.000	A
C-D	0.90	0.90	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	37.76	37.86	0.00	502.02	0.075	0.08	7.758	A

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	30.87	31.09	0.00	406.80	0.076	0.08	9.588	A
B-AD	173.16	176.22	0.00	372.57	0.465	0.90	18.605	C
A-B	109.92	109.92	0.00	-	-	-	-	-
A-C	388.47	388.47	0.00	-	-	-	-	-
A-D	0.00	0.00	0.00	560.97	0.000	0.00	0.000	A
D-ABC	0.00	0.00	0.00	425.21	0.000	0.00	0.000	A
C-D	0.75	0.75	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	31.62	31.69	0.00	523.13	0.060	0.06	7.325	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Green Head Road_PM_DM_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:35:42

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-CD	0.12	16.14	0.11	C
Stream B-AD	1.97	40.78	0.68	E
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	0.00	7.09	0.00	A
Stream D-ABC	0.00	0.00	0.00	A
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	0.15	9.32	0.13	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:35:41

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton

Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	Crossroads	Two-way	A,B,C,D	31.47	D

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Skipton Road		Major
B	Green Head Road		Minor
C	Skipton Road		Major
D	Clock View Street		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

A	8.50		0.00	✓	2.20	160.00		
C	8.50		0.00	✓	2.20	100.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				9.00	5.50	3.00	3.00	3.00	✓	1.00	19	30
D	One lane	4.40										14	25

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	666.621	-	-	-	-	-	-	0.230	0.329	0.230	-	-	-
1	B-A	536.465	0.087	0.220	0.220	-	-	-	0.138	0.314	-	0.220	0.220	0.110
1	B-C	600.821	0.082	0.207	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	465.913	0.076	0.191	0.191	-	-	-	0.120	0.273	0.120	-	-	-
1	B-D, offside lane	536.465	0.087	0.220	0.220	-	-	-	0.138	0.314	0.138	-	-	-
1	C-B	631.874	0.218	0.218	0.312	-	-	-	-	-	-	-	-	-
1	D-A	729.334	-	-	-	-	-	-	0.252	-	0.100	-	-	-
1	D-B, nearside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-B, offside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-C	563.728	-	0.146	0.330	0.116	0.231	0.231	0.231	0.231	0.092	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)

A	ONE HOUR	✓	783.00	100.000
B	ONE HOUR	✓	190.00	100.000
C	ONE HOUR	✓	600.00	100.000
D	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	174.000	608.000	1.000
	B	166.000	0.000	24.000	0.000
	C	548.000	52.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.22	0.78	0.00
	B	0.87	0.00	0.13	0.00
	C	0.91	0.09	0.00	0.00
	D	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	0.000	0.000
	B	0.000	0.000	0.000	0.000
	C	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.11	16.14	0.12	C
B-AD	0.68	40.78	1.97	E
A-B	-	-	-	-

A-C	-	-	-	-
A-D	0.00	7.09	0.00	A
D-ABC	0.00	0.00	0.00	A
C-D	-	-	-	-
C-A	-	-	-	-
C-B	0.13	9.32	0.15	A

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	18.07	17.90	0.00	433.35	0.042	0.04	8.661	A
B-AD	124.97	122.85	0.00	354.52	0.353	0.53	15.405	C
A-B	131.00	131.00	0.00	-	-	-	-	-
A-C	457.73	457.73	0.00	-	-	-	-	-
A-D	0.75	0.75	0.00	558.78	0.001	0.00	6.450	A
D-ABC	0.00	0.00	0.00	415.30	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	39.15	38.81	0.00	503.18	0.078	0.08	7.747	A

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	21.58	21.51	0.00	377.26	0.057	0.06	10.119	B
B-AD	149.23	147.97	0.00	318.96	0.468	0.84	20.894	C
A-B	156.42	156.42	0.00	-	-	-	-	-
A-C	546.58	546.58	0.00	-	-	-	-	-
A-D	0.90	0.90	0.00	537.74	0.002	0.00	6.705	A
D-ABC	0.00	0.00	0.00	378.40	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	46.75	46.65	0.00	478.20	0.098	0.11	8.340	A

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	26.42	26.22	0.00	258.27	0.102	0.11	15.500	C
B-AD	182.77	178.67	0.00	269.64	0.678	1.87	37.953	E
A-B	191.58	191.58	0.00	-	-	-	-	-
A-C	669.42	669.42	0.00	-	-	-	-	-
A-D	1.10	1.10	0.00	508.76	0.002	0.00	7.090	A
D-ABC	0.00	0.00	0.00	326.55	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	57.25	57.10	0.00	443.66	0.129	0.15	9.308	A

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	26.42	26.41	0.00	249.43	0.106	0.12	16.139	C
B-AD	182.77	182.36	0.00	269.59	0.678	1.97	40.778	E

A-B	191.58	191.58	0.00	-	-	-	-	-
A-C	669.42	669.42	0.00	-	-	-	-	-
A-D	1.10	1.10	0.00	508.71	0.002	0.00	7.091	A
D-ABC	0.00	0.00	0.00	326.34	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	57.25	57.25	0.00	443.66	0.129	0.15	9.316	A

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	21.58	21.79	0.00	370.15	0.058	0.06	10.342	B
B-AD	149.23	153.46	0.00	318.93	0.468	0.92	22.265	C
A-B	156.42	156.42	0.00	-	-	-	-	-
A-C	546.58	546.58	0.00	-	-	-	-	-
A-D	0.90	0.90	0.00	537.65	0.002	0.00	6.708	A
D-ABC	0.00	0.00	0.00	378.11	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	46.75	46.90	0.00	478.20	0.098	0.11	8.349	A

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	18.07	18.14	0.00	430.23	0.042	0.04	8.737	A
B-AD	124.97	126.40	0.00	354.43	0.353	0.56	15.886	C
A-B	131.00	131.00	0.00	-	-	-	-	-
A-C	457.73	457.73	0.00	-	-	-	-	-
A-D	0.75	0.75	0.00	558.63	0.001	0.00	6.452	A
D-ABC	0.00	0.00	0.00	415.06	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	39.15	39.25	0.00	503.18	0.078	0.09	7.762	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Skipton Road-Green Head Road_PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 09/11/2012 15:36:08

« (Default Analysis Set) - Scenario 1, AM
» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Stream B-CD	0.12	17.23	0.11	C
Stream B-AD	2.15	43.76	0.70	E
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-
Stream A-D	0.00	7.12	0.00	A
Stream D-ABC	0.00	0.00	0.00	A
Stream C-D	-	-	-	-
Stream C-A	-	-	-	-
Stream C-B	0.17	9.53	0.14	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Scenario 1, AM " model duration: 08:00 - 09:30

Run using ARCADY 8.0.0.296 at 09/11/2012 15:36:07

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	26/10/2012
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\jonathan.burton

Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
(untitled)	Crossroads	Two-way	A,B,C,D	33.30	D

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description	Arm Type
A	Skipton Road		Major
B	Green Head Road		Minor
C	Skipton Road		Major
D	Clock View Street		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)

A	8.50		0.00	✓	2.20	160.00		
C	8.50		0.00	✓	2.20	100.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				9.00	5.50	3.00	3.00	3.00	✓	1.00	19	30
D	One lane	4.40										14	25

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	666.621	-	-	-	-	-	-	0.230	0.329	0.230	-	-	-
1	B-A	536.573	0.087	0.220	0.220	-	-	-	0.139	0.315	-	0.220	0.220	0.110
1	B-C	600.473	0.082	0.207	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	465.643	0.076	0.191	0.191	-	-	-	0.120	0.273	0.120	-	-	-
1	B-D, offside lane	536.573	0.087	0.220	0.220	-	-	-	0.139	0.315	0.139	-	-	-
1	C-B	631.874	0.218	0.218	0.312	-	-	-	-	-	-	-	-	-
1	D-A	729.334	-	-	-	-	-	-	0.252	-	0.100	-	-	-
1	D-B, nearside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-B, offside lane	563.728	0.146	0.146	0.330	-	-	-	0.231	0.231	0.092	-	-	-
1	D-C	563.728	-	0.146	0.330	0.116	0.231	0.231	0.231	0.231	0.092	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)

A	ONE HOUR	✓	796.00	100.000
B	ONE HOUR	✓	193.00	100.000
C	ONE HOUR	✓	605.00	100.000
D	ONE HOUR	✓	0.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	187.000	608.000	1.000
	B	169.000	0.000	24.000	0.000
	C	548.000	57.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.23	0.76	0.00
	B	0.88	0.00	0.12	0.00
	C	0.91	0.09	0.00	0.00
	D	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	0.000	0.000
	B	0.000	0.000	0.000	0.000
	C	0.000	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.11	17.23	0.12	C
B-AD	0.70	43.76	2.15	E
A-B	-	-	-	-

A-C	-	-	-	-
A-D	0.00	7.12	0.00	A
D-ABC	0.00	0.00	0.00	A
C-D	-	-	-	-
C-A	-	-	-	-
C-B	0.14	9.53	0.17	A

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	18.07	17.89	0.00	430.06	0.042	0.04	8.730	A
B-AD	127.23	125.03	0.00	352.55	0.361	0.55	15.679	C
A-B	140.78	140.78	0.00	-	-	-	-	-
A-C	457.73	457.73	0.00	-	-	-	-	-
A-D	0.75	0.75	0.00	557.54	0.001	0.00	6.464	A
D-ABC	0.00	0.00	0.00	413.53	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	42.91	42.54	0.00	501.05	0.086	0.09	7.845	A

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	21.58	21.51	0.00	371.66	0.058	0.06	10.277	B
B-AD	151.93	150.59	0.00	316.57	0.480	0.88	21.508	C
A-B	168.11	168.11	0.00	-	-	-	-	-
A-C	546.58	546.58	0.00	-	-	-	-	-
A-D	0.90	0.90	0.00	536.25	0.002	0.00	6.723	A
D-ABC	0.00	0.00	0.00	376.22	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	51.24	51.13	0.00	475.65	0.108	0.12	8.478	A

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	26.42	26.20	0.00	245.58	0.108	0.12	16.392	C
B-AD	186.07	181.52	0.00	266.66	0.698	2.02	40.277	E
A-B	205.89	205.89	0.00	-	-	-	-	-
A-C	669.42	669.42	0.00	-	-	-	-	-
A-D	1.10	1.10	0.00	506.94	0.002	0.00	7.116	A
D-ABC	0.00	0.00	0.00	323.78	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	62.76	62.58	0.00	440.54	0.142	0.16	9.521	A

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	26.42	26.40	0.00	235.28	0.112	0.12	17.231	C
B-AD	186.07	185.57	0.00	266.60	0.698	2.15	43.757	E

A-B	205.89	205.89	0.00	-	-	-	-	-
A-C	669.42	669.42	0.00	-	-	-	-	-
A-D	1.10	1.10	0.00	506.88	0.002	0.00	7.116	A
D-ABC	0.00	0.00	0.00	323.55	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	603.36	603.36	0.00	-	-	-	-	-
C-B	62.76	62.75	0.00	440.54	0.142	0.17	9.528	A

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	21.58	21.82	0.00	363.49	0.059	0.06	10.545	B
B-AD	151.93	156.66	0.00	316.53	0.480	0.96	23.124	C
A-B	168.11	168.11	0.00	-	-	-	-	-
A-C	546.58	546.58	0.00	-	-	-	-	-
A-D	0.90	0.90	0.00	536.15	0.002	0.00	6.725	A
D-ABC	0.00	0.00	0.00	375.90	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	492.64	492.64	0.00	-	-	-	-	-
C-B	51.24	51.41	0.00	475.65	0.108	0.12	8.489	A

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-CD	18.07	18.15	0.00	426.70	0.042	0.04	8.814	A
B-AD	127.23	128.77	0.00	352.44	0.361	0.58	16.203	C
A-B	140.78	140.78	0.00	-	-	-	-	-
A-C	457.73	457.73	0.00	-	-	-	-	-
A-D	0.75	0.75	0.00	557.38	0.001	0.00	6.466	A
D-ABC	0.00	0.00	0.00	413.27	0.000	0.00	0.000	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	412.56	412.56	0.00	-	-	-	-	-
C-B	42.91	43.02	0.00	501.04	0.086	0.09	7.863	A

F10 Shann Lane Access Junction

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Access Junction_ShannLane AM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 12/11/2012 13:35:52

» 2017 With Development AM - 2017 With Development, AM

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	2017 With Development AM - 2017 With Development			
Stream B-AC	0.09	6.59	0.08	A
Stream C-AB	0.00	0.00	0.00	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 With Development, AM " model duration: 07:30 - 09:00

Run using ARCADY 8.0.0.296 at 12/11/2012 13:35:51

File summary

File Description

Title	Access Junctions
Location	
Site Number	
Date	12/11/2012
Version	
Status	Proposed
Identifier	
Client	
Jobnumber	226853-00
Enumerator	GLOBAL\adam.smout
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

2017 With Development AM - 2017 With Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2017 With Development AM	ARCADY		✓	✓	D1		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rela
2017 With Development, AM	2017 With Development	AM		ONE HOUR	07:30	09:00	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Shann Lane Access Junction	T-Junction	Two-way	A,B,C		6.59	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Shann Lane (NE)	Shann Lane (NE)		Major
Site Access	Site Access		Minor
Shann Lane (SW)	Shann Lane (SW)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Shann Lane (SW)	6.00		0.00		2.20	80.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Site Access	One lane	3.80										120	120

Pedestrian Crossings

Name	Crossing Type
Shann Lane (NE)	None
Site Access	None
Shann Lane (SW)	None

Slope / Intercept / Capacity

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
1	B-A	624.396	0.114	0.287	0.181	0.411
1	B-C	755.505	0.116	0.293	-	-
1	C-B	620.292	0.240	0.240	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Shann Lane (NE)	ONE HOUR	✓	59.00	100.000
Site Access	ONE HOUR	✓	43.00	100.000
Shann Lane (SW)	ONE HOUR	✓	87.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Shann Lane Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	13.000	46.000
	B	42.000	0.000	1.000
	C	87.000	0.000	0.000

Turning Proportions (PCU) - Shann Lane Access Junction (for whole period)

		To		
		A	B	C
From	A	0.00	0.22	0.78
	B	0.98	0.00	0.02
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Shann Lane Access Junction (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Shann Lane Access Junction (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.08	6.59	0.09	A	39.46	59.19	6.32	6.40	0.07	6.32	6.40
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	79.83	119.75	-	-	-	-	-
A-B	-	-	-	-	11.93	17.89	-	-	-	-	-
A-C	-	-	-	-	42.21	63.32	-	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	32.37	8.09	32.15	0.00	604.18	0.054	0.00	0.06	6.293	A
C-AB	0.00	0.00	0.00	0.00	609.62	0.000	0.00	0.00	0.000	A
C-A	65.50	16.37	65.50	0.00	-	-	-	-	-	-
A-B	9.79	2.45	9.79	0.00	-	-	-	-	-	-
A-C	34.63	8.66	34.63	0.00	-	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	38.66	9.66	38.61	0.00	599.76	0.064	0.06	0.07	6.415	A
C-AB	0.00	0.00	0.00	0.00	607.54	0.000	0.00	0.00	0.000	A
C-A	78.21	19.55	78.21	0.00	-	-	-	-	-	-
A-B	11.69	2.92	11.69	0.00	-	-	-	-	-	-
A-C	41.35	10.34	41.35	0.00	-	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	47.34	11.84	47.27	0.00	593.65	0.080	0.07	0.09	6.588	A
C-AB	0.00	0.00	0.00	0.00	604.68	0.000	0.00	0.00	0.000	A
C-A	95.79	23.95	95.79	0.00	-	-	-	-	-	-
A-B	14.31	3.58	14.31	0.00	-	-	-	-	-	-
A-C	50.65	12.66	50.65	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	47.34	11.84	47.34	0.00	593.65	0.080	0.09	0.09	6.588	A
C-AB	0.00	0.00	0.00	0.00	604.68	0.000	0.00	0.00	0.000	A
C-A	95.79	23.95	95.79	0.00	-	-	-	-	-	-
A-B	14.31	3.58	14.31	0.00	-	-	-	-	-	-
A-C	50.65	12.66	50.65	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	38.66	9.66	38.72	0.00	599.76	0.064	0.09	0.07	6.416	A
C-AB	0.00	0.00	0.00	0.00	607.54	0.000	0.00	0.00	0.000	A
C-A	78.21	19.55	78.21	0.00	-	-	-	-	-	-
A-B	11.69	2.92	11.69	0.00	-	-	-	-	-	-
A-C	41.35	10.34	41.35	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	32.37	8.09	32.42	0.00	604.18	0.054	0.07	0.06	6.298	A
C-AB	0.00	0.00	0.00	0.00	609.62	0.000	0.00	0.00	0.000	A
C-A	65.50	16.37	65.50	0.00	-	-	-	-	-	-
A-B	9.79	2.45	9.79	0.00	-	-	-	-	-	-
A-C	34.63	8.66	34.63	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.82	0.05	6.293	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.01	0.07	6.415	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.27	0.08	6.588	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.29	0.09	6.588	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.06	0.07	6.416	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.87	0.06	6.298	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Brief results for Priority Intersection streams

Stream Results

Time Segment	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (s)
07:30-07:45	B-AC	32.37	604.18	0.054	0.00	0.00	0.06	0.82	-	6.293
07:30-07:45	C-AB	0.00	609.62	0.000	0.00	0.00	0.00	0.00	-	0.000

07:30-07:45	C-A	65.50	-	-	0.00	-	-	-	-	-
07:30-07:45	A-B	9.79	-	-	0.00	-	-	-	-	-
07:30-07:45	A-C	34.63	-	-	0.00	-	-	-	-	-
07:45-08:00	B-AC	38.66	599.76	0.064	0.00	0.06	0.07	1.01	-	6.415
07:45-08:00	C-AB	0.00	607.54	0.000	0.00	0.00	0.00	0.00	-	0.000
07:45-08:00	C-A	78.21	-	-	0.00	-	-	-	-	-
07:45-08:00	A-B	11.69	-	-	0.00	-	-	-	-	-
07:45-08:00	A-C	41.35	-	-	0.00	-	-	-	-	-
08:00-08:15	B-AC	47.34	593.65	0.080	0.00	0.07	0.09	1.27	-	6.588
08:00-08:15	C-AB	0.00	604.68	0.000	0.00	0.00	0.00	0.00	-	0.000
08:00-08:15	C-A	95.79	-	-	0.00	-	-	-	-	-
08:00-08:15	A-B	14.31	-	-	0.00	-	-	-	-	-
08:00-08:15	A-C	50.65	-	-	0.00	-	-	-	-	-
08:15-08:30	B-AC	47.34	593.65	0.080	0.00	0.09	0.09	1.29	-	6.588
08:15-08:30	C-AB	0.00	604.68	0.000	0.00	0.00	0.00	0.00	-	0.000
08:15-08:30	C-A	95.79	-	-	0.00	-	-	-	-	-
08:15-08:30	A-B	14.31	-	-	0.00	-	-	-	-	-
08:15-08:30	A-C	50.65	-	-	0.00	-	-	-	-	-
08:30-08:45	B-AC	38.66	599.76	0.064	0.00	0.09	0.07	1.06	-	6.416
08:30-08:45	C-AB	0.00	607.54	0.000	0.00	0.00	0.00	0.00	-	0.000
08:30-08:45	C-A	78.21	-	-	0.00	-	-	-	-	-
08:30-08:45	A-B	11.69	-	-	0.00	-	-	-	-	-
08:30-08:45	A-C	41.35	-	-	0.00	-	-	-	-	-
08:45-09:00	B-AC	32.37	604.18	0.054	0.00	0.07	0.06	0.87	-	6.298
08:45-09:00	C-AB	0.00	609.62	0.000	0.00	0.00	0.00	0.00	-	0.000
08:45-09:00	C-A	65.50	-	-	0.00	-	-	-	-	-
08:45-09:00	A-B	9.79	-	-	0.00	-	-	-	-	-
08:45-09:00	A-C	34.63	-	-	0.00	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]
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Filename: Access Junction_ShannLane PM_DS_2017.arc8
Path: J:\220000\225836-00\0 Arup\0-11 Transportation\0-11-07 Calcs-Specs\arcady
Report generation date: 12/11/2012 13:37:44

» - 2017 With Development, PM

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	- 2017 With Development			
Stream B-AC	0.02	6.17	0.02	A
Stream C-AB	0.00	5.78	0.00	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 With Development, PM " model duration: 17:30 - 19:00

Run using ARCADY 8.0.0.296 at 12/11/2012 13:37:43

File summary

File Description

Title	Shann Lane Access Junction
Location	
Site Number	
Date	12/11/2012
Version	
Status	Proposed
Identifier	
Client	
Jobnumber	226853-00
Enumerator	GLOBAL\adam.smout
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

- 2017 With Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
	ARCADY		✓	✓	D1		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rela
2017 With Development, PM	2017 With Development	PM		ONE HOUR	17:30	19:00	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Shann Lane Access Junction	T-Junction	Two-way	A,B,C		6.12	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Name	Name	Description	Arm Type
Shann Lane (NE)	Shann Lane (NE)		Major
Site Access	Site Access		Minor
Shann Lane (SW)	Shann Lane (SW)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Shann Lane (SW)	6.00		0.00		2.20	80.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Site Access	One lane	3.80										120	120

Pedestrian Crossings

Name	Crossing Type
Shann Lane (NE)	None
Site Access	None
Shann Lane (SW)	None

Slope / Intercept / Capacity

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
1	B-A	624.396	0.114	0.287	0.181	0.411
1	B-C	755.505	0.116	0.293	-	-
1	C-B	620.292	0.240	0.240	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Shann Lane (NE)	ONE HOUR	✓	126.00	100.000
Site Access	ONE HOUR	✓	9.00	100.000
Shann Lane (SW)	ONE HOUR	✓	52.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Shann Lane Access Junction (for whole period)

		To		
		A	B	C
From	A	0.000	36.000	90.000
	B	8.000	0.000	1.000
	C	51.000	1.000	0.000

Turning Proportions (PCU) - Shann Lane Access Junction (for whole period)

		To		
		A	B	C

From	A	0.00	0.29	0.71
	B	0.89	0.00	0.11
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Shann Lane Access Junction (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Shann Lane Access Junction (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.02	6.17	0.02	A	8.26	12.39	1.25	6.05	0.01	1.25	6.05
C-AB	0.00	5.78	0.00	A	0.99	1.49	0.15	5.85	0.00	0.15	5.85
C-A	-	-	-	-	46.72	70.08	-	-	-	-	-
A-B	-	-	-	-	33.03	49.55	-	-	-	-	-
A-C	-	-	-	-	82.59	123.88	-	-	-	-	-

Main Results for each time segment

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	6.78	1.69	6.73	0.00	607.29	0.011	0.00	0.01	5.994	A
C-AB	0.80	0.20	0.80	0.00	623.13	0.001	0.00	0.00	5.784	A
C-A	38.35	9.59	38.35	0.00	-	-	-	-	-	-
A-B	27.10	6.78	27.10	0.00	-	-	-	-	-	-
A-C	67.76	16.94	67.76	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	8.09	2.02	8.08	0.00	601.58	0.013	0.01	0.01	6.065	A

C-AB	0.97	0.24	0.97	0.00	623.79	0.002	0.00	0.00	5.779	A
C-A	45.78	11.44	45.78	0.00	-	-	-	-	-	-
A-B	32.36	8.09	32.36	0.00	-	-	-	-	-	-
A-C	80.91	20.23	80.91	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	9.91	2.48	9.90	0.00	593.69	0.017	0.01	0.02	6.166	A
C-AB	1.21	0.30	1.21	0.00	624.76	0.002	0.00	0.00	5.772	A
C-A	56.04	14.01	56.04	0.00	-	-	-	-	-	-
A-B	39.64	9.91	39.64	0.00	-	-	-	-	-	-
A-C	99.09	24.77	99.09	0.00	-	-	-	-	-	-

Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	9.91	2.48	9.91	0.00	593.69	0.017	0.02	0.02	6.166	A
C-AB	1.21	0.30	1.21	0.00	624.76	0.002	0.00	0.00	5.772	A
C-A	56.04	14.01	56.04	0.00	-	-	-	-	-	-
A-B	39.64	9.91	39.64	0.00	-	-	-	-	-	-
A-C	99.09	24.77	99.09	0.00	-	-	-	-	-	-

Main results: (18:30-18:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	8.09	2.02	8.10	0.00	601.58	0.013	0.02	0.01	6.065	A
C-AB	0.97	0.24	0.97	0.00	623.79	0.002	0.00	0.00	5.781	A
C-A	45.78	11.44	45.78	0.00	-	-	-	-	-	-
A-B	32.36	8.09	32.36	0.00	-	-	-	-	-	-
A-C	80.91	20.23	80.91	0.00	-	-	-	-	-	-

Main results: (18:45-19:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	6.78	1.69	6.79	0.00	607.29	0.011	0.01	0.01	5.996	A
C-AB	0.80	0.20	0.80	0.00	623.13	0.001	0.00	0.00	5.784	A
C-A	38.35	9.59	38.35	0.00	-	-	-	-	-	-
A-B	27.10	6.78	27.10	0.00	-	-	-	-	-	-
A-C	67.76	16.94	67.76	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.16	0.01	5.994	A	A
C-AB	0.02	0.00	5.784	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.20	0.01	6.065	A	A

C-AB	0.02	0.00	5.779	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.25	0.02	6.166	A	A
C-AB	0.03	0.00	5.772	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:15-18:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.25	0.02	6.166	A	A
C-AB	0.03	0.00	5.772	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:30-18:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.21	0.01	6.065	A	A
C-AB	0.02	0.00	5.781	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:45-19:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.17	0.01	5.996	A	A
C-AB	0.02	0.00	5.784	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Brief results for Priority Intersection streams

Stream Results

Time Segment	Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (s)
17:30-17:45	B-AC	6.78	607.29	0.011	0.00	0.00	0.01	0.16	-	5.994
17:30-17:45	C-AB	0.80	623.13	0.001	0.00	0.00	0.00	0.02	-	5.784
17:30-17:45	C-A	38.35	-	-	0.00	-	-	-	-	-
17:30-17:45	A-B	27.10	-	-	0.00	-	-	-	-	-

17:30-17:45	A-C	67.76	-	-	0.00	-	-	-	-	-
17:45-18:00	B-AC	8.09	601.58	0.013	0.00	0.01	0.01	0.20	-	6.065
17:45-18:00	C-AB	0.97	623.79	0.002	0.00	0.00	0.00	0.02	-	5.779
17:45-18:00	C-A	45.78	-	-	0.00	-	-	-	-	-
17:45-18:00	A-B	32.36	-	-	0.00	-	-	-	-	-
17:45-18:00	A-C	80.91	-	-	0.00	-	-	-	-	-
18:00-18:15	B-AC	9.91	593.69	0.017	0.00	0.01	0.02	0.25	-	6.166
18:00-18:15	C-AB	1.21	624.76	0.002	0.00	0.00	0.00	0.03	-	5.772
18:00-18:15	C-A	56.04	-	-	0.00	-	-	-	-	-
18:00-18:15	A-B	39.64	-	-	0.00	-	-	-	-	-
18:00-18:15	A-C	99.09	-	-	0.00	-	-	-	-	-
18:15-18:30	B-AC	9.91	593.69	0.017	0.00	0.02	0.02	0.25	-	6.166
18:15-18:30	C-AB	1.21	624.76	0.002	0.00	0.00	0.00	0.03	-	5.772
18:15-18:30	C-A	56.04	-	-	0.00	-	-	-	-	-
18:15-18:30	A-B	39.64	-	-	0.00	-	-	-	-	-
18:15-18:30	A-C	99.09	-	-	0.00	-	-	-	-	-
18:30-18:45	B-AC	8.09	601.58	0.013	0.00	0.02	0.01	0.21	-	6.065
18:30-18:45	C-AB	0.97	623.79	0.002	0.00	0.00	0.00	0.02	-	5.781
18:30-18:45	C-A	45.78	-	-	0.00	-	-	-	-	-
18:30-18:45	A-B	32.36	-	-	0.00	-	-	-	-	-
18:30-18:45	A-C	80.91	-	-	0.00	-	-	-	-	-
18:45-19:00	B-AC	6.78	607.29	0.011	0.00	0.01	0.01	0.17	-	5.996
18:45-19:00	C-AB	0.80	623.13	0.001	0.00	0.00	0.00	0.02	-	5.784
18:45-19:00	C-A	38.35	-	-	0.00	-	-	-	-	-
18:45-19:00	A-B	27.10	-	-	0.00	-	-	-	-	-
18:45-19:00	A-C	67.76	-	-	0.00	-	-	-	-	-

F11 Broadlands Access Junction

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.1.305 [25 May 2012]
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Filename: (new file)
Path:
Report generation date: 16/11/2012 10:19:12

» Existing Layout - 2017 With Dev, AM
» Existing Layout - 2017 With Dev, PM
» Existing Layout - 2017 With Dev Adj, AM
» Existing Layout - 2017 With Dev Adj, PM

Summary of junction performance

	AM			PM		
	Queue (PCU)	RFC	LOS	Queue (PCU)	RFC	LOS
	Existing Layout - 2017 With Dev					
Stream B-AC	0.12	0.11	A	0.14	0.12	A
Stream C-AB	0.00	0.00	A	0.00	0.00	A
Stream C-A	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-
	Existing Layout - 2017 With Dev Adj					
Stream B-AC	0.28	0.22	A	0.14	0.13	A
Stream C-AB	0.14	0.12	A	0.11	0.10	A
Stream C-A	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2017 With Dev, AM " model duration: 07:30 - 09:00
"D2 - 2017 With Dev, PM" model duration: 17:30 - 19:00
"D5 - 2017 With Dev Adj, AM" model duration: 07:30 - 09:00
"D6 - 2017 With Dev Adj, PM" model duration: 17:30 - 19:00

Run using Junctions 8.0.1.305 at 16/11/2012 10:19:10

File summary

File Description

Title	High Shann, Keighley
Location	Broadlands / Westway, Keighley
Site Number	
Date	12/11/2012
Version	
Status	(new file)
Identifier	
Client	

Jobnumber	
Enumerator	GLOBAL\adam.smout
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

Existing Layout - 2017 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 With Dev, AM	2017 With Dev	AM		ONE HOUR	07:30	09:00	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Broadlands Access Junction	T-Junction	Two-way	A,B,C		8.84	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Name	Description	Arm Type
Broadlands (S)	Broadlands (S)		Major
Westway	Westway		Minor

Broadlands (N) / Site Access	Broadlands (N) / Site Access		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Broadlands (N) / Site Access	6.00		0.00		2.20	50.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Westway	One lane	2.50										25	18

Pedestrian Crossings

Name	Crossing Type
Broadlands (S)	None
Westway	None
Broadlands (N) / Site Access	None

Slope / Intercept / Capacity

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
2	B-A	469.793	0.086	0.216	0.136	0.309
2	B-C	603.468	0.093	0.234	-	-
2	C-B	602.919	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Broadlands (S)	ONE HOUR	✓	60.00	100.000
Westway	ONE HOUR	✓	44.00	100.000
Broadlands (N) / Site Access	ONE HOUR	✓	43.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Broadlands Access Junction (for whole period)

		To		
		A	B	C
From	A	0.000	46.000	14.000
	B	44.000	0.000	0.000
	C	43.000	0.000	0.000

Turning Proportions (PCU) - Broadlands Access Junction (for whole period)

		To		
		A	B	C
From	A	0.00	0.77	0.23
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Broadlands Access Junction (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Broadlands Access Junction (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.11	8.84	0.12	A	40.38	60.56	8.65	8.57	0.10	8.65	8.57
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	39.46	59.19	-	-	-	-	-
A-B	-	-	-	-	42.21	63.32	-	-	-	-	-
A-C	-	-	-	-	12.85	19.27	-	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	33.13	8.28	32.82	0.00	460.15	0.072	0.00	0.08	8.418	A
C-AB	0.00	0.00	0.00	0.00	592.37	0.000	0.00	0.00	0.000	A
C-A	32.37	8.09	32.37	0.00	-	-	-	-	-	-
A-B	34.63	8.66	34.63	0.00	-	-	-	-	-	-
A-C	10.54	2.63	10.54	0.00	-	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56	9.89	39.49	0.00	458.27	0.086	0.08	0.09	8.595	A
C-AB	0.00	0.00	0.00	0.00	590.32	0.000	0.00	0.00	0.000	A
C-A	38.66	9.66	38.66	0.00	-	-	-	-	-	-
A-B	41.35	10.34	41.35	0.00	-	-	-	-	-	-
A-C	12.59	3.15	12.59	0.00	-	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44	12.11	48.35	0.00	455.68	0.106	0.09	0.12	8.836	A
C-AB	0.00	0.00	0.00	0.00	587.49	0.000	0.00	0.00	0.000	A
C-A	47.34	11.84	47.34	0.00	-	-	-	-	-	-
A-B	50.65	12.66	50.65	0.00	-	-	-	-	-	-
A-C	15.41	3.85	15.41	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44	12.11	48.44	0.00	455.68	0.106	0.12	0.12	8.839	A
C-AB	0.00	0.00	0.00	0.00	587.49	0.000	0.00	0.00	0.000	A
C-A	47.34	11.84	47.34	0.00	-	-	-	-	-	-
A-B	50.65	12.66	50.65	0.00	-	-	-	-	-	-
A-C	15.41	3.85	15.41	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56	9.89	39.65	0.00	458.27	0.086	0.12	0.10	8.602	A
C-AB	0.00	0.00	0.00	0.00	590.32	0.000	0.00	0.00	0.000	A
C-A	38.66	9.66	38.66	0.00	-	-	-	-	-	-
A-B	41.35	10.34	41.35	0.00	-	-	-	-	-	-
A-C	12.59	3.15	12.59	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	33.13	8.28	33.19	0.00	460.15	0.072	0.10	0.08	8.432	A
C-AB	0.00	0.00	0.00	0.00	592.37	0.000	0.00	0.00	0.000	A
C-A	32.37	8.09	32.37	0.00	-	-	-	-	-	-
A-B	34.63	8.66	34.63	0.00	-	-	-	-	-	-
A-C	10.54	2.63	10.54	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.11	0.07	8.418	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.37	0.09	8.595	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.73	0.12	8.836	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.77	0.12	8.839	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.46	0.10	8.602	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.20	0.08	8.432	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Layout - 2017 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 With Dev, PM	2017 With Dev	PM		ONE HOUR	17:30	19:00	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Broadlands Access Junction	T-Junction	Two-way	A,B,C		8.96	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Name	Description	Arm Type
Broadlands (S)	Broadlands (S)		Major
Westway	Westway		Minor
Broadlands (N) / Site Access	Broadlands (N) / Site Access		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Broadlands (N) / Site Access	6.00		0.00		2.20	50.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Westway	One lane	2.50										25	18

Pedestrian Crossings

Name	Crossing Type
Broadlands (S)	None
Westway	None
Broadlands (N) / Site Access	None

Slope / Intercept / Capacity

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
2	B-A	469.793	0.086	0.216	0.136	0.309
2	B-C	603.468	0.093	0.234	-	-
2	C-B	602.919	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Broadlands (S)	ONE HOUR	✓	55.00	100.000
Westway	ONE HOUR	✓	51.00	100.000
Broadlands (N) / Site Access	ONE HOUR	✓	8.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	18.000	37.000
	B	51.000	0.000	0.000
	C	8.000	0.000	0.000

Turning Proportions (PCU) - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**

From	A	0.00	0.33	0.67
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Broadlands Access Junction (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Broadlands Access Junction (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.12	8.96	0.14	A	46.80	70.20	10.13	8.66	0.11	10.13	8.66
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	7.34	11.01	-	-	-	-	-
A-B	-	-	-	-	16.52	24.78	-	-	-	-	-
A-C	-	-	-	-	33.95	50.93	-	-	-	-	-

Main Results for each time segment

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	38.40	9.60	38.04	0.00	461.79	0.083	0.00	0.09	8.489	A
C-AB	0.00	0.00	0.00	0.00	593.25	0.000	0.00	0.00	0.000	A
C-A	6.02	1.51	6.02	0.00	-	-	-	-	-	-
A-B	13.55	3.39	13.55	0.00	-	-	-	-	-	-
A-C	27.86	6.96	27.86	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	45.85	11.46	45.77	0.00	460.24	0.100	0.09	0.11	8.682	A

C-AB	0.00	0.00	0.00	0.00	591.37	0.000	0.00	0.00	0.000	A
C-A	7.19	1.80	7.19	0.00	-	-	-	-	-	-
A-B	16.18	4.05	16.18	0.00	-	-	-	-	-	-
A-C	33.26	8.32	33.26	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	56.15	14.04	56.04	0.00	458.09	0.123	0.11	0.14	8.951	A
C-AB	0.00	0.00	0.00	0.00	588.77	0.000	0.00	0.00	0.000	A
C-A	8.81	2.20	8.81	0.00	-	-	-	-	-	-
A-B	19.82	4.95	19.82	0.00	-	-	-	-	-	-
A-C	40.74	10.18	40.74	0.00	-	-	-	-	-	-

Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	56.15	14.04	56.15	0.00	458.09	0.123	0.14	0.14	8.956	A
C-AB	0.00	0.00	0.00	0.00	588.77	0.000	0.00	0.00	0.000	A
C-A	8.81	2.20	8.81	0.00	-	-	-	-	-	-
A-B	19.82	4.95	19.82	0.00	-	-	-	-	-	-
A-C	40.74	10.18	40.74	0.00	-	-	-	-	-	-

Main results: (18:30-18:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	45.85	11.46	45.96	0.00	460.24	0.100	0.14	0.11	8.693	A
C-AB	0.00	0.00	0.00	0.00	591.37	0.000	0.00	0.00	0.000	A
C-A	7.19	1.80	7.19	0.00	-	-	-	-	-	-
A-B	16.18	4.05	16.18	0.00	-	-	-	-	-	-
A-C	33.26	8.32	33.26	0.00	-	-	-	-	-	-

Main results: (18:45-19:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	38.40	9.60	38.48	0.00	461.79	0.083	0.11	0.09	8.505	A
C-AB	0.00	0.00	0.00	0.00	593.25	0.000	0.00	0.00	0.000	A
C-A	6.02	1.51	6.02	0.00	-	-	-	-	-	-
A-B	13.55	3.39	13.55	0.00	-	-	-	-	-	-
A-C	27.86	6.96	27.86	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.30	0.09	8.489	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.61	0.11	8.682	A	A

C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.02	0.13	8.951	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:15-18:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.08	0.14	8.956	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:30-18:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.72	0.11	8.693	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:45-19:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.40	0.09	8.505	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Layout - 2017 With Dev Adj, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 With Dev Adj, AM	2017 With Dev Adj	AM		ONE HOUR	07:30	09:00	90	15				✓		'D1 + D3'

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
Broadlands Access Junction	T-Junction	Two-way	A,B,C		8.07	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Name	Description	Arm Type
Broadlands (S)	Broadlands (S)		Major
Westway	Westway		Minor
Broadlands (N) / Site Access	Broadlands (N) / Site Access		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Broadlands (N) / Site Access	6.00		0.00		2.20	50.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Westway	One lane	2.50										25	18

Pedestrian Crossings

Name	Crossing Type
Broadlands (S)	None
Westway	None
Broadlands (N) / Site Access	None

Slope / Intercept / Capacity

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

2	B-A	469.793	0.086	0.216	0.136	0.309
2	B-C	603.468	0.093	0.234	-	-
2	C-B	602.919	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Broadlands (S)	ONE HOUR	✓	60.00	100.000
Westway	ONE HOUR	✓	104.00	100.000
Broadlands (N) / Site Access	ONE HOUR	✓	103.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	46.000	14.000
	B	44.000	0.000	60.000
	C	43.000	60.000	0.000

Turning Proportions (PCU) - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	0.77	0.23
	B	0.42	0.00	0.58
	C	0.42	0.58	0.00

Vehicle Mix

Average PCU Per Vehicle - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	1.000	1.000	1.000
	B	1.000	1.000	1.000

	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Broadlands Access Junction (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.22	8.99	0.28	A	95.43	143.15	20.23	8.48	0.22	20.23	8.48
C-AB	0.12	6.57	0.14	A	58.92	88.37	10.26	6.97	0.11	10.26	6.97
C-A	-	-	-	-	35.60	53.40	-	-	-	-	-
A-B	-	-	-	-	42.21	63.32	-	-	-	-	-
A-C	-	-	-	-	12.85	19.27	-	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	78.30	19.57	77.60	0.00	522.66	0.150	0.00	0.17	8.077	A
C-AB	47.67	11.92	47.31	0.00	614.08	0.078	0.00	0.09	6.350	A
C-A	29.87	7.47	29.87	0.00	-	-	-	-	-	-
A-B	34.63	8.66	34.63	0.00	-	-	-	-	-	-
A-C	10.54	2.63	10.54	0.00	-	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	93.49	23.37	93.32	0.00	519.45	0.180	0.17	0.22	8.444	A
C-AB	57.54	14.39	57.46	0.00	616.30	0.093	0.09	0.11	6.442	A
C-A	35.05	8.76	35.05	0.00	-	-	-	-	-	-
A-B	41.35	10.34	41.35	0.00	-	-	-	-	-	-
A-C	12.59	3.15	12.59	0.00	-	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	114.51	28.63	114.24	0.00	515.04	0.222	0.22	0.28	8.977	A
C-AB	71.51	17.88	71.39	0.00	619.38	0.115	0.11	0.14	6.570	A
C-A	41.89	10.47	41.89	0.00	-	-	-	-	-	-
A-B	50.65	12.66	50.65	0.00	-	-	-	-	-	-
A-C	15.41	3.85	15.41	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	114.51	28.63	114.50	0.00	515.02	0.222	0.28	0.28	8.988	A
C-AB	71.52	17.88	71.52	0.00	619.39	0.115	0.14	0.14	6.571	A
C-A	41.89	10.47	41.89	0.00	-	-	-	-	-	-
A-B	50.65	12.66	50.65	0.00	-	-	-	-	-	-
A-C	15.41	3.85	15.41	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	93.49	23.37	93.74	0.00	519.41	0.180	0.28	0.22	8.463	A
C-AB	57.56	14.39	57.67	0.00	616.31	0.093	0.14	0.11	6.445	A
C-A	35.04	8.76	35.04	0.00	-	-	-	-	-	-
A-B	41.35	10.34	41.35	0.00	-	-	-	-	-	-
A-C	12.59	3.15	12.59	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	78.30	19.57	78.47	0.00	522.59	0.150	0.22	0.18	8.109	A
C-AB	47.69	11.92	47.78	0.00	614.10	0.078	0.11	0.09	6.360	A
C-A	29.85	7.46	29.85	0.00	-	-	-	-	-	-
A-B	34.63	8.66	34.63	0.00	-	-	-	-	-	-
A-C	10.54	2.63	10.54	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.52	0.17	8.077	A	A
C-AB	1.33	0.09	6.350	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	3.18	0.21	8.444	A	A
C-AB	1.66	0.11	6.442	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.12	0.27	8.977	A	A
C-AB	2.12	0.14	6.570	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.25	0.28	8.988	A	A
C-AB	2.13	0.14	6.571	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	3.42	0.23	8.463	A	A
C-AB	1.67	0.11	6.445	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.73	0.18	8.109	A	A
C-AB	1.35	0.09	6.360	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Existing Layout - 2017 With Dev Adj, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 With Dev Adj, PM	2017 With Dev Adj	PM		ONE HOUR	17:30	19:00	90	15				✓		'D2 + D4'

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS

Broadlands Access Junction	T-Junction	Two-way	A,B,C		7.26	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Name	Description	Arm Type
Broadlands (S)	Broadlands (S)		Major
Westway	Westway		Minor
Broadlands (N) / Site Access	Broadlands (N) / Site Access		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Broadlands (N) / Site Access	6.00		0.00		2.20	50.00	✓	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

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Westway	One lane	2.50										25	18

Pedestrian Crossings

Name	Crossing Type
Broadlands (S)	None
Westway	None
Broadlands (N) / Site Access	None

Slope / Intercept / Capacity

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
2	B-A	469.793	0.086	0.216	0.136	0.309
2	B-C	603.468	0.093	0.234	-	-
2	C-B	602.919	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Broadlands (S)	ONE HOUR		0.00	100.000
Westway	ONE HOUR		60.00	100.000
Broadlands (N) / Site Access	ONE HOUR		60.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	18.000	37.000
	B	51.000	0.000	60.000
	C	8.000	60.000	0.000

Turning Proportions (PCU) - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	0.33	0.67
	B	0.46	0.00	0.54
	C	0.12	0.88	0.00

Vehicle Mix

Average PCU Per Vehicle - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Broadlands Access Junction (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.000	0.000	0.000
	B	0.000	0.000	0.000
	C	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.13	7.89	0.14	A	55.06	82.59	10.51	7.64	0.12	10.51	7.64
C-AB	0.10	6.56	0.11	A	49.12	73.68	8.02	6.53	0.09	8.02	6.53
C-A	-	-	-	-	5.94	8.91	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	0.00	0.00	-	-	-	-	-

Main Results for each time segment

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	45.17	11.29	44.80	0.00	525.86	0.086	0.00	0.09	7.479	A
C-AB	40.21	10.05	39.92	0.00	606.45	0.066	0.00	0.07	6.351	A
C-A	4.96	1.24	4.96	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	0.00	0.00	0.00	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	53.94	13.48	53.86	0.00	524.26	0.103	0.09	0.11	7.653	A
C-AB	48.10	12.02	48.04	0.00	607.14	0.079	0.07	0.09	6.438	A
C-A	5.84	1.46	5.84	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	0.00	0.00	0.00	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	66.06	16.52	65.94	0.00	522.10	0.127	0.11	0.14	7.890	A
C-AB	59.05	14.76	58.96	0.00	608.09	0.097	0.09	0.11	6.556	A
C-A	7.01	1.75	7.01	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	0.00	0.00	0.00	0.00	-	-	-	-	-	-

Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	66.06	16.52	66.06	0.00	522.08	0.127	0.14	0.14	7.894	A
C-AB	59.05	14.76	59.05	0.00	608.09	0.097	0.11	0.11	6.558	A
C-A	7.01	1.75	7.01	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	0.00	0.00	0.00	0.00	-	-	-	-	-	-

Main results: (18:30-18:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS

B-AC	53.94	13.48	54.05	0.00	524.23	0.103	0.14	0.12	7.660	A
C-AB	48.10	12.02	48.18	0.00	607.14	0.079	0.11	0.09	6.440	A
C-A	5.84	1.46	5.84	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	0.00	0.00	0.00	0.00	-	-	-	-	-	-

Main results: (18:45-19:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	45.17	11.29	45.25	0.00	525.80	0.086	0.12	0.09	7.494	A
C-AB	40.21	10.05	40.27	0.00	606.46	0.066	0.09	0.07	6.358	A
C-A	4.96	1.24	4.96	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	0.00	0.00	0.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.35	0.09	7.479	A	A
C-AB	1.06	0.07	6.351	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.67	0.11	7.653	A	A
C-AB	1.30	0.09	6.438	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.11	0.14	7.890	A	A
C-AB	1.63	0.11	6.556	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:15-18:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.16	0.14	7.894	A	A
C-AB	1.63	0.11	6.558	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:30-18:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service

B-AC	1.77	0.12	7.660	A	A
C-AB	1.31	0.09	6.440	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:45-19:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.45	0.10	7.494	A	A
C-AB	1.08	0.07	6.358	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-